Evaluation of the National Youth Anti-Drug Media Campaign: Fourth Semi-Annual Report of Findings

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Evaluation of the National Youth Anti-Drug Media Campaign: Fourth Semi-Annual Report of Findings

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Highlights of the Report

The National Youth Anti-Drug Media Campaign was funded by the Congress to reduce and prevent drug use among young people by addressing youth directly, as well as indirectly, by encouraging their parents and other adults to take actions known to affect youth drug use. The major intervention components include television, radio, and other advertising, complemented by public relations efforts including community outreach and institutional partnerships. This evaluation report covers the current phase (Phase III) of the project, from September 1999 through December 2001.

- Recall of Campaign Messages:

  Most parents and youth recalled exposure to Campaign anti-drug messages. About 70 percent of both groups report exposure to one or more messages through all media channels every week. The average (median) youth recalls seeing one television ad per week. In previous waves less than 25 percent of parents recalled seeing a TV ad every week; this increased to 40 percent in the second half of 2001. Both parents and youth reported substantial recognition of the Campaign's "anti-drug " brand phrases.

- Effects on Parents:

  There is evidence consistent with a favorable Campaign effect on parents. Overall, there are favorable changes in 4 out of 5 parent belief and behavior outcome measures including talking about drugs with, and monitoring of, children. Moreover, parents who report more exposure to Campaign messages scored better on those outcomes after applying statistical control for confounders. There is no evidence, yet, of indirect effects on youth behavior as the result of parent exposure to the Campaign.

- Effects on Youth:

  There is little evidence of direct favorable Campaign effects on youth. There is no statistically significant decline in marijuana use or improvements in beliefs and attitudes about marijuana use between 2000 and 2001, and no tendency for those reporting more exposure to Campaign messages to hold more desirable beliefs.

  For some outcomes, and for some subgroups of respondents, analysis raises the possibility that those with more exposure to the specific Campaign ads at the start of Phase III of the Campaign had less favorable outcomes over the following 18 months. This was true for the youth respondents who were nonusers and aged 10 to 12 at the start of this phase, with regard to their intentions to use marijuana in the future and for all youth 12 to 18 for their perceived social norms about marijuana use. Girls with the highest exposure to Campaign ads at the start were more likely than less exposed girls to initiate marijuana use. This effect was not seen for boys. This unfavorable association with initiation was also significant for the youngest respondents and for the low risk respondents. Further analysis is required before any firm conclusion can be reached to support these unlikely outcomes.

These interim results reflect the first 2 years of Phase III operation. Subsequent semiannual reports may show different effects (including favorable effects on youth). This report provides followup information on less than half of the entire sample; the rest will be available for the next report.

Executive Summary

The number one goal of *The National Drug Control Strategy* is to "Educate and enable America's youth to reject illegal drugs as well as alcohol and tobacco." One of the objectives in support of that goal includes, "Pursue a vigorous advertising and public communications program dealing with the dangers of drug… use by youth." Under the Treasury-Postal Appropriations Act of 1998, Congress approved funding (P.L. 105-61) for "a national media campaign to reduce and prevent drug use among young Americans." Pursuant to this act, the Office of National Drug Control Policy (ONDCP) launched the National Youth Anti-Drug Media Campaign (the Media Campaign).

The Media Campaign has progressed through three phases of increasing complexity and intensity. Phases I and II are not discussed in this report. ONDCP has available other reports that evaluate those phases. This report focuses on Phase III, which began in September 1999 and is planned to run at least through spring 2003. An evaluation of Phase III is being conducted under contract to the National Institute on Drug Abuse (NIDA) by Westat and its subcontractor, the Annenberg School for Communication at the University of Pennsylvania. Funding of the evaluation is provided by ONDCP from the appropriation for the Media Campaign itself. This is the fourth semiannual report of the Westat and Annenberg evaluation of Phase III of the Media Campaign.

The primary tool for the evaluation is the National Survey of Parents and Youth (NSPY). This survey is collecting initial and followup data from nationally representative samples of youth between 9 and 18 years of age and parents of these youth. This Fourth Semiannual Report presents analyses from the first four waves of NSPY, covering the period from September 1999 through December 2001.

This executive summary focuses on evidence for Campaign effects on youth and parent outcomes. There have been about 18 months for the Campaign to produce detectable effects on the outcomes since the midpoint of the first wave of interviews, in March 2000, through the midpoint of the fourth wave of interviews, in September 2001. This report includes evidence about temporal changes in behavior and attitudes and beliefs, focusing on changes between 2000 and 2001. The report also includes evidence for cross-sectional association of exposure to Campaign advertising and attitudes and beliefs and, in some cases, behavior. In addition, this report provides, for the first time, evidence from the cohort of youth and parents interviewed during the first half of 2000 and reinterviewed during the last half of 2001. The repeated interviews of the same respondents permits examination of the ability of earlier exposure to predict later outcomes, a stronger procedure for making claims about potential Campaign effects. The next report will strengthen these lagged analyses because the youth and parents first interviewed either in the last half of 2000 or in the first half of 2001 are all being interviewed for a second time during the first half of 2002, thus increasing the sample size for these analyses of temporal ordering. In the subsequent periods, each of these youth and parents will be interviewed for a third time during the final two waves of data collection, that is, between July 2002 and June 2003. The final evaluation report is scheduled for spring 2004. At that time, the sample youth and their parents will have been studied for 2 to 3 years.

This report by Westat and Annenberg provides six types of information about the campaign and its effects:

- A brief update and description of the Media Campaign's activities to date.
- A review of the logic and approach of the evaluation.
- Statistics on the level of exposure to messages achieved by the Media Campaign during Phase III.
- Estimates of change in the drug use behaviors of youth between 2000 and 2001.
- Estimates of Campaign effects on youth from three different approaches: (1) estimates of association between exposure to the Campaign and simultaneously measured outcomes, including attitudes, beliefs, and intentions, with statistical controls for confounders; (2) estimates of change between 2000 and 2001 in these outcomes; as well as (3) estimates of any association of early exposure and later outcomes for the youth interviewed twice. The report also includes analyses of change and of associations for various subgroups of the population.
- Estimates of Campaign effects on parents. These include association between exposure to the Campaign and parents' talk about drugs with their children, their monitoring of their children's behavior, and their engaging in fun activities with their children, as well as their beliefs and attitudes about talk and about monitoring, and estimates of association between parent exposure and youth drug use behavior. It also includes estimates of trends between 2000 and 2001 in the parent outcomes. Both change and association data are reported for various subgroups of the population. In addition, the lagged associations of early parent exposure to Campaign advertising with later outcomes are presented.

Background on the Media Campaign

The Media Campaign has three goals:

- Educate and enable America's youth to reject illegal drugs;
- Prevent youth from initiating use of drugs, especially marijuana and inhalants; and
- Convince occasional users of these and other drugs to stop using drugs.

The Media Campaign originally targeted paid advertising to youth aged 9 to 18 (with a current focus on youth 11 to 17), parents of youth in these age ranges, and other influential adults. Phase III advertising is being disseminated through a full range of media or "channels" following a *Communications Strategy* developed by ONDCP. Phase III also includes components other than advertising. There are outreach programs to the media, entertainment, and sports industries, as well as partnerships with civic, professional, and community groups. These other components, which are being coordinated by a public relations firm, include encouraging entertainment programs with anti-drug themes, coverage of the anti-drug campaign in the news media, community activities, corporate co-sponsorship, and special interactive media programming on the Internet.

ONDCP performs overall management of the Media Campaign in collaboration with the following groups:

- The Partnership for a Drug-Free America (PDFA), which provides the creative advertising for the Media Campaign through its existing relationship with leading American advertising companies;
- A Behavioral Change Expert Panel (BCEP) of outside scientists who help to inform the content of the advertisements to reflect the latest research on behavior modification, prevention, and target audiences;
- Ogilvy, a national advertising agency, which has responsibility for media buying (as well as for carrying out some supportive research and assuring a coherent advertising strategy);
- Fleishman-Hillard, a public relations firm, which coordinates the nonadvertising components of the Media Campaign; and
- The Ad Council, a coordinator of national public interest advertising campaigns, which supervises distribution of donated advertising time to other public service agencies under the "pro bono match" program (see below).

For Phase III, advertising space is purchased on television, radio, newspapers, magazines, billboards, transit ads, bus shelters, movie theaters, video rentals, Internet sites, Channel One broadcasts in schools, and other venues as appropriate. The television buys include spot (local), network, and cable television. One of the requirements in the Media Campaign appropriations language is that each paid advertising slot must be accompanied by a donation of equal value for public service messages from the media, known as the pro bono match. The pro bono match involves one-to-one matching time for public service advertisements or in-kind programming. The pro bono spots may include other themes including anti-alcohol, anti-tobacco, and mentoring, but such themes are not part of the paid advertising.

Methodology

The report presents results from four waves of the National Survey of Parents and Youth (NSPY), an in-home survey designed to represent youth living in homes in the United States and their parents. Each of the first three waves of NSPY enrolled nationally representative samples of youth aged 9 to 18 and their parents. The respondents at these waves represent the approximately 40 million youth and 43 million of their parents who are the target audience for the Media Campaign. Wave 1 included 3,312 youth from 9 to 18 years old and 2,293 of their parents, who were interviewed between November 1999 and May 2000; Wave 2 included 2,362 youth and 1,632 of their parents interviewed between July and December 2000. Wave 3 included 2,459 youth and 1,681 of their parents interviewed between January and June 2001.

Sampling of eligible youth in Waves 1, 2, and 3 was designed to produce approximately equal-sized samples within three age subgroups (9 to 11, 12 to 13, 14 to 18). One or two youth were randomly selected from each eligible sample household. One parent was randomly chosen from each eligible household. A second parent was selected in the rare event when two youths who were not siblings were sampled.

Wave 4 conducted followup interviews with the youth who were sampled in Wave 1 and were still eligible, and with their parents. Later waves will follow up the Wave 4 sample again and also follow

up samples from Waves 2 and 3. While the focus of the Campaign is on youth older than age 10, the inclusion of 9- and 10-year-old children at Waves 1, 2, and 3 provides a sample of those who will age into the primary target audience at the times of the followup interviews. Wave 4 comprised followup interviews with 2,478 youth and 1,752 parents of those sampled at Wave 1; the interviews were conducted between July and December, 2001.

NSPY achieved a response rate of 65 percent for youth and 63 percent for parents across Waves 1 through 3 of data collection (the recruitment waves), with little response rate variation by wave. In Wave 4, the interviewers for NSPY successfully reinterviewed 82 percent of responding Wave 1 youth who were interviewed in Wave 1 and were still eligible for the survey (primarily still under age 19) and 80 percent of responding Wave 1 parents. The cumulative response rates for Wave 4 were necessarily lower than the rates for the prior three waves due to the followup nature of this wave of data collection. In preparing the respondent data for analysis, adjustments were made at all four waves to compensate for nonresponse and to make certain survey estimates conform to known population values. Confidence intervals for survey estimates and significance tests are computed in a manner that takes account of the complex sample design.

NSPY questionnaires were administered in respondents' homes using touch-screen laptop computers. Because of the sensitive nature of the data to be collected during the interviews, a Certificate of Confidentiality was obtained for the survey from the Department of Health and Human Services, and confidentiality was promised to the respondents. All sensitive question and answer categories appeared on the laptop screen and were presented orally to the respondent over headphones by a recorded voice that could be heard only by the respondent. The responses were chosen by touching the laptop screen.

The NSPY questionnaire for youth included extensive measurement of their exposure to Media Campaign messages and other anti-drug messages. It also included questions about their beliefs, attitudes, intentions, and behaviors with regard to drugs and a wide variety of other factors either known to be related to drug use or likely to make youth more or less susceptible to Media Campaign messages.

The NSPY questionnaire for parents also included measures about exposure to Media Campaign messages and other anti-drug messages. In addition, it included questions about parents' beliefs, attitudes, intentions, and behaviors with regard to their interactions with their children. These included talking with their children about drugs, parental monitoring of children's lives, and involvement in activities with their children. Parent and child responses can be linked for analysis.

Ad exposure was measured in NSPY for both youth and parents by asking about recall of specific current or very recent TV and radio advertisements. The TV and radio advertisements were played for respondents on laptop computers in order to aid their recall. Youth were shown or listened to only youth-targeted ads, and parents were shown or listened to only parent-targeted ads. In addition, both youth and parents were asked some general questions about their recall of ads seen or heard on TV and radio, and in other media such as newspapers, magazines, movie theaters, billboards, and the Internet.

Media Purchases and Evidence about Exposure

Media Purchases

Across its multiple media outlets, the Media Campaign reports that it purchased enough advertising time over the 28-month period covered by this report (September 1999 through December 2001) to achieve an expected exposure to 2.5 youth-targeted ads per week for the average youth and to 2.2 parent-targeted ads per week for the average parent. These estimates include Campaign advertisements intended for either all youth or all parents; they do not include exposure by youth or parents to advertisements intended for other audiences, often called "spill," or separate advertising targeted to specific race- or ethnicity-defined audiences.

- Figures ES-1 and ES-2 present the weekly totals for expected youth-targeted and parent-targeted exposures, respectively, where 100 means that the average person in the audience would be exposed once per week. Both the actual weekly media purchases and a smoothed line averaging over 3-week periods are presented. Both graphs show that purchases varied a good deal both between and within the periods corresponding to the NSPY waves of data collection.

Figure ES-1. Weekly youth-targeted general market GRPs (September 1999 through December 2001)

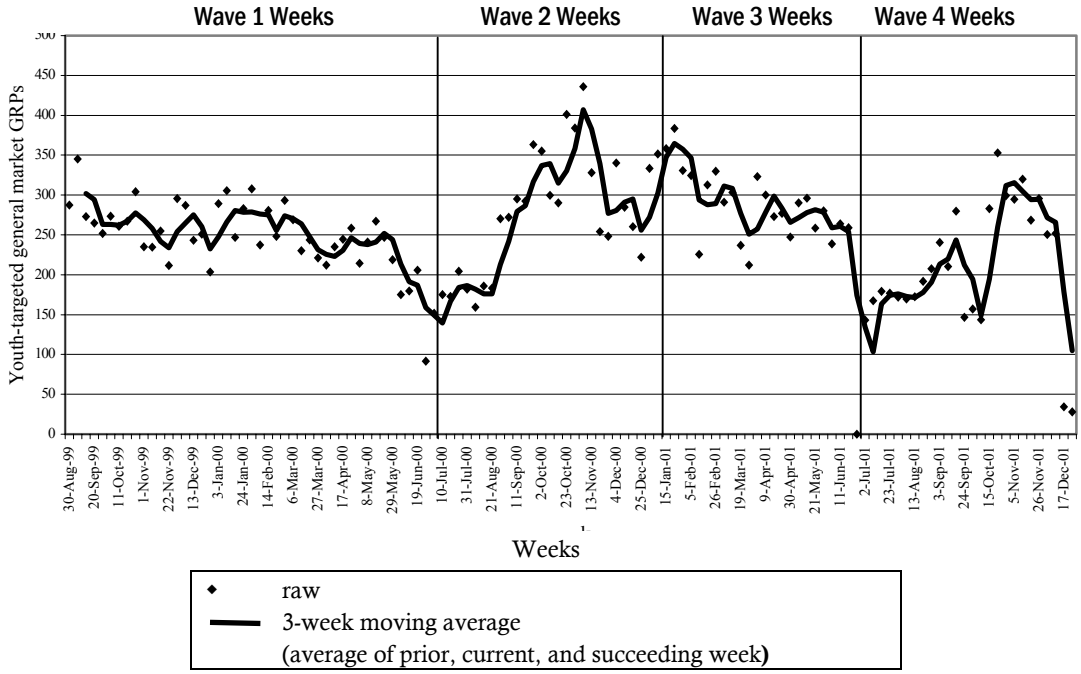
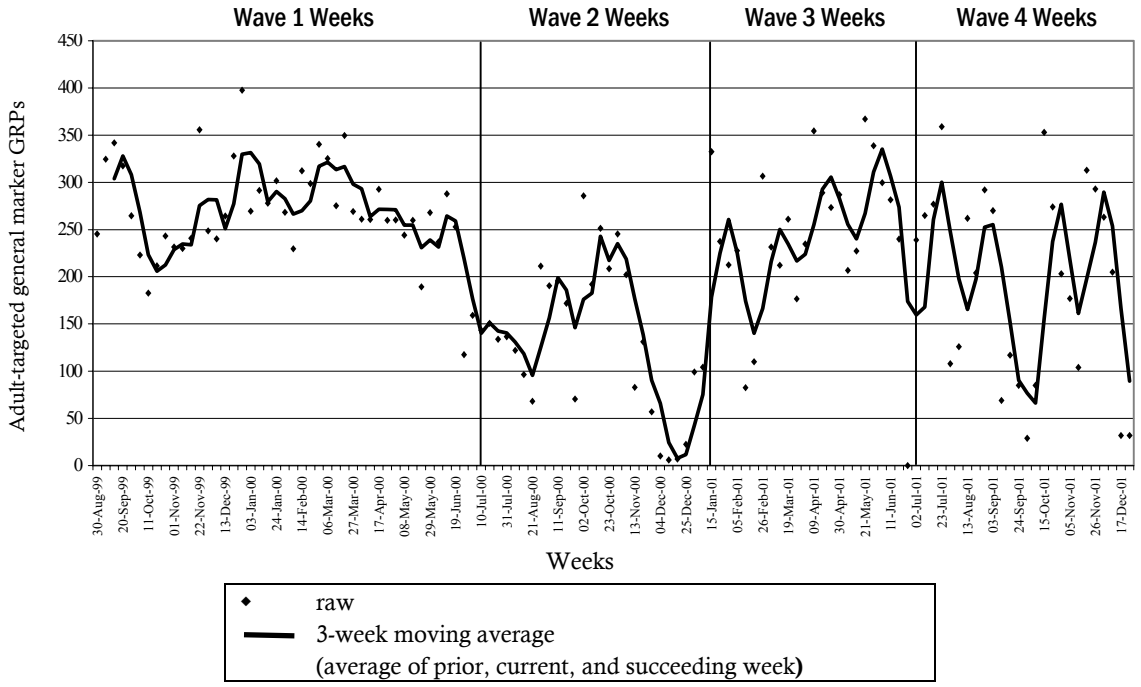


Figure ES-2. Weekly adult-targeted general market GRPs (September 1999 through December 2001)



- Table ES-1 summarizes the variations across broad 6-month periods. The table shows that expected weekly exposures of 2.6, 2.5, and 2.8 for youth across the first three waves are followed by a sharp decline in purchases during the second half of 2001, with the average falling below an expectation of 2.0 exposures per week. Purchases of ad time for parents also fell during the second half of 2001; it was also low in the second half of 2000.

Table ES-1. Distribution of youth and parent average weekly exposures across waves

	Wave 1 9/99-6/00	Wave 2 7/00-12/00	Wave 3 1/01-6/01	Wave 4 7/01-12/01
Youth	2.59	2.54	2.80	2.09
Parents	2.75	1.52	2.30	1.94

- About 35 percent of youth advertising time was purchased on network or "spot" television and about another 25 percent was purchased on network and "spot" radio. Thus, about 60 percent of total exposures were on media with the potential to reach a wide portion of youth. The rest of the GRPs were purchased on channels that reach narrower audiences, including in-school television (19%), magazines (10%), and other media: basketball backboards, Internet, nontraditional, and arcades (all less that 5% apiece).

- For parents, averaged across the four waves, almost 60 percent of the primary media buys were in potentially wider-reach media, that is, network radio (30% of all expected exposures) and network television (28%). Forty percent of the primary media buys were in narrower-reach media, that is, outdoor media (26%), magazines (11%), newspapers (4%), the Internet, and movie ads (1%).

- The decline in total media purchases for parents in the second half of 2001 may have been counterbalanced by the reweighting of the media channels used. While over the first three waves 51 percent of all parent media buys were in wider-reach channels, for the final period 85 percent of buys were in those channels.

- For both youth and parents, Campaign advertising buys were mostly directed to a small number of platforms or themes. The focus on each platform varied across time, as presented in Tables ES-2 and ES-3, which present the percentage of all television and radio ad buys in each wave dedicated to each platform. For youth, an early focus on Negative Consequences of drug use had almost disappeared by Wave 3 but was revitalized in Wave 4. A focus on Normative Education/ Positive Alternatives was strong across all four waves while Resistance Skills were emphasized in Waves 1 and 3 but not included in Waves 2 or 4. For parents, the Parenting Skills/Personal Efficacy platform was maintained through all four waves and was especially strong in Wave 4. On the other hand, "Your Child at Risk" received substantial weight only at Wave 3, and "Perceptions of Harm" was included only at Wave 1. Some of the "Your Child at Risk" platform advertising in Waves 3 and 4 focused on the risks of inhalants.

Table ES-2. Advertising buys per week purchased for specific youth platforms across waves (TV and radio)

Platform	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)
Negative Consequences	24.7	16.6	0.0	61.3
Normative Education/ Positive Alternatives	40.1	71.1	41.6	34.6
Resistance Skills	33.0	3.0	46.5	3.0
Other	2.2	9.2	11.8	0.01

Table ES-3. Advertising buys per week purchased for specific parent platforms across waves (TV and radio)

Platform	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)
Parenting Skills/Personal Efficacy	54.2	98.8	48.6	91.3
Your Child at Risk	13.6	0.0	51.4	7.9
Perceptions of Harm	31.0	1.0	0.0	0.0
Other	1.2	0.0	0.0	0.0

- Anti-inhalant advertising directed toward youth represented less than 0.1 percent of all TV and radio exposures, and even during its heaviest period (the second half of 2001) was only 4 percent of all buys. In contrast, parent-focused anti-inhalant advertising was 11 percent of all purchased radio and television exposures and was included in 43 percent of the ads purchased in the first half of 2001.

- Ecstasy-focused ads were broadcast only on radio and only during 2001. They made up about 8 percent of all expected exposures during 2001 for parents. For youth, they appeared only in the second half of 2001, making up 10 percent of all exposures during that period.

Recall of Exposure

NSPY used two measures of exposure; the first is based on general recall of anti-drug ads through all media, and the second is based on specific recall of currently broadcast ads on television and radio. All of the following results relate only to youth aged 12 to 18 and their parents (i.e., children under 12 in NSPY and their parents are excluded).

- General exposure recall to all anti-drug advertising was fairly stable for parents and for youth across the four waves. This stability occurred despite the variation in purchases of targeted advertising by the Campaign. The general exposure measures, which may include exposure to

advertising targeted to the other audience and advertising placed by other institutions, did not appear to relate closely to changes in Campaign-targeted buys across the four waves. About 70 percent of all parents and 76 percent of all youth recalled weekly exposure to any anti-drug ads (Table ES-4). These estimates suggest that the median monthly exposures are about 10 ads for parents and 13 ads for youth, and the corresponding median weekly exposures are about 2.5 and 3.25 ads.

Table ES-4. Exposure to Campaign advertising by wave

Population	Exposure measure: Percent seeing/ hearing ads 1 or more times per week	Wave 1 (%)	Wave 2 (%)	Wave 3 (%)	Wave 4 (%)
Parents	General Exposure: Across all media	71	71	72	68
	Specific Exposure: TV ads	26	23	20	39*
	Specific Exposure: Radio ads	10	11	17	15*
Youth 12 to 13	General Exposure: Across all media	74	78	76	69
	Specific Exposure: TV ads	40	43	51	60*
	Specific Exposure: Radio ads	NA	4	10	3**
Youth 14 to 18	General Exposure: Across all media	77	79	77	74
	Specific Exposure: TV ads	34	37	47	53*
	Specific Exposure: Radio ads	NA	4	13	3**

* Significant change between Waves 1 and 2 versus Waves 3 and 4, $p<0.05$.

** Significant change between Waves 2 and 3, and between Wave 3 and 4 $p<0.05$.

NA: Radio use not measured for youth during Wave 1.

- Estimates of specific recall of Campaign ads among parents and youth provide an alternative view of exposure to the estimates generated from the general recall measures. Parents reported a median of 3 exposures and youth reported a median of 7.5 exposures to the TV ads "in recent months." This roughly translates into medians of 0.35 and 0.9 exposures per week for parents and youth, respectively. Radio recall was lower than TV recall: On average, over the 2-year period, about 16 percent of parents recalled general exposure to radio ads in the past week, and over the final three waves of measurement about 6 percent of youth recalled such exposure. About 50 percent of parents and 60 percent of youth recalled none of the specific radio ads played for them.

- Specific recall of televised Campaign ads increased significantly between 2000 and 2001 for youth in both the age groups in Table ES-4; the recall increased from 37 percent weekly recall to nearly 51 percent weekly recall for the overall sample of 12- to 18-year-olds. The decline in television ad purchases in Wave 4 had not yet been seen in recall of those ads, perhaps because many youth were still recalling messages they saw during the higher Wave 3 exposure period (Table ES-4). There was a sharp increase between Waves 2 and 3 in the recall of the radio ads by youth in both age groups, but that increase disappears in Wave 4. In all cases, radio recall remained much lower than television ad recall. (Statistically significant findings are presented in bold in the tables.)

- As was the case with youth, specific recall of television advertising by parents increased in Wave 4. Although overall parent advertising buys had fallen in Wave 4, television buys were up. This rise in TV buys is consistent with the rise in exposures to specific TV ads. Parent recall of specific radio ads, while still lower than TV ad recall, showed a significant increase between 2000 and 2001, from about 10 percent recalling weekly exposure to about 16 percent.

"Brand" Recall

One of the innovations of Phase III has been the inclusion of a Campaign "brand"—for example, "the anti-drug." A brand is used in many advertising campaigns to provide a recognizable element to

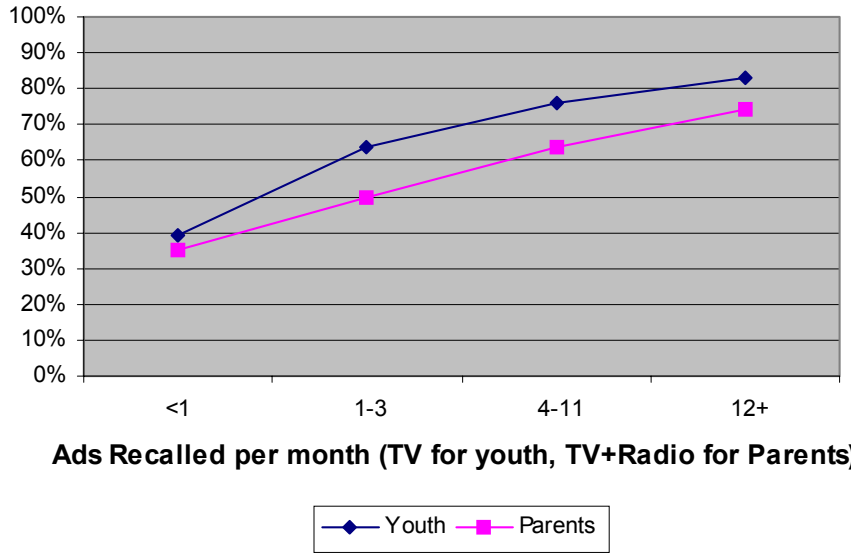
coordinate advertising as well as nonadvertising components of the campaign. Insofar as the brand is recognized and positively regarded, its familiar presence may create some initial positive response to any new ad or increase the perception that each ad is part of a larger program. Such effects may, in turn, influence acceptance of the Campaign's message.

The NSPY started measuring brand phrase recall in Wave 3. The data provide evidence for brand phrase recall, particularly among youth, with stronger evidence in Wave 4 than in Wave 3:

- Over Waves 3 and 4 combined, approximately 68 percent of 12- to 18-year-olds recalled the Campaign brand phrase targeted at youth, and 55 percent of their parents recalled the Campaign brand phrase targeted at parents. Because some of the claimed recall could have been due to false recollection, true recall cannot be precisely estimated at this time.

- There is good evidence that the more individuals were exposed to Campaign advertising the more likely they were to recall the brand phrase, which supports the idea that the phrase was learned as the result of Campaign exposure. Figure ES-3 shows the relationships between recalled exposure of TV ads for youth and TV and radio ads for parents, with the level of brand recognition. For youth, only 39 percent of the lowest TV ad exposure group said they recognized the brand, while 83 percent of the highest exposure group—those who had seen television ads more than 12 times per month—did so. For parents, where recall of both television and radio ads are included in the exposure measure, 35 percent of the lowest exposure group and 74 percent of the highest exposure group recalled the brand phrase. These are large and statistically significant differences.

Figure ES-3. Recall of brand phrase by specific ad recall (%)



Exposures to Other Drug Messages

Both youth and parents receive messages about drugs from other public sources besides Media Campaign paid advertising. Those other sources of messages are themselves the target of Campaign efforts, and they also create a context for receiving the Campaign's purchased anti-drug media messages. Exposure to messages through these other sources is high, but, with a few exceptions, there was not much change between waves (Table ES-5).

One other potential source for providing drug-related messages is the variety of programs that exist for youth and parents. The Campaign's focus in working with youth-serving organizations and parent groups is to encourage them to integrate drug use prevention messages and strategies into their existing educational programs and extracurricular activities, rather than to increase their participation in anti-drug programs *per se*. With regard to youth and parent involvement in such programs:

- Around two-thirds of youth reported having attended anti-drug education in school during the past year, a rate that remained unchanged across the four waves. Out-of-school drug education was much rarer, and it declined slightly, but significantly from about 8 percent in 2000 to 6 percent in 2001.

- A little less than one-third of parents reported attending anti-drug and parental effectiveness programs. This did not change across waves.

Other sources for messages about drugs are public drug-related discussions and mass media stories. The NSPY findings relating to this source are as follows:

- There was a jump in the percentage of parents recalling community-level drug-related discussion of anti-drug programs between Waves 1 and 2, but the percentage had returned to the Wave 1 level by Wave 3 and stayed there for Wave 4. The net result is a small but statistically significant decline in recall between 2000 and 2001.

Table ES-5. Exposure to drug-related communication by wave

Measure	Population	Wave 1 (%)	Wave 2 (%)	Wave 3 (%)	Wave 4 (%)
Percent in-school drug education in the past year	Youth	67	66	65	65
Percent extracurricular drug education in the past year	Youth	**8**	**7**	**6**	**6***
Percent recalling weekly exposure to stories on at least one medium with drugs and youth content	Youth	**52**	**53**	**53**	**44***
Percent recalling weekly exposure to stories on at least one medium with drugs and youth content	Parents	66	62	65	62
Percent hearing a lot about anti-drug programs in community in the past year	Parents	**31**	**38**	**31**	**29***
Percent attending drug prevention programs in the past year	Parents	29	32	30	30
Percent attending parent effectiveness programs in the past year	Parents	27	30	29	28

* Significant change between Waves 1 and 2 versus Waves 3 and 4, $p<0.05$.

- Weekly exposure to mass media stories about drugs and youth was reported by 64 percent of parents. There was little change in this across waves.

- However, the approximately constant rate of around 53 percent of youth reporting such media exposure in the first three waves of measurement was broken at Wave 4, when it fell to 44 percent. As a result, the rate for 2001 was significantly lower than that for 2000.

Drugs are not only a public topic, they are also a common topic for private conversation between parents and children, and among youth and their friends (Table ES-6):

- A slightly increasing proportion of parents reported conversations about drugs with their children across years; in 2000 around 80 percent and in 2001 around 83 percent of parents claimed to have had two or more conversations with their children about drugs in the previous 6 months. There

were no important differences in reported conversation with children according to the age of the child.

- In contrast, youth reported a different pattern of conversation. The percentage of youth reporting such conversations with their parents was lower—only about 52 percent reported two or more such conversations in the past 6 months. The percentage also declined between 2000 and 2001, a decline that was significant for the entire group of 12- to 18–year-olds and for the 12- to 13-year-olds. In addition, fewer of the younger children (aged 12 to 13) reported such conversations with friends in 2001 than in 2000.

- Most youth say they have conversations about drugs with parents and/or friends, and many of them have such conversations frequently. The partners for such conversations shift sharply as youth mature. As they mature, youth are less likely to talk with their parents and more likely to talk with friends.

Table ES-6. Drug-related conversations by wave

Percent with two or more conversations in past 6 months	Population	Wave 1 (%)	Wave 2 (%)	Wave 3 (%)	Wave 4 (%)
Youth with friends	Youth 12 to 13	44	44	39	40*
	Youth 14 to 15	69	52	65	65
	Youth 16 to 18	68	71	70	71
	All youth	62	57	59	60
Youth with parents	Youth 12 to 13	59	56	53	51*
	Youth 14 to 15	58	52	53	50
	Youth 16 to 18	48	52	45	48
	All youth	55	53	50	50*
Parents with children	Parents of 12 to 13	80	78	81	81
	Parents of 14 to 15	82	79	82	86
	Parents of 16 to 18	78	80	83	82
	All parents	80	79	82	83*

* Between Waves 1 and 2 and Waves 3 and 4 change significant at $p<0.05$.

- In the course of conversation about drug use, 12- to 18-year-old youth discuss negative things about drugs, but many older youth also speak positively about drugs. Only 9 percent of 12- to 13-year-olds had conversations with the theme "marijuana use isn't so bad" as compared with 44 percent who had conversations about "bad things that happen if you use drugs." In contrast, pro-marijuana conversations are reported by 34 percent of 16- to 18-year-olds, as compared with 55 percent who had conversations about bad things that can happen if you use drugs. There was no substantial change in the balance of "pro-drug" to "anti-drug" comments between waves.

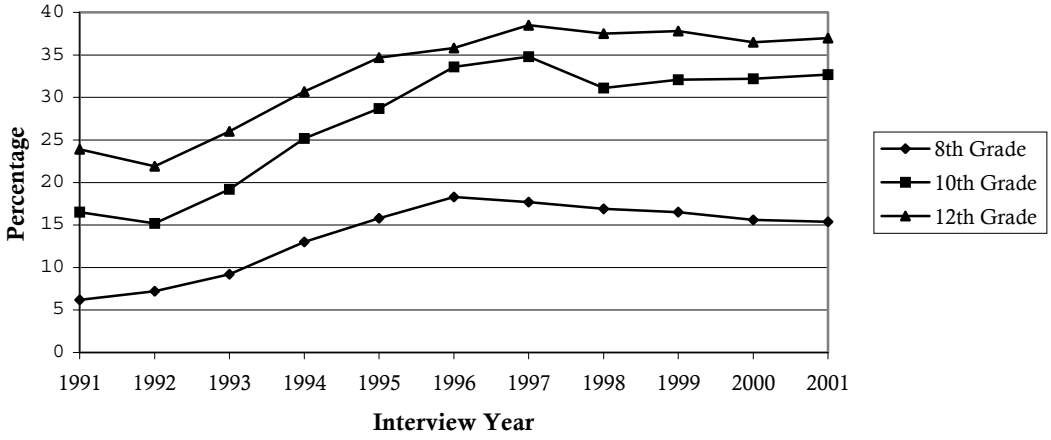
Estimates of Youth Drug Use

Following the goals of the Media Campaign given earlier, NSPY was designed to assess the influence of the Media Campaign on initial use (i.e., using at least once in a lifetime) and the shift from initial to regular use (i.e., using at least 10 or more times in a year) of marijuana and inhalants. The primary purpose of including questions about drug use in NSPY was not to provide estimates of youth drug use, but rather it was to enable the correlations of cognitive variables (such as attitudes, beliefs, social norms, self-efficacy, and intentions) with actual usage to be studied. Furthermore, NSPY was designed to measure linkages in a theoretical model for Media Campaign action, that is, linkages

between ad exposure and attitudes, between attitudes and intentions, and between intentions and actions (drug use). Measures of drug use are needed for an evaluation of this model.

- Because it has a larger sample and a long trend line, another survey sponsored by the Federal Government—the Monitoring the Future (MTF) study—provides better measurements of drug use behaviors and changes in them. The National Household Survey of Drug Abuse (NHSDA) also provides important information about drug use and, as a household survey rather than a school survey like MTF, has much in common with the NSPY. However, 2001 NHSDA data are not available. NHSDA 2000 data were presented in the previous semiannual report. The 2001 MTF data, reflecting data collected through the spring of 2001, show a fairly stable pattern of marijuana use since the start of Phase III, and indeed back through 1998 before the start of the national Campaign. The proportions reporting past year marijuana use from 1991 through 2001 are presented in Figure ES-4.

Figure ES-4. Percentage of 8th, 10th, and 12th graders reporting past year marijuana use: MTF 1991-2001



- The NSPY comparisons between 2000 and 2001, although based on smaller samples, take the use data through the end of 2001. They show essentially the same age differential and trend results as the MTF data: stability in annual marijuana use for all of the age subgroups (Table ES-7).

Table ES-7. Annual use of marijuana by age: NSPY reports

Age group	Wave 1 11/99 to 6/00 (%)	Wave 2 7/00 to 12/00 (%)	Wave 3 1/01 to 6/01 (%)	Wave 4 6/01-12/01 (%)
12 to 13	3.3	3.2	2.0	3.2
14 to 15	11.2	11.5	14.4	13.1
16 to 18	28.9	29.3	27.6	26.1
12 to 18	15.9	15.8	15.6	15.3

Note: No statistically significant changes across waves.

- NSPY also examined rates of change in three other measures of marijuana use—ever use, regular use (almost every month), and use in the previous 30 days. For all ages and for all of those measures, use was unchanging between 2000 and 2001, with two exceptions. Reports of regular use and last 30 days use, while still rare, were significantly increasing among youth who were 14- to 15-years-old. Reports of past month use increased from 3.6% to 7.2%, and regular use (defined as use every month or almost every month) increased from 2.2% to 5.4%.

Campaign Effects

The remainder of this Executive Summary presents evidence obtained to date regarding Campaign effects. The discussion first summarizes the logic adopted for claiming effects. It then presents the findings regarding Campaign effects on youth followed by the findings for Campaign effects on parents.

The Logic of Claiming Campaign Effects

The analysis of Campaign effects in the report involves three components: (1) examining trends over time, (2) examining how exposure to the Campaign that individuals report is associated with their outcomes measured at the same time, and (3) examining how individuals' reported exposure at one wave predicts their outcomes at a later wave, among youth and parents who were measured at two waves (in this report Waves 1 and 4).

If the Campaign has been successful, it would be desirable to see favorable trends in the outcomes over time. However, change in outcomes over time (or a lack of change despite positive Campaign effects) may be due to influences besides the Campaign. Thus, if effects are to be definitively attributed to the Campaign, other supporting evidence is also needed.

Another form of evidence is an association between exposure and outcome, measured at the same time. However, evidence of the presence or absence of a simple association is inadequate for inferring that exposure has, or has not, had an effect on an outcome. The main threat to such an inference is that a positive association may be due to the influence of other variables (confounders) on both exposure and outcomes. This threat to inference can be substantially lessened by applying statistical controls for the confounders, as described below. However, even when controls have been applied for all known, measured confounders, there remains the possibility that unmeasured and perhaps unknown confounders are the cause of the adjusted association. Furthermore, even if controls were fully applied for all the confounders, there remains an alternative explanation for the adjusted association, namely that it is outcome that is the cause and (recall of) exposure that is the effect. Thus, an association between exposure and outcome, controlled for all known confounders, cannot alone definitively determine that the campaign has had an effect on an outcome.

The threat of ambiguity of causal direction that exists with a cross-sectional association can be overcome when longitudinal data are available. If, after controlling for all confounders, *exposure* measured at time 1 is associated with *outcome* measured at time 2, then the causal direction is from *exposure* to *outcome* since an effect cannot precede its cause. With this report, longitudinal data are available for the first time. Therefore, it is now possible to establish time order between variables—that is, to examine whether a prior state of exposure affects a later outcome measure.

There is another constraint on the analysis of associations that needs to be considered. The analysis addresses only the direct effects of exposure. Associations between exposure and outcomes are expected only if individuals personally exposed to Campaign messages learn and accept those messages in the short term. This form of analysis does not reflect any indirect effects that might occur through other routes. Therefore, this report includes analyses that assess only one important route for indirect effects, that is, those mediated through parents.

For youth, analyses of Campaign effects are limited to 12- to 18-year-olds who report never having tried marijuana (referred to as "nonusers" in this report) and concerns their attitudes, beliefs, and intentions ("cognitions") about possible initiation of marijuana use in the subsequent year, and in the case of the longitudinal analyses, their actual initiation of use between Waves 1 and 4. There were not enough occasional users (i.e., those using marijuana one to nine times in the past year) among the youth to examine Campaign effects on their cognitions. The parent analysis includes all parents of 12- to 18-year-olds and focuses on the target parenting behaviors (and their supporting cognitions) including talk, monitoring, and engaging in fun projects or activities with their children in or out of the home. In addition, the analyses examine the association between parent exposure and youth behavior.

All analyses of associations between exposure to Campaign messages and outcomes use a method called "propensity scoring" to control for the possible influence of a very wide range of possible confounding variables. The analyses began with tests for any preexisting differences among the exposure groups on a large number of variables. The parent analyses were corrected, among other factors, for observed differences on race, ethnicity, gender, age of parent, income, marital status, strength of religious feelings, age of children, neighborhood characteristics, media consumption habits, language, and parental substance use (alcohol, tobacco, marijuana, and other illegal drugs). The analyses of youth associations were controlled for parent characteristics and further controlled for any preexisting difference among exposure groups on school attendance, grade level, academic performance, participation in extra-curricular activities, plans for the future, family functioning, personal antisocial behavior, association with antisocial peers, use of marijuana by close friends, personal tobacco and/or alcohol use of a long-standing nature, and sensation-seeking tendencies. For the cross-sectional analyses, the propensity scores were based on measures of these characteristics taken concurrently with the measures of exposure and outcome. For the longitudinal analyses, these characteristics were measured at Wave 1, concurrently with the exposure measure at that wave, but prior to the Wave 4 outcome measures.

The third semiannual report (Hornik et al., 2001) found evidence consistent with a Campaign effect on parents, including evidence of positive change in parent outcomes over the first three waves of measurement, and evidence for cross-sectional associations between exposure and most of those outcomes. The patterns were particularly strong for fathers. In contrast, there was little evidence consistent with a positive Campaign effect on youth. There was little evidence for changes in youth beliefs, attitudes, intentions, or behaviors, or for associations between Campaign exposure and outcomes. The current report extends these analyses to incorporate data from Wave 4 and also adds longitudinal analyses of linked Wave 1 and Wave 4 data for both youth and parents.

Campaign Effects on Youth

The analysis focuses on five outcomes for youth: initiation of marijuana use, intentions to avoid initiating marijuana use, and three indices—attitudes and beliefs about marijuana use, perceptions of social norms about marijuana use, and self-efficacy to avoid marijuana use if it is available. The intentions outcome focuses on the proportion of youth who said "definitely not" when asked about the likelihood of their using marijuana in the next year. This measure has proved to be highly predictive of subsequent use. Among nonusing 12- to 18-year-olds at Wave 1 who said they would "definitely not" use marijuana in the next year, 12 percent reported at Wave 4 having ever used marijuana (i.e., 18 months on average after their Wave 1 interview). In contrast, among nonusers who

said "probably not," "probably yes," or "definitely yes" to the intentions question, about 45 percent reported having initiated use.

The attitude and belief index includes questions about eight specific consequences of marijuana use for the respondent as well as general attitudes toward marijuana use; the perception of the social norms index includes questions about what parents and friends would expect the respondent to do about marijuana use, and the self-efficacy index assesses the respondent's confidence that he or she could refuse marijuana in a variety of circumstances. Each of the three indices is substantially related to intentions to use marijuana. The intentions measure is presented as the percentage of youth who said "definitely" not. The other three indexes are calibrated so all 12- to 18-year-old users at Wave 1 had a mean score of 100 and a standard deviation of 100.

Table ES-8 presents a summary of the trend and cross-sectional association data separately for 12- to 13-year-olds and 14- to 18-year-olds. The table shows statistically significant negative trends for 12- to 13-year-olds with regard to (1) attitudes and beliefs, and (2) social norms. The other year-to-year trends are stable. There is only one significant monotonic association,[1] which is negative: 12- to 13-year-olds who report higher general exposure measure report less strong rejection of marijuana use in the next year. However, that result is not repeated for the specific exposure index for that age group, and it is not repeated for either exposure measure for the 14- to 18-year-olds. In the absence of any trend data or replication with the other measures or populations, this unlikely finding is probably best interpreted as anomalous rather than as a basis for inferring negative Campaign effects.

Table ES-8. Trend and cross-sectional association evidence about youth Campaign effects

	12- to 13-year-olds				14- to 18-year-olds			
	Change		Associated with exposure?		Change		Associated with exposure?	
Outcome measure	2000	2001	Specific exp.	General exp.	2000	2001	Specific exp.	General exp.
Percent definitely not intending to try marijuana	92%	91%	No	Yes↓	85%	84%	No	No
Belief/Attitude Index	129	122*	No	No	97	93	No	No
Social Norms Index	137	130*	No	No	91	85	No	No
Self-Efficacy Index	101	101	No	No	103	110	No	No

*Significant change between 2000 and 2001, p<.05.

↓ This arrow indicates that youth with more exposure were less likely to report that they would definitely not use marijuana in the next year.

These trend and cross-sectional analyses were repeated for important subgroups defined by gender, sensation seeking (a personality characteristic defined by an interest in engaging in novel, intense, and risky experiences, including illegal drug use), race/ethnicity, and a composite measure of risk of marijuana use. These subgroups were not further subdivided by age. Nine subgroups were analyzed for each of the four outcome measures: for 2000 to 2001 trends, and for the associations between the specific and the general exposure measures and the outcomes. A total of 108 analyses were examined. Of the 108, seven trend or association analyses were significant at the P<0.05 level. Of the seven, three were favorable trends for self-efficacy (among boys, low risk, and low sensation-seeking youth) and three were unfavorable trends for girls (for intentions, and the attitude/belief, and social norm indexes). Only one cross-sectional association was significant out of 72 examined, and that one was

[1] The associations in Table ES-8 and later tables are measures of monotonic association. They are measures of the extent to which increasing levels of exposure are associated with increasing (positive association) or with decreasing (negative association) levels of the outcome. They are controlled for confounding variables using propensity scores.

unfavorable. A small number of significant effects may be detected when a large number of tests are undertaken, simply by chance. The trends of the negative pattern among girls and for the 12- to 13-year-olds presented previously, and the positive pattern for self-efficacy, are worth some attention. However, absent any credible evidence of association between Campaign exposure and the outcomes, there is no firm basis for a claim of positive (or negative) Campaign effects based on these trend and cross-sectional association data.

This report introduced one additional form of analysis: lagged associations. These analyses are restricted to the youth who were interviewed at Wave 1 and again at Wave 4, and who were nonusers at Wave 1 and aged 12 to 18 at Wave 4. The interval between the two interviews was on average 1½ years. The analyses ask whether level of exposure to advertising at Wave 1—both general and specific exposure—predicts subsequent important outcomes.

The results for 12- to 13-year-olds at Wave 4 are displayed in Table ES-9, and those for 14- to 18-year-olds are displayed in Table ES-10. The exposure columns represent the level of exposure reported by these youth at Wave 1 to Campaign television advertising. The rows represent measures of four of the five outcomes of interest at Wave 4 for the same youth. The estimates in the cells are adjusted, through the propensity scoring methodology, for a wide variety of potential confounders as well being survey weighted to represent the U.S. population. The statistical significance tests take the complex sample design into account.

Table ES-9. Exposure per month at Wave 1 and outcomes at Wave 4 among 12- to 13-year-olds who were nonusers of marijuana at Wave 1

		Exposure at Wave 1					
Wave 4 Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho*	Significance**
% Not intending to use	General exposure	**92.7**		**91.8**	**85.4**	**-.10**	**P=.02**
	Specific exposure	**94.2**	**90.1**	**85.7**		**-.11**	**P=.02**
Attitude/Belief Index	General exposure	126.1		129.8	111.1	-.07	NS
	Specific exposure	126.1	120.3	106.1		-.05	NS
Social Norms Index	General exposure	122.8		143.1	115.9	-.01	NS
	Specific exposure	137.1	120.2	112.4		-.08	NS
Self-Efficacy Index	General exposure	101.8		118.9	98.2	-.05	NS
	Specific exposure	112.6	104.2	96.2		-.05	NS

* Spearman rho is an estimate of the association of two ordered variables and varies between –1 and +1.

** The significance is based on the Jonkheere-Terpstra test for monotonic association. NS denotes not significant at the 5 percent significance level.

Table ES-10. Exposure per month at Wave 1 and outcomes at Wave 4 among 14- to 18-year-olds who were nonusers of marijuana at Wave 1

		Exposure at Wave 1					
Wave 4 Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho*	Significance**
% Not intending to use	General exposure	71.3		76.9	71.5	.00	NS
	Specific exposure	75.4	74.4	68.3		-.06	NS
Belief/Attitude Index	General exposure	65.6		72.3	74.0	.02	NS
	Specific exposure	68.3	76.8	63.6		.00	NS
Social Norms Index	General exposure	60.2		66.7	57.4	-.02	NS
	Specific exposure	76.4	62.5	49.5		-.09	NS
Self-Efficacy Index	General exposure	94.2		110.6	108.5	.01	NS
	Specific exposure	115.7	104.4	100.6		-.03	NS

* Spearman rho is an estimate of the association of two ordered variables and varies between –1 and +1.

** The significance is based on the Jonkheere-Terpstra test for monotonic association. NS denotes not significant at the 5 percent significance level.

The principal conclusions to be drawn from Tables ES-9 and ES-10 are the following:

- There is evidence for a lagged association for the 12- to 13-year-olds for both the general and specific measures of exposure with one of the outcomes, intentions, but not for the other three outcomes. This association goes counter to expectation since those with higher exposure at Wave 1 are less likely to report that they do not intend to use marijuana at Wave 4.

- There is no evidence for a lagged association for the 14- to 18-year-olds for either measure of exposure for any of the outcome measures. That is, regardless of their level of exposure at Wave 1, 14- to 18-year-old youth hold not significantly different scores on each of the outcome measures at Wave 4.

- There is also evidence of a significant lagged association for the 12- to 18-year-olds between specific exposure and the social norms measure (data only shown in report). Those youth with more exposure at Wave 1 report poorer norms at Wave 4.

These unfavorable results were produced through the set of analysis procedures that had been set in place prior to examining the data, as was true for all other reported analyses.[2] However, because these results were contrary to expectations, they stimulated additional analyses to check for their

[2] The analyses were originally done with four levels of exposure. However, there were only a small number of youth who reported the highest level of exposure to the Campaign's television ads (12 or more times per month). To increase the stability of the results, the top two categories of specific exposure were combined. The original results were consistent in their unfavorable direction with the ones reported here. However, all of the associations between Wave 1 specific exposure and Wave 4 outcomes were statistically significant, while only one of the four was statistically significant in the analyses presented here.

robustness.[3] The results of these alternative procedures found in all cases that the statistically significant negative associations remained. None of the alternative procedures produced any positive Campaign lagged effects. The schedule for this report did not permit further investigation of these results. Wave 5 will provide both a substantially larger longitudinal sample and more time to investigate additional alternative analytic approaches to investigate these effects.

The same form of analysis was conducted to examine the association of Wave 1 exposure with the initiation of marijuana use between Wave 1 and Wave 4 by these youth, all of whom were nonusers at Wave 1. None of the associations of general exposure and use were significant, consistent with the results for the cognitive outcomes just presented. Table ES-11 presents the results for specific exposure for all 12- to 18-year-old youth, for gender subgroups, for age subgroups, and for groups that were at higher and lower risk for marijuana use. (Risk for marijuana use was a summed score that incorporated both personal and parent characteristics that were predictive of marijuana use.)

The association for the entire sample is not statistically significant. Consistent with the results shown previously, there is a statistically significant association for 12- to 13-year-olds, with higher exposure being associated with a higher proportion of youth initiating marijuana use. This trend is not significant for 14- to 18-year-olds. When the data are presented by gender, males show no effect; however, females show a significant unfavorable association. Low risk youth also show a statistically significant unfavorable association, but high risk youth (a small sample) show no significant association.

Table ES-11. Specific exposure per month at Wave 1 and initiation of marijuana use by Wave 4 among nonusers of marijuana at Wave 1

Outcome (average)	<1 exposure	1 to 3 exposures	4+ exposures	Spearman rho*	Significance**
All 12-18 year olds	10.4	14.4	16.3	.07	NS
12- to 18-year-old males	15.9	16.0	11.4	-.05	NS
12- to 18-year-old females	**3.7**	**12.9**	**21.6**	**.22**	**P<.01**
12- to 18-year-old Whites	11.0	16.4	18.8	.09	NS
12 to 13 year olds	**1.2**	**5.8**	**5.2**	**.09**	**P=.04**
14 to 18 year olds	15.7	18.2	21.9	.07	NS
Higher risk youth	35.8	39.4	37.0	-.00	NS
Lower risk youth	**5.4**	**9.6**	**11.8**	**.09**	**P=.02**

* Spearman rho is an estimate of the association of two ordered variables and varies between –1 and +1.

** The significance is based on the Jonkheere-Terpstra test for monotonic association. NS denotes not significant at the 5 percent significance level.

The results about youth are complex. Unequivocally, there is no evidence yet consistent with a desirable effect of the Campaign on youth. The trends in behavior and in the beliefs that underpin behavior are either flat or, in a few cases, in a direction that suggests that the Campaign is having an unfavorable effect. There is no evidence that those who have been more exposed to the Campaign espouse desired beliefs more than others. And there is no evidence that those who were more exposed to the Campaign at Wave 1 moved subsequently in Wave 4 to more positive views or behavior than those who were less exposed. In addition, there is a suggestion at least for the 12- to 13- year-old

[3] These alternative approaches included analyses that used raw data, data weighted for overall sample characteristics but without inclusion of confounders, and analyses that used change in outcomes rather than Wave 4 outcomes as dependent variables. They also used alternative analysis procedures that used conventional regression approaches in parallel to the propensity approaches presented.

subgroup that those who were more exposed to the Campaign moved toward less favorable beliefs, and for 12- to 13-year-olds and for all girls that they had increased levels of initiation. However, a finding that the campaign has an unfavorable effect should be seen as interim, with further elaboration and testing needed. In addition, it will be important to examine whether the apparent unfavorable finding holds up once the full sample is available following completion of the Wave 5 data collection.

Campaign Effects on Parents

There are five outcome indices that are the focus of analysis for the parent data in the report: (1) parent reports of talking with their children about drugs; (2) an index of attitude and belief items concerning talk (talk cognitions); (3) parent reports of monitoring their children; (4) an index of concerning monitoring (monitoring cognitions); and (5) parent reports of engaging in fun activities with their children in and outside of the home.

As with the youth results, the analyses searched for three supportive findings as the basis for a claim for a Campaign effect: a favorable trend on a target outcome, a favorable cross-sectional association between exposure to the Campaign and the outcome, and evidence for a lagged association between exposure at Wave 1 and outcomes at Wave 4 for the parents interviewed on both occasions (where the associations are controlled for confounders).

There was a good basis after Wave 3 to claim some support for an inference of Campaign effects on the first two of those grounds. The inclusion of Wave 4 data supports this position. Table ES-12 summarizes the evidence for the five focus indices for trend and for cross-sectional associations. In two of the cases (talking behavior and cognitions), there is both a significant trend and statistically significant associations with both the general and specific exposure measures for the overall population of parents of 12- to 18-year-olds. For monitoring cognitions, there is a favorable trend and positive associations with general exposure and with specific exposure for fathers. For monitoring behavior, there is a favorable trend, although no overall association of such behavior for either specific or general measures of exposure. However, as was observed during Wave 3, specific exposure is again associated with monitoring behavior for fathers and for parents of male youth. For fun activities, there are clear cross-sectional associations; however, there was no favorable trend overall or for any subgroup. It is worth some emphasis that for both monitoring cognitions and monitoring behavior there are favorable associations with specific exposure for fathers, even when there was no overall association. These results confirm (and incorporate) the results from the previous report.

However, the above results do not extend to suggest that parents' exposure has affected youth behavior. There was no cross-sectional associational evidence for any group that parent exposure was associated with lower marijuana consumption among youth.

The lagged analyses for parents examined the association of Wave 1 exposure with Wave 4 outcomes, controlling for Wave 1 measures of those outcomes, as well as the set of other potential confounders. The existence of significant associations of parental exposure at the first time point (Wave 1) with parent outcomes at the second time point (Wave 4) would be supportive evidence for a Campaign effect on parents. Table ES-13 summarizes these results.

Table ES-12. Summary of cross-sectional trend and association results for parents

	Parents of 12- to 18-year-olds				If no significant trend or association for for all parents of 12- to 18-year-olds, is there a significant association for a subgroup of parents?		
			Association			Association	
Index	2000	2001	General	Specific	Trend	General	Specific
Talking behavior	**2.26**	**2.36***	**Yes**	**Yes**	--	--	--
Talking cognitions	**96.80**	**102.90***	**Yes**	**Yes**	--	--	--
Monitoring behavior	**1.41**	**1.46***	No	No	--	No	Fathers, parents of male youth
Monitoring cognitions	**87.10**	**92.70***	**Yes**	No	--	--	Fathers, parents with college education
Doing fun activities	63.50	62.70	**Yes**	**Yes**	No	--	--
Youth marijuana use in the previous year	15.80	15.50	No	No	12-13 year old Afr.-Am. youth (favorable)	Parents of Hispanic youth, (unfavorable)	Parents of higher risk and White youth (unfavorable)

* Significant difference between 2000 and 2001 at p<.05.

Yes: Significant monotonic association at P<0.05.

--: Subgroup test not statistically different from result for full sample.

Table ES-13. Summary of lagged association results for parents (Wave 1 exposure and Wave 4 outcomes)

Outcome		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho*	Signficance**
Talking behavior (0 to 3 scale)	General exposure	2.35		2.35	2.35	0.00	NS
	Specific exposure	2.34	2.33	2.40	2.23	-0.02	NS
Talking cognitions Score on index with:	General exposure	103.23		90.67	106.60	0.01	NS
	Specific exposure	99.83	96.56	98.13	119.88	0.06	NS
Monitoring behavior	General exposure	1.48		1.39	1.50	0.01	NS
	Specific exposure	1.52	1.41	1.45	1.41	-0.03	NS
Monitoring cognitions	General exposure	100.97		88.81	87.90	-0.04	NS
	Specific exposure	98.48	88.21	86.61	93.71	-0.03	NS
Doing fun activities	General exposure	65		65	66	0.01	NS
	Specific exposure	**67**	**63**	**66**	**73**	**0.05**	**P=.05**

* Spearman rho is an estimate of the association of two ordered variables and varies between –1 and +1.

** The significance is based on the Jonkheere-Terpstra test for monotonic association. NS denotes not significant at the 5 percent significance level.

If the analyses of the above lagged associations had found significant effects, this would have supported a claim that the Campaign caused the outcomes rather than that the outcomes (which represent parent engagement with their children) caused recall of campaign exposure. Either of these interpretations is consistent with the observed strong patterns of cross-sectional associations. Table ES-13 shows that significant lagged associations were not found, except in one case. Thus, these analyses do not provide support for a claim that exposure causes outcomes, rather than outcomes cause exposure. Only in the case of fun activities was the lagged association statistically significant, and that result reflected the difference between the highest level of exposure and the other three categories, which were essentially the same. There is no clear interpretation of these findings. They are consistent with the possibility that the causal chain runs from outcomes to recalled exposure. They are also consistent with the possibility that there was not enough additional influence of Wave 1 exposure over and above that already seen in the Wave 1 outcome to be detected.

The parent analyses in this semiannual report had two new elements. The first, just discussed, was the lagged analysis that attempted to help sort through the causal order question. The second innovative element was the incorporation of a youth behavior measure as an outcome in the parent cross-sectional analysis. The youth behavior variable was introduced as an ultimate outcome that extends the evidence for a Campaign effect beyond the associations between exposure and the intermediary outcomes. It was natural to ask the next (and crucial) question as to whether the possible changes produced by the Campaign in the intermediary outcomes had translated into actual behavior change. To date, there is no evidence supporting that claim.

Overall, there are trends and cross-sectional associations consistent with Campaign effects on parent outcomes, including talking behavior and cognitions, and monitoring cognitions. These associations are most consistent for fathers. The longitudinal data do not as yet provide the hoped for additional evidence to rule out reverse causation as an explanation for the observed cross-sectional associations. Also, the evidence does not as yet support an effect of parent exposure on youth behavior. This may reflect the apparent lack of relevance of some of the parent outcomes to youth behavior (talking) or the weak associations of exposure and outcome (monitoring behavior). It may also be that the 18-month interval between NSPY Waves 1 and 4 is insufficiently long for the Campaign to have a measurable influence on youth behavior through this indirect parent exposure route. With the next wave of data, the sample for the longitudinal analyses will grow by 150 percent. This may make it possible to detect longitudinal effects, particularly in subgroups, that were not apparent in the limited analyses that could be performed for this semiannual report. Indeed, the parent cross-sectional associations that are described in this chapter appeared only when the Wave 2 and Wave 3 data were joined to the Wave 1 data. A parallel effect may also occur when the full longitudinal sample becomes available. Yet subsequent waves of data collection will increase the time interval between NSPY's youth and parent respondents' first interview and their most recent interview, thereby providing 2 to 3 years to influence youth marijuana use behavior.

The Campaign's eventual success depends on its influence on youth behavior. The above discussion of possible effects of the Campaign on youth showed little evidence that youth exposure to the Campaign is as yet affecting their behavior directly. Thus, evidence in this section for effects on parents, and for potential eventual indirect effects on youth, are particularly important. However, the argument for indirect effects requires that there be evidence that parent behaviors are protective, showing that children whose parents talk with them about drugs, monitor them, and engage in fun activities with them are less likely to use drugs. There is good correlational evidence that monitoring (both the behavior and the cognitions) and fun activities are related to drug use behavior and

intentions. There is not evidence yet that youth have been affected by parent exposure to the Campaign.

In summary, these findings for parents continue to provide some basis for optimism about Campaign effects on parents. Still, there remain possible challenges to claims of Campaign effects. Subsequent reports will be able to investigate these issues more thoroughly. By the end of the evaluation, each respondent will have been measured three times. With those data, claims of effects can be based on a higher standard of inference. Thus, while still subject to future confirmation, at this stage in the Campaign evaluation there are some positive indications of Campaign effects on parents, but not on youth.

Reference

Hornik, R. et al, (2001). *Evaluation of the National Youth Anti-Drug Media Campaign: Third Semiannual Report of Findings*, Report prepared for the National Institute on Drug Abuse (Contract No. N01DA-8-5063), Washington DC: Westat.

1. Introduction

This is the fourth in a series of semiannual reports based on the National Survey of Parents and Youth (NSPY), a continuing survey designed to evaluate the National Youth Anti-Drug Media Campaign. The National Youth Anti-Drug Media Campaign (the Media Campaign) is part of an effort by the Office of National Drug Control Policy (ONDCP) to educate and enable America's youth to reject illegal drug use by means of an advertising and social marketing program that attempts to increase their perceptions about the risks of drugs and increase their disapproval of drug use. Other important Media Campaign goals for youth are to convince those who are occasional users of drugs to stop using them to present positive alternatives to drug use and to teach youth drug resistance skills. Media Campaign goals for parents have evolved to focus on emphasizing to parents and influential adults that their monitoring activities can make a critical difference in preventing youth drug use, and to enhance adult perceptions of harm associated with the use of marijuana and inhalants.

This fourth report is both descriptive and evaluative. Chapter 2 describes the evaluation design and analytic logic. Chapter 3 provides descriptions of message exposure achieved by the Campaign from September 1999 through December 2001. Chapter 4 presents evidence about changes in behavior among youth. Chapters 5 and 6 present evidence about effects of the Campaign. Chapter 5 focuses on targeted youth attitudes and beliefs about drug use. Chapter 6 focuses on parent behavior and parental attitudes and beliefs about engagement with their children to prevent drug use. Both chapters 5 and 6 feature evidence about changes in the outcome indicators since late 1999, as well as evidence that exposure to the Campaign is related to these outcomes. New in this report, both chapters 5 and 6 include the presentation of evidence about the association of early Campaign exposure with subsequent changes on the target outcome indicators.

This introductory chapter reviews the nature of the Media Campaign, its paid advertising component, other components of the Campaign, the administrative structure of the evaluation, and the structure of this report.

1.1 Nature of the Media Campaign in Phase III

This report summarizes material from previous reports (Hornik et al., 2000; Hornik et al., October 2001, Hornik et al., April 2001) and updates that information with descriptions of activities undertaken between July and December 2001, the period covered by this report. It is worth noting that during this period (July to December 2001), the September 11 terrorist attacks occurred. The catastrophic nature of that day's events affected all media in the period that followed. Normal media programming and airing of advertisements did not resume for some weeks following the attacks. Further, most Americans were consumed with the enormity of the tragedy. This may have affected some of the outcomes monitored in this evaluation, including conversations about drugs between youth and parents or friends, with discussion of the tragedy at home, work, or school, crowding out discussions of other topics.

The Media Campaign is now in Phase III. Phase I involved pilot testing the intervention in 12 metropolitan areas, using existing Partnership for a Drug-Free America (PDFA) advertisements.

During Phase I of the Media Campaign, ads were placed on television and radio, in newspapers, and on billboards. In Phase II, these advertisements appeared nationwide, in addition to the test areas. Some new advertisements were added to the Media Campaign. The advertisements appeared not only on television, radio, billboards, and in newspapers and magazines, but also on cable television, Channel One (educational television within schools), on the Internet, in movie theaters, on schoolbook covers, and on basketball backboards. The mix of media used by the Campaign has evolved over time, with the latter three media types listed being phased out since 2000. Table 1-A shows the Media Campaign phases.

Table 1-A. Media Campaign phases

Phase I January 1998 - June 1998	Phase II July 1998 - July 1999	Phase III September 1999 - Continuing
■ Pilot test in 12 metropolitan areas, with 12 sites selected for comparison ■ Previously produced ads ■ Paid and donated advertising (pro bono ad matching required)	■ National level intervention ■ Previously produced and new ads ■ Paid and donated advertising on a full range of media (pro bono ad matching required)	■ National level intervention ■ New ads ■ Paid and donated advertising on a full range of media (pro bono ad matching required) ■ Partnerships with media, entertainment, and sports industries, and civic, professional, and community groups ■ News media outreach through public relations activity

Phase III marks the full implementation of the Media Campaign. As in the past, an extensive range of media is used to disseminate Media Campaign messages to a national audience of youth and parents. In addition, Phase III features a significant interactive media component, involving content-based web sites and Internet advertising. Most of the ads used in Phase III are new, although some existing ads that were considered effective in the past also have been used. New ads are developed and disseminated according to the National Youth Anti-Drug Media Campaign Communication Strategy Statement, which was developed over the course of a year with the help of hundreds of individuals and organizations with expertise in teen marketing, advertising and communication, behavior change, and drug prevention, as well as to the National Youth Anti-Drug Media Campaign Communication Strategy Statement Supplement, which documents changes to the original statement as of August 2001 and reflects refinements of the Campaign.

The development of the ads follows a complex process involving four major organizations. The primary supervisor for the production of most of the ads has been PDFA, which has historically led anti-drug advertising efforts. However, since ONDCP uses Federal funds to finance some production costs as well as purchase media time, it has instituted a multifaceted review process for defining broad behavior change strategies and for developing and approving specific ads. Behavior change expertise comes from a continuing panel of experts who are responsible for designing behavioral briefs that provide a framework for creative development, specifying objectives and message strategies for each priority audience. The panel reviews strategies and advertising executions at bimonthly meetings to ensure behavioral relevance. ONDCP performs overall management of the Media Campaign. Under that overall leadership, responsibility for media buying, some supportive research, to assure a coherent advertising strategy, and the day-to-day management of the advertising component of the Media Campaign lie with Ogilvy, a national advertising agency.

Ogilvy has organized the participation (as subcontractors) of five agencies that specialize in communicating with minority audiences. Special attention has focused on sufficiently exposing Media Campaign messages to African Americans, Asian Americans, Pacific Islanders, Hispanic Americans, American Indians, Alaska Natives, and Aleuts. More than $38 million in paid and negotiated pro bono advertising messages and outreach programs aimed at youth aged 11 to 17, parents, and other youth influencers are directed toward ethnic audiences each year. African Americans and Hispanics receive the dominant share of multicultural advertising exposure—more than 75 percent of the ethnic paid and pro bono investments (National Youth Anti-Drug Media Campaign Fact Sheet, "Multicultural Outreach," July 2001). Ogilvy also has supervised a substantial research effort to provide ongoing support to the Media Campaign decisionmaking. These include monthly mall-based tracking surveys and focus groups, conducted across the country with both parents and youth, to review and generate feedback on developing ads and initiatives. Working with the specialized agencies, Ogilvy formulates, designs, and manages the implementation of multicultural research initiatives. Ogilvy and its subcontractors prepare recommendations on advertising content and buying strategies. ONDCP then reviews and provides final approval for all major Campaign decisions and for all advertising content.

Phase III of the Media Campaign is "an integrated social marketing and public health communications Campaign." Thus, it attempts to reach the target audience indirectly and directly through advertising. Additional elements of the Media Campaign in Phase III involve (1) partnerships with civic, professional, and community groups, (2) outreach to the media, entertainment, and sports industries, as well as (3) the development of a pro bono advertising match program described below. Through the partner organizations, the Media Campaign strives to strengthen local anti-drug efforts. Through outreach, the Media Campaign encourages the news media to run articles that convey Campaign messages. In the early part of Phase III, the pro bono match was used to encourage the entertainment industry to portray drug use in ways that are based on accurate information, including the depiction of the consequences of drug use. Although the explicit tie to the pro bono match has been eliminated to avoid any appearance of government control over content, the Media Campaign provides producers, script writers, directors, and journalists access to the latest drug information, and high-level experts through a regular series of briefings. The overarching goal is to encourage popular culture to dispel myths about drug use and accurately portray consequences of drug use.

It is expected that any youth may receive anti-drug messages from each of the following sources:

- Exposure to Media Campaign messages;
- Interaction with friends and other peers;
- Interaction with parents and other influential adults; and
- Involvement with organizations.

Youth exposure to Media Campaign messages may occur as a result of direct paid advertising or as a result of content fostered through outreach to the news media and entertainment industries. Further opportunities for exposure to anti-drug messages may be enhanced through personal involvement with organizations that have become partners as a result of Phase III Media Campaign outreach activities and the media match. Exposure to anti-drug messages through interactions with friends, peers, parents, or other adults may occur as a direct result of either or both of these Media Campaign efforts. Although it is difficult to measure, exposure may also occur indirectly, as a result of a social

environment in which prevention of drug abuse is a salient issue; the Media Campaign may contribute to this environment.

The following two sections outline many of the activities of the Media Campaign in Phase III. These accomplishments will provide a sense of the magnitude of Media Campaign efforts to prevent or reduce drug use through various channels.

1.2 Paid and Donated Advertising

The Media Campaign had budgets of $195 million in FY 1998 and $185 million in FY 1999 through FY 2001. Of that, during Phase III, $144 million has been spent on the purchase of advertising time in year 1 (FY2000) and $143 million in year 2 (FY2001). Congress mandated that media organizations accepting Media Campaign advertising must match Media Campaign purchases with in-kind advertising time or space, or with other public service of equal value. The match component of the Campaign, coordinated by The Advertising Council, includes public service advertising that promotes support to parents, youth, and organizations that foster positive development for children and youth, and thereby contributes to some of the overall goals of the Campaign. Some of the pro bono match has included messages encouraging participation in local anti-drug coalitions.

Chapter 3 presents the Phase III media-buying strategies for youth and parents in detail, including how much paid advertising was directed through each channel. The Campaign delivers specific anti-drug messages nationally through the television networks of ABC, CBS, NBC, FOX, UPN, and the WB; through cable networks; and through national radio networks. While in the past, the Campaign purchased additional advertising in more than 100 television and radio "spot" markets, these media purchases were eliminated for Wave 4. On-line advertising was placed on approximately 40 web sites and on America Online. Additionally, the Media Campaign has paid for advertising banners to appear on commercial web sites. Media Campaign messages are also disseminated in newspapers and magazines, on home videos, and in movie theaters. Parents are further addressed through billboards, bus shelter placards, and other outdoor advertising.

The Media Campaign originally targeted youth aged 9 to 18, with a focus on 11- to 13-year-olds, also known as "tweens"; parents of youth in these age ranges; and other influential adults. The paid advertising plan, more specifically, targets 9- to 17-year-olds. As of August 2001, the Campaign shifted their creative focus to 11- to 14-year-olds to allow the campaign to more effectively reach youth at the time they are most at risk for drug trial (National Youth Anti-Drug Media Campaign Communication Strategy Statement Supplement, August 2001). Despite this narrowing of the creative target, the media buy is still expected to reach the full 9- to 17-year-old youth audience. The paid advertising component of the Media Campaign was expected to reach 90 percent of America's youth at least four times per week during the course of the Media Campaign (ONDCP Fact Sheet, "Summary of Campaign Accomplishments," March 2000), although this includes both advertising directed toward youth as well as advertising targeted to parents, which may also be seen by youth.

The Media Campaign also designs advertising for high sensation-seeking youth who have been shown in research as more at risk for drug use (Palmgreen et al., 2001). Sensation seeking is a biologically based trait "based on the idea that persons differ reliably in their preferences for, or aversions to, stimuli or experiences with high-arousal potential" (Zuckerman, 1988, p. 174). Individuals who are high in their need for sensation desire complex and stimulating experiences and are willing to take risks to obtain them. Several studies show that the variation in sensation seeking predicts behavioral

differences, especially illicit drug use. Some results reinforcing this claim are presented in Chapter 4 of this report.

For both parent and youth audiences, the Media Campaign chose to focus on a limited set of message themes. As Phase III has matured, the Campaign developed a strategic plan to gain maximum awareness for each message platform. Much of the advertising during any one time period (called a "flight") focuses on one theme or behavioral message platform. The plan includes four flights per year, each running 10 to 12 weeks. In each flight, two to three ads are run, but all of them address one of the themes or message platforms. Chapter 3 presents the details of this plan.

For youth, the strategic message platforms have also evolved since the beginning of the campaign. Some of the themes were merged together with the goal of increasing impact (National Youth Anti-Drug Media Campaign Communication Strategy Statement Supplement, August 2001). Flighting themes were revised to increase impact and accommodate budget limitations and the effects of media inflation. The current themes are:

- **Resistance Skills and Self-Efficacy**. Ads in this platform attempt to enhance personal and social skills that promote positive lifestyle choices. Specifically, they try to help build confidence that youth can resist drug use.

- **Normative Education/Positive Alternatives.** The normative education theme ads evolved in the late summer of 2001 from instilling the belief that most young people do not use drugs to conveying the message that "cool people don't use drugs." The positive alternatives strategy reinforces positive uses of time as behavioral alternatives to drug use. For both of these platforms, celebrities and peer-to-peer messages are used in the advertisements.

- **Negative Consequences**. This platform attempts to enhance youth perceptions that drug use is likely to lead to a variety of negatively valued consequences, including loss of parental approval, reduced performance in school and as an athlete, and specific drug effects.

Based on ad time purchased from July to December 2001, as presented in Chapter 3, 60 percent of youth ads focused on the Negative Consequences platform with most of the rest conveying the Normative Education/Positive Alternatives platform. There were distinct strategies for each of the multicultural target audiences, and for African American youth, the resistance skills platform was emphasized toward the end of 2001.

For parents, the themes previously included the following:

- **Your Child at Risk.** This platform sends the message to parents, "Every child is at risk for drug use, even yours."

- **Parenting Skills and Personal Efficacy**. This theme tells parents that they can learn simple skills to help their child avoid drugs, including communication and family management. There has been a particular emphasis on parental monitoring. Parents should know where their children are, what they are doing, whom they are with, and when they will be back.

- **Perceptions of Harm**. This platform stresses that parents need to be aware of the harmful effects of inhalants and marijuana on their child's life and future.

For Wave 4, the parent message platforms were narrowed to one main message platform for mass media communication: Efficacy/Monitoring. The strategic flighting plan reflects that the vast

majority of ads placed from July to December 2001 were of the Efficacy/Monitoring theme. The other platforms were conveyed via the parent website (www.TheAntiDrug.com) and fulfillment materials, as well as through non-advertising initiatives, although these channels reached many fewer parents.

Starting with Phase III, the Media Campaign has been incorporating branding to unify its advertising. This began with the parent Campaign, which focused on the idea of "The Anti-Drug" (e.g., Love: The Anti-Drug; Communication: The Anti-Drug). In the fall of 2000, the branding initiative was extended to the youth Campaign. The Campaign launched "My Anti-Drug," a multimedia initiative aimed at youth aged 11 to 17 years. Youth were asked to answer the question, "What's Your Anti-Drug?" with the goal of engaging them in defining their anti-drug. Youth were encouraged to submit ideas to ONDCP by postcard or by the Web.[1] These ideas, which were incorporated into advertising for early 2001, suggest activities that might serve as "anti-drugs" and allowed audience members to fill in their own (e.g., Soccer: My Anti-Drug). The "My Anti-Drug" Campaign's overall goal is to create and reinforce anti-drug norms by identifying positive alternatives in young people's own words.

In addition to running ads concerning marijuana and inhalants, the Campaign launched a $5 million advertising and public communications effort to combat the use of the drug, MDMA, also commonly known as "Ecstasy." The Campaign placed Ecstasy ads on national radio networks with targeted radio advertising in 14 high-usage Ecstasy markets and placed banner ads on web sites. The anti-Ecstasy ad purchases were around 8 percent of all adult radio and television ads in 2001 and 10 percent of all youth radio and television advertising during the second half of 2001 only (see Chapter 3) (National Youth Anti-Drug Media Campaign Communication Strategy Statement Supplement, August 2001).

During the second half of 2001, two new celebrity relationships were launched. New ads featured Taiwanese singer Jimmy Lin sponsored by the East West Bank Foundation and were specifically targeted for Asian and Asian American youth. Other new ads featured National Football League players Tiki Barber, and Derrick Brooks. The NFL also has been promoting the Campaign at initiatives such as the NFL experience, an interactive theme park at the Super Bowl, and youth activities including NFL Flag, a non-contact national flag football program involving more than 300,000 children nationwide. Additionally, drug prevention information and the new anti-drug ads are available on their website (www.NFL.com).

Among the other celebrities who appeared in anti-drug advertising during Phase III were singers Mary J. Blige, Lauryn Hill, the Dixie Chicks, and the late Scatman John, and athletes including tennis stars Venus and Serena Williams, professional skateboarder Andy MacDonald, track star Michael Johnson, Olympic figure skater Tara Lipinski, and members of the U.S. Women's World Cup Soccer Team. Celebrities, however, were only one part of the advertising effort. There were more than 125 distinct paid ads played or scheduled to be played between September 1999 through December 2001, including radio and television, general market, African American- and Hispanic-specific ads, and ads for parents as well as youth. A complete set of ad descriptions appears in Appendix D of this report. Most of the ads can be viewed or played by visitors to ONDCP's web site: http://www.whitehousedrugpolicy.gov.

[1] To facilitate on-line submissions, the on-line media unit allowed kids to submit their anti-drug as a vote and upload a creative expression articulating their anti-drug in the form of a story or picture file.

1.3 Public Communications Activities

Although advertising is the cornerstone of the Media Campaign, nonadvertising activities are also considered important to Media Campaign success. With an annual budget for nonadvertising of approximately $9.6 million, public relations contractor Fleishman-Hillard develops and coordinates such nonadvertising activities related to the Media Campaign. The Media Campaign is a comprehensive social marketing campaign that seeks to reach the audience directly and indirectly, through both traditional and nontraditional channels. It is designed to strengthen existing anti-drug efforts in communities, to boost parental monitoring of youth by focusing on its efficacy in preventing drug use, to generate talk among youth and parents about drug use, to give youth and parents the tools they need to pursue drug-free strategies such as resistance skills and parenting strategies, and to increase the salience of drugs as an issue generally. In short, nonadvertising Media Campaign activities are designed to foster or enhance an environment in which drug use is noticed, recognized as a problem, and discussed. In such an environment, advertising can be expected to have a greater and more lasting impact. It is also true, however, that if these activities do not reach and affect a substantial portion of the national population, this nationally-focused evaluation may not be sensitive to their effects.

Youth

Internet outreach efforts have grown in the second half of 2001 according to the Campaign. Building on changes suggested by youth usability studies, the Campaign's youth web sites (www.WhatsYourAntidrug.com and www.Freevibe.com) hosted more than 2.5 million visitors in 2001, according to Fleishman-Hillard. The average site visit time increased from 7 minutes per session at the end of 2000 to between 11 and 13 minutes at the end of 2001. Strategic partnerships with high visibility portals including Yahoo, Lycos, and About.com allowed for content placement on many popular youth sites; and celebrity endorsement of youth brand messaging was featured on AOL's Kids Only site. Additionally, the Internet site, ePeervoices.com, launched in May 2001, served as a grassroots extension of the Campaign and a forum for peer-to-peer communication. The web site combines information about drugs, alcohol, and tobacco links to other authoritative web sites, and provides the opportunity for young people to talk with peers about related issues.

Popular institutions also supported the Media Campaign. Fleishman-Hillard reported that media outreach efforts resulted in placement of youth and drug-related topics in major national print media and large-market daily newspapers, television coverage in the largest media markets, hundreds of articles in smaller and mid-size market community papers, and features in multicultural publications and broadcast media. During the second half of 2001, youth outreach efforts continued to focus on extending the "What's Your Anti-Drug" brand. The airing of *NSYNC "What's Your Anti-Drug?" ad during the popular band's 36-city summer concert tour provided an opportunity to extend awareness of the brand to teens. Fleishman-Hillard reported that media placements in general and ethnic markets resulted in an estimated 34 million impressions in 36 daily publications including The Los Angeles Times, El Nuevo Dia, and California Journal for Filipino Americans (impressions are the sum of the number of people who are projected to be readers of the publications on the day a story is run.). The band's Media Campaign-inspired drug prevention message was featured on web sites such as AOL, Yahoo!, MTV.com, About.com, E!Online, TimeforKids.com, MSNBC.com, Vibe.com, Billboard.com and Associated Press online. Additionally, outreach to popular radio call-in shows resulted in 13 stations conducting special "What's Your Anti-Drug?" promotions.

The Campaign also used radio promotions to generate publicity for the 18-city Bolt.com/Freevibe.com "Sound Check" mall tour, featuring the ongoing "What's Your Anti-Drug?" mural project. The tours were conducted in six major media markets including San Francisco, Boston, Dallas and Detroit, reaching an estimated 1.3 million listeners.

In addition to the "What's Your Anti-Drug?" message, the Media Campaign also used non-advertising efforts to promote the normative education message. In the fall of 2001, a partnership with newspapers, educators, and community coalitions helped the Campaign gain access to many U.S. markets to deliver its youth messages. "Majority Rules: Most Kids Don't Use Drugs" is a Campaign-generated template for local anti-drug newspaper supplements. The Campaign created and distributed the materials in collaboration with the Newspaper in Education (NIE) program of the Newspaper Association of America Foundation, Community Anti-Drug Coalitions of America (CADCA), the National Association of Student Assistance Professionals, and the National Middle School Association. According to Fleishman-Hillard, 440 NIE newspapers ordered the materials this summer, and an additional 150 newspapers that subscribe to the nationally syndicated "Kid Scoop" feature received a full-page English or Spanish adaptation for publication during Red Ribbon Week. As of December 2001, the materials have been published in 205 newspapers reaching 3.1 million readers in 29 states.

Previous semiannual reports have noted that the Media Campaign had formed partnerships with several national and local organizations already involved with drug prevention: Community Anti-Drug Coalitions of America, National Association of State Alcohol and Drug Abuse Directors, Prevention through Service Alliance, National Drug Prevention League, Youth Service America, ASPIRA, United Indian Tribal Youth Corporation, National Middle School Association, Drug Abuse Resistance Education (D.A.R.E.), and National Association of Student Assistance Professionals and the YMCA. In the fall of 2001, the Campaign together with the YMCA, developed a substance abuse prevention tool: "Positively Drug Free: A Prevention Awareness Handbook," which is intended to help program leaders of all experience levels motivate and empower tweens to choose healthy, drug-free lifestyles. The handbook is being printed and distributed in early 2002.

The Media Campaign also partnered with community and multicultural organizations (e.g., the Boys and Girls Clubs of America, the Girl Scouts of America, PowerUP, and 100 Black Men). In July 2001, the Media Campaign participated in the National Scout Jamboree, where more than 250,000 attendees and visitors were exposed to the Campaign and its "My Anti-Drug" youth brand. Each of 40,000 Boy Scouts added their own "anti-drug" to the jamboree's scrolling signature board as part of the Campaign's Mural Project. Partnerships with these types of organizations are intended to increase the amount of drug-related information in communities, including information about the negative consequences of drug use and how to resist drugs. Some of these partners have PSA messages in the pro bono Match component, which serves to raise public awareness of these groups and the programs they make available at the community level.

In addition, the Campaign targets special audiences in its outreach efforts. Based on research indicating that children of substance abusers are at high risk of becoming substance abusers themselves, the Campaign developed the message, "You're not alone: find someone you trust and talk about it." This message was promoted in posters, brochures, web sites, and outreach activities in partnership with the National Association for Children of Alcoholics; the Child Welfare League of America; the National Institute on Alcohol Abuse and Alcoholism; the Center for Substance Abuse Treatment; the National Association of Student Assistant Professionals; and national associations

representing school nurses and counselors. According to Fleishman-Hillard, more than 140,000 posters have been distributed; a 6-day radio tour reached a national audience of more than 21 million, and interactive media outreach resulted in placements on such web sites as HealthNewsDigest.com, with 1.7 million subscribers.

The Campaign also recognizes the school as a key avenue in its non-advertising efforts through a partnership in ONDCP with "Cable in the Classroom." The cable TV industry's educational arm is highlighting and distributing substance abuse-focused programming and curriculum support materials to teachers and students in 80,000 schools nationwide. Additionally, in an effort to reach kids before, during, and after their school hours, the Campaign advertises on Searchopolis.com, an N2H2 education portal, and ChannelOne.com (National Youth Anti-Drug Media Campaign Fact Sheets, Partnerships for Action and Interactive Program, July 2001).

Parents and Other Adults

In addition to youth outreach, Fleishman-Hillard aimed activities at engaging parents as well. In the summer of 2001, the Campaign secured a partnership with the American Academy of Pediatrics (AAP) and the National PTA to develop a new parent brochure entitled, "Keeping Your Kids Drug-Free: A How-To Guide for Parents and Caregivers." The AAP distributed the brochure to its 55,000 members, and the PTA sent sample copies to their 3,000 leaders nationwide encouraging them to order additional copies. Other partners in this program include the National Families in Action, the National Family Partnership, the National Fatherhood Initiative, Parenting Coalition International, and the National Asian Pacific American Families Against Substance Abuse.

The Campaign also launched a new program in August 2001 to take advantage of the workplace as an avenue for reaching parents and other adult influencers with youth drug prevention information. The Society for Human Resources Management mailed anti-drug program information to over 160,000 members promoting the new Campaign initiative and website www.theantidrug.com/workplace. The Campaign's Workplace Program, which was fully implemented in February 2002, provides campaign resources and materials to employers for easy distribution to their employees.

During the second half of 2001, the Campaign continued its outreach to community newspapers, providing regional and local newspapers with 10 matte articles including two releases in Spanish. These efforts reached hundreds of thousands of newspaper readers, according to Fleishman-Hillard. The matte articles primarily targeted parents, delivering practical tips about parenting skills that help keep their kids drug free. The Campaign also disseminated anti-drug and drug prevention messages to parents and youth in African American, Hispanic, Asian, and American Indian and Alaska Native communities. Results included national feature stories in *People En Español* and *Today's Child*, magazines reaching Hispanic and African American parents.

In addition to parents, the Campaign gave considerable attention to other influential adult audiences. In the fall of 2001, Fleishman-Hillard worked to improve the content and awareness of the web site www.TeachersGuide.org, a Web-based resource providing teachers with classroom activities, teaching tips, and other education resources to incorporate drug prevention into the classroom. In partnership with the National Education Association's Health Information Network, the Campaign developed new classroom activities that directly tie to education standards. In addition to the classroom activities, new drug prevention resources were added to the web site, such as the New York Times' "Guide to Anti-Drug Education and the Children of Substance Abusers" and the "Media Literacy Guide." The Media Literacy Guide features techniques that students can learn to become

more media savvy regarding anti-drug messaging in the media, as well as lesson plans for teachers. The site continues to be promoted on a variety of web sites such as Cable in the Classroom and in The New York Times' Newspaper in Education Program.

Grandparents were also an audience for the Campaign's program to reach out to caregivers and other adult influencers. The Campaign began a partnership with AARP's Grandparent's Information Center (GIC), to educate grandparents about substance abuse among youth and provide resources and tools to help keep youth drug free. The new web site (www.theantidrug.com/Grandparents) features advice and tips for grandparents, pertinent news articles, guest columns, and a link to AARP's GIC. Outreach was also conducted for Grandparent's Day 2001 (September 9), to grandparent publications.

The web site www.theantidrug.com has been the primary online source of program information directed at parents and other influential adults. The Media Campaign has reported approximately 1.1 million user sessions for this site, defined as "entries onto a web site," on www.theantidrug.com in the year 2001 (Fleishman-Hillard, Inc., "National Youth Anti-Drug Media Campaign: Public Communication Activities," February 2002). Other Campaign online resources included a media tool kit for anti-drug action, print ads for community groups, new banner ads for web sites; TV, print, and radio ads; and a "Lawyers and Substance Abuse Prevention Brochure." In addition, the Campaign offered brochures such as "What Parents Need to Know about Marijuana" in four languages on their Asian language web site (www.druganswer.com). A new bilingual brochure titled "Inhalant Abuse: America's Hidden Drug Problem" was prepared for publication in summer 2001 in English with four Asian language texts included.

Community Outreach

The Campaign has collaborated with a variety of community groups such as the National Education Association (NEA), faith-based groups, and Girl Scouts of America. The Campaign worked with the NEA to develop tools and resources to communicate prevention messages to students, educators, and school employees and their families. NEA used print, satellite, and Internet communication channels to deliver Campaign messages to its members. Working with faith-based institutions, the Campaign developed materials to help youth leaders incorporate substance-abuse messages and up-to-date information on drug prevention into existing programs. The materials included a brochure that introduces ways for clergy and faith leaders to elevate youth substance-abuse prevention on faith agendas. The Campaign collaborated with the Girl Scouts of America to create a series of new programs. There is a new Girl Scout patch, which is earned by completing a set of drug-prevention activities. There were also satellite broadcasts and an "Issues for Girls" series aimed at discussing issues, including drug use, facing girls today.

In addition to community groups, the Campaign continues to involve the entertainment industry as an influencer on both youth and parents. In the second half of 2001, the Campaign collaborated with a variety of media industries to reach entertainment, TV, and magazine writers. Five roundtables were held for entertainment writers, producers, and feature journalists. Representatives from all the major networks, as well as major production companies and media outlets, participated in one or more of these events. Campaign messages were included in Oprah; Teen People; PBS's In the Mix; MTV's Flipped; *The New York Times*; and ABC's All My Children, and additional publications. Writers subsequently requested information on a variety of topics for their stories or programming.

One example was Oxygen Media's hosting of a roundtable at their New York headquarters that brought together magazine writers and television and documentary producers for a program

highlighting the dangers of "huffing" and "sniffing" products to get high. The program "Hidden Danger: Inhalant Abuse, Teens and Huffing" held a panel and featured representatives from the National Inhalants Prevention Coalition and several experts on inhalant abuse. MTV has since begun production on a documentary featuring the roundtable's teen speakers and several writers have requested interviews with panelists. This inhalants program was one of a series of entertainment industry roundtables on drug-related topics including Ecstasy and steroids.

Through the conversations with Hollywood television writers in these roundtables and other meetings, the Campaign identified the need for an online, user-friendly and accurate source of data for entertainment writers and feature journalists. In December, the Campaign launched www.DrugStory.org, a web site for television and screenwriters to use as a research and information source to obtain information on drugs and their effects, as well as access to first-person accounts and feature stories. The site promotes accurate, informative depictions of substance abuse-related issues in the media. The Campaign collaborated with the National Institute on Drug Abuse, the Drug Enforcement Agency, the Writers Guild Foundation, medical consultants, treatment and legal experts, and journalists to develop this resource.

1.4 Administrative Structure for the Evaluation

ONDCP has implemented the Campaign in three phases, each with an evaluation component. Because of the short time periods for the evaluations of Phases I and II, those evaluations focused primarily on change in awareness of anti-drug ads that were part of the Media Campaign. ONDCP reported changes in awareness of anti-drug messages presented through the media. Changes in perceptions and attitudes about drug use were expected to occur within 1 to 2 years of full implementation of the Media Campaign and changes in behavior within 2 to 3 years.

The Phase III evaluation is being accomplished through a national household-based survey of youth and parents from the same household, including youth aged 9 to 18 years and their parents. The evaluation includes youth starting at ages 9 to 10 and their parents, so that initial interviews can be conducted with children before drug use is likely to begin and before they enter the "tween" ages, which is the primary target group for the campaign. They are then to be followed up to evaluate the impact of the campaign as they enter the "tween" years.

The evaluation includes a longitudinal component in which youth and parents in the same household will be interviewed three times over the evaluation period. These repeated interviews will allow measurement of aspects of adolescent development and will thereby allow a much better assessment of the causal influences associated with youth drug use than is possible with cross-sectional studies, such as Monitoring the Future and the National Household Survey on Drug Abuse. It will also assess awareness of the paid anti-drug ads that are central to the full implementation of the Media Campaign.

Westat and the Annenberg School for Communication are conducting the evaluation under contract to the National Institute on Drug Abuse (NIDA). The funding for the evaluation is provided by ONDCP from the appropriation for the Media Campaign. NIDA prepared a tentative research design based on a meeting with experts in the field, and then contracted with Westat and its subcontractors to fully develop the design and carry out the study. Westat has general responsibility for all aspects of the project and, in particular, for supervising all aspects of sample design, data collection, and data preparation. The Annenberg School for Communication at the University of Pennsylvania, the

subcontractor, has lead responsibility for study design and data analysis. A second subcontractor for the first 2 years of the project, the National Development and Research Institute, provided expertise in the development of the drug usage questions and assisted in the preparation of the first special report on historical trends in drug use.

1.5 Structure of the Report

The report is organized in six chapters and five appendices, along with an extensive set of detail tables. Questionnaires for Wave 4 can be found on the NIDA web site at http://www.nida.nih.gov/DESPR/Westat/index.html and on the ONDCP web site at http://www.whitehousedrugpolicy.gov.

This chapter and the next provide background for the Media Campaign and the evaluation.

Chapter 3 gives estimates on general and specific exposure of youth and their parents to the Campaign. Chapter 4 discusses youth use of marijuana and inhalants. Chapter 5 covers norms, attitudes, beliefs, and intentions of youth toward the use of marijuana and inhalants. Chapter 5 also assesses the cross-sectional and the longitudinal association between youth exposure to the Campaign and drug beliefs, norms, attitudes, and intentions. Chapter 6 covers the effects of the Media Campaign on parental monitoring practices, on parental talking with their children about drugs, and on the frequency of their engaging with their children in fun activities. This chapter also assesses the cross-sectional and longitudinal association between campaign exposure and parental behaviors. The main body of the report provides what the evaluators viewed as the essential results of the survey.

The remainder of the report provides a large number of detail tables supporting and supplementing each of the text chapters. In some cases, these tables present results from some additional variables not presented in the text, and often provide detailed breakdowns of responses by age, gender, ethnicity, and sensation-seeking and "a risk of drug use" score for youth. For parents, there are breakdowns by child age, gender, and other child characteristics, as well as parent education, gender, and ethnicity. The five appendices provide detailed information about sample design, weighting, variance estimation, and geography (Appendix A), data collection procedures (Appendix B), methods used to control for the effects of confounding variables (Appendix C), the ads in the Media Campaign (Appendix D), and the preparation of the risk score index, the exposure indices, and the outcome indices (Appendix E).

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2. Summary of Evaluation Plan

The Media Campaign seeks to educate and enable America's youth to reject illegal drugs; prevent youth from initiating use of drugs, especially marijuana and inhalants; and convince occasional users of these and other drugs to stop using drugs. It is the task of the Media Campaign Evaluation to determine how successful the Media Campaign is in achieving these goals and to provide ongoing feedback useful to support decisionmaking for the Media Campaign. This chapter focuses on the evaluation study's approach to assessing the Campaign's progress and success. Accordingly, it summarizes the models for Media Campaign actions and effects in Section 2.1. The next section presents the study's sample design and data collection methodology followed, in Section 2.3, by a description of the study samples of parents and youth. The chapter concludes with a brief overview of three analysis issues.

2.1 Models for Media Campaign Action

This section includes a presentation of the focus of the evaluation and an extended presentation of the presumed models for how the Campaign is expected to affect its target audiences. The models underpin the construction of the design and the measuring instruments for the evaluation.

2.1.1 Focus and Scope of the Evaluation

Although there are literally hundreds of questions that the evaluation can and will answer, four overarching questions form the central focus of the evaluation: (1) Is the Media Campaign getting its messages to the target populations? (2) Are the desired outcomes going in the right direction? (3) Is the Media Campaign influencing changes in the outcomes? (4) What is learned from the overall evaluation that can support ongoing decisionmaking for the Media Campaign?

The range of additional questions that will be answered is indicated by the following five major objectives for the evaluation:

- To measure changes in drug-related knowledge, attitudes, beliefs, and behavior in youth and their parents;
- To assess the relationship between changes in drug-related knowledge, attitudes, beliefs, and behavior and their association with self-reported measures of media exposure, including the salience of messages;
- To assess the association between parents' drug-related knowledge, attitudes, beliefs, and behavior and those of their children;
- To assess changes in the association between parents' drug-related knowledge, attitudes, beliefs, and behavior and those of their children that may be related to the Media Campaign; and

- To compare groups of people with high exposure to other groups with low exposure. The circumstances of the Media Campaign present a serious challenge to evaluation. Because the Media Campaign goal is to reach out to youth all across America to help them avoid illicit drug exposure, it was not possible to use experimentation to evaluate the Media Campaign. Experimentation would require conducting the Media Campaign in a random sample of media markets. Instead, the Media Campaign will be evaluated by studying natural variation in exposure to the Media Campaign and how this variation appears to correlate with phenomena predicted by the theoretical model for the Media Campaign. This means comparing groups of people with high exposure to other groups with low exposure. The evaluation has been designed to make it very sensitive to variation in Campaign exposure. The primary tool for the evaluation is a new household survey, the National Survey of Parents and Youth (NSPY).

  Groups have been found with different levels of exposure to the Media Campaign. It is possible that there are pre-existing differences between the groups that might explain both the variation in exposure and variation in outcomes. In anticipation of this finding of variable exposure, NSPY includes many questions on personal and family history, which have been used to adjust or correct, through the use of statistical controls, the association of exposure with outcomes.

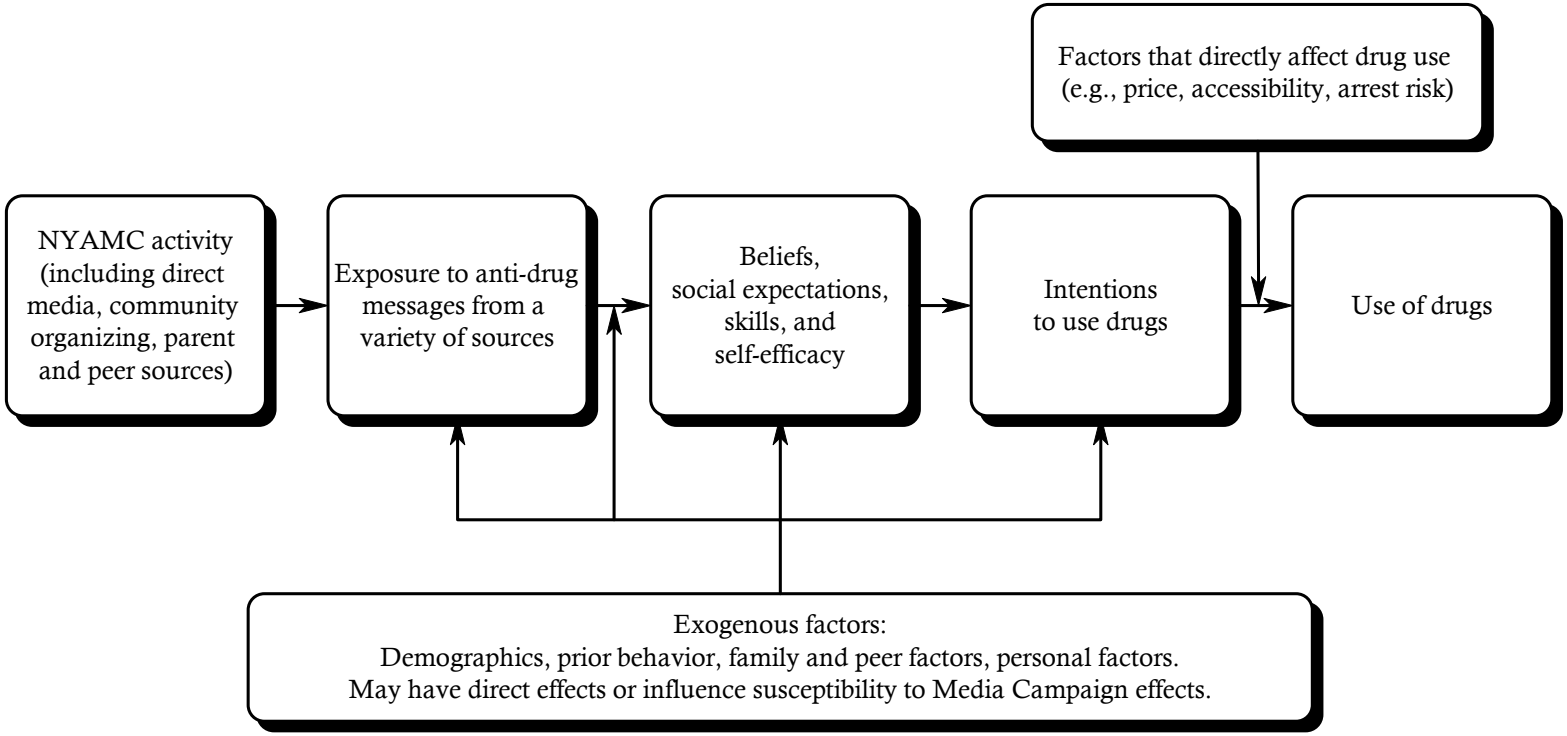
2.1.2 Model of Media Campaign Influence

In developing the overarching Media Campaign model, two foundations are relied on: basic theory about communication and health behavior change, and evidence about what influences drug use. The overarching model of Media Campaign influence can be largely presented in the form of four interrelated figures, each of which describes a component of the overall model in detail. Three of these figures focus on influences on youth drug use. The other outlines influences on parents' actions with regard to their children's drug use. However, these figures cannot portray some complex ideas about how the Media Campaign may produce its effects. For this reason, five routes by which the Media Campaign may have influenced behavior are described in text rather than graphically. These five routes of influence reflect current thinking in public health communication theory and have driven the process of data collection and analysis. The figures are presented first, followed by text descriptions of the five potential routes of Campaign influence.

2.1.3 Overview of the Figures

Figure 2-A presents the overall model of effects. It includes the model for Media Campaign influence in broad outline and names the categories of external variables likely to influence the process. All of the Media Campaign activities (advertising, work with partnership organizations, encouragement of parent and peer conversations about drug use) are intended to increase youth exposure to anti-drug messages. The process through which these activities will produce exposures is laid out in Figure 2-B. Those exposures are meant to produce changes in young people's thinking about drugs, their perceptions about what others expect them to do, and their skills to resist drugs. These influence paths are laid out in some detail in Figure 2-C. A youth's changed thinking about drugs is meant to reduce his or her intention to try drugs, or to graduate from trial to occasional or regular use of drugs.

Figure 2-A. Overall model of Media Campaign influence



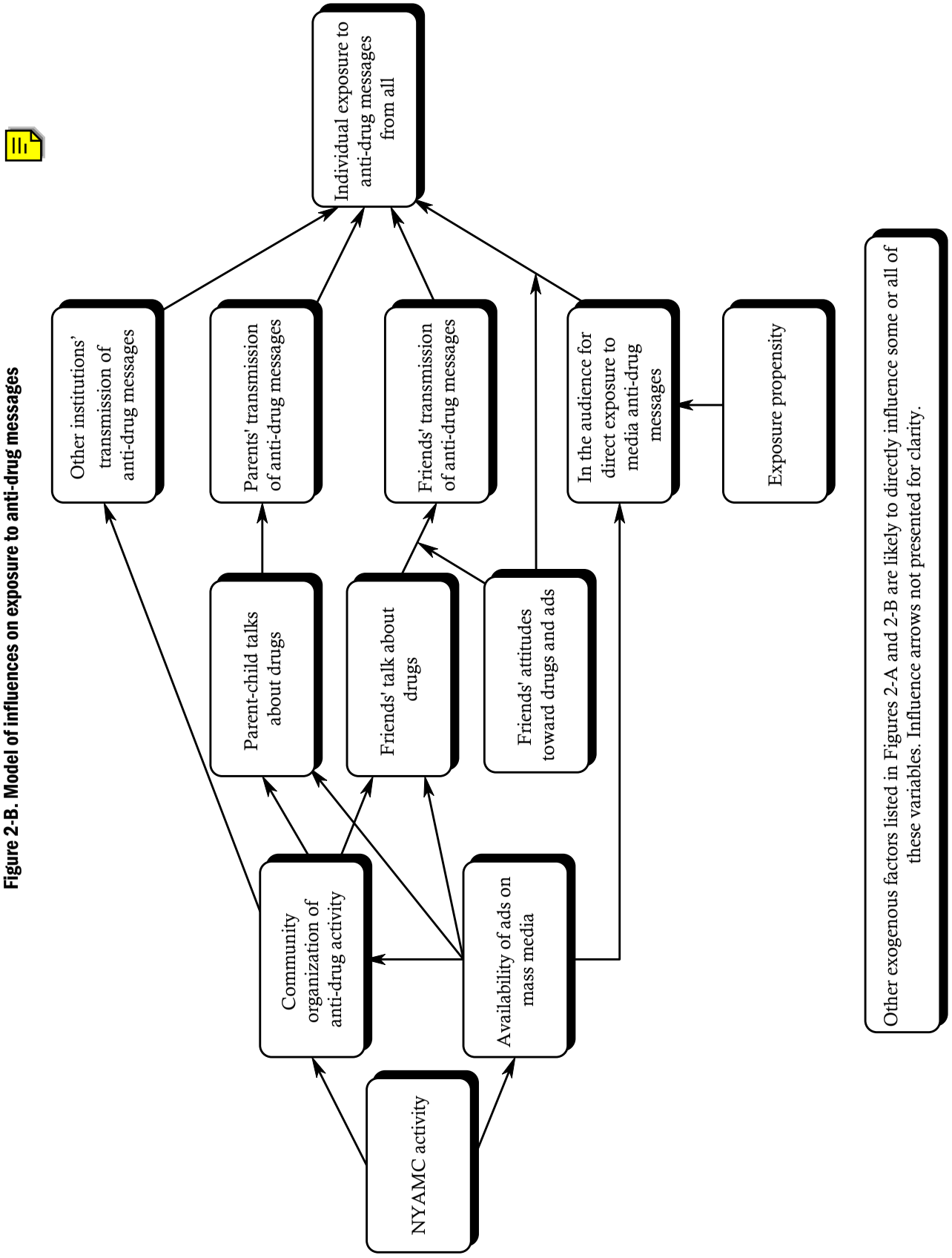
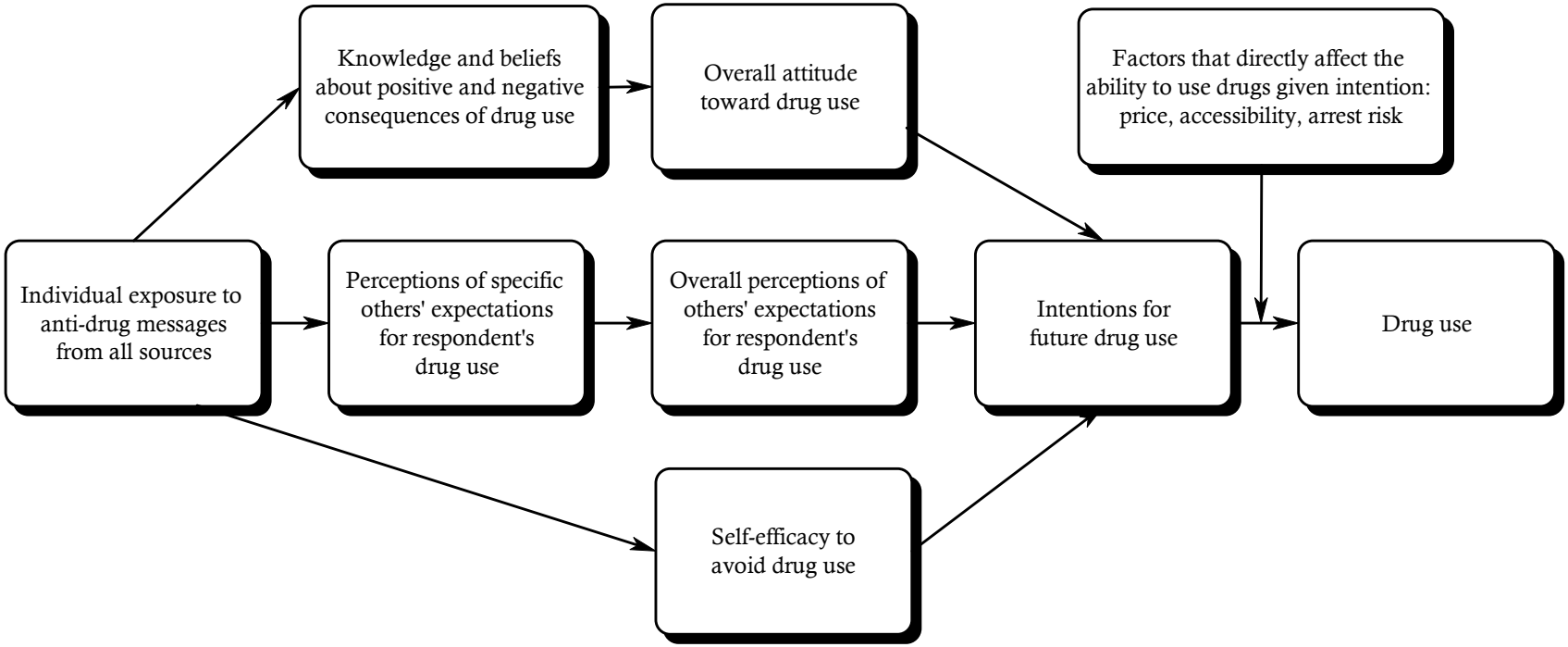


Figure 2-B. Model of influences on exposure to anti-drug messages

Figure 2-C. Model of influences of exposure to drug outcomes



Exogenous factors that may influence all variables in this model and may also influence susceptibility to effects of Media Campaign exposure on all belief outcomes. (Relationships not pictured for clarity.)		
Demographics: gender, age, ethnicity	Family and peer factors: parental monitoring, family functioning, friends' attitudes and behaviors, involvement with youth engaged in risk behaviors	Personal factors: sensation seeking (Section 2.3.5), academic success, ambitions, religious involvement, drug experience

Audience Exposure

Figure 2-B portrays the complex and multiple routes through which the Media Campaign will work. The audience may receive anti-drug messages from each of the following four sources.

- **Exposure to media messages.** The audience may be directly exposed to Media Campaign advertisements that appear on television, on the radio, in print, on the Internet, and elsewhere. Direct exposure to unplanned anti-drug media messages is also a possibility, if, for example, the news media increase their coverage of the issue as the result of Media Campaign activity. The likelihood of direct exposure to anti-drug messages depends on two factors: first, media consumption patterns, and second, the number and nature of advertisements that are placed on that medium in a given time period.

- **Interaction with friends and other peers.** Anti-drug messages may be relayed during conversations with friends. These conversations may have been stimulated by the presence of the Media Campaign, whether by advertisements or by activities undertaken by other organizations.

  However, although the Media Campaign might increase the number of drug-related messages heard by respondents through a process of social diffusion, the nature of these messages may not always reflect the intentions of the Media Campaign. The Media Campaign may inadvertently stimulate discussion that rejects anti-drug messages or even reinforces pro-drug messages. The attitudes of friends may have an important influence on the valence of message retransmission. For this reason, friends' attitudes are incorporated into the model in Figure 2-B.

- **Interaction with parents.** Anti-drug messages may come from parent-child conversations. One of the Media Campaign's early emphases has been to encourage parents' involvement in their children's lives and, in particular, to encourage conversations about drugs and drug use. If the mass media advertisements are successful, there should be more parent-child talk about drugs and thus a greater transmission of anti-drug messages.

- **Interaction with organizations.** Partnership organizations, including general youth organizations (sports teams, scouts, and religious groups) and anti-drug-focused institutions, are expected to increase their active transmission of anti-drug messages. These organizations may reach enrolled youth directly or through parents or peers as intermediaries.

Influence of Exposure on Behavior

Figure 2-C focuses on how exposure to anti-drug messages might influence behavior. The model relies fundamentally on the Theory of Reasoned Action, developed by Martin Fishbein and Icek Ajzen (1975), and is supplemented by the arguments of Albert Bandura (1986) concerning the importance of self-efficacy. The model assumes that intention to undertake an action is the primary determinant of behavior, although external forces (e.g., the price of drugs, their availability, and the risk of arrest) may constrain the transition from intention to action. The model assumes that intentions are largely a function of three influences: attitudes toward specific drug behaviors, perceptions of how important others expect one to act, and the belief that one has the skills to take an action (called self-efficacy). Attitude is a function of an individual's beliefs about the expected positive or negative consequences of performing specific behaviors. Perceived social expectations are a function of an individual's beliefs about what each of a number of important others (parents, friends) expect of them. The model assumes that exposure to anti-drug messages will influence beliefs, and thereby influence attitudes and

perceived social expectations. Finally, the model assumes that exposure to messages will directly influence self-efficacy, the individuals' belief in their ability to avoid drug use.

Although Figure 2-C specifies drug use as its outcome, use of that general term should be understood as shorthand. The four distinct behaviors on which the Media Campaign originally planned to focus were: (1) trial use of marijuana, (2) trial use of inhalants, (3) transition from trial to occasional or regular use of marijuana, and (4) transition from trial to occasional or regular use of inhalants. In 2001, the Campaign focused almost exclusively on marijuana behaviors, however. Each of these behaviors may be influenced by different factors. For example, fear of parental disapproval may be a particularly important determinant of the trial use of marijuana, whereas a more important determinant of regular marijuana use may be concern about becoming dependent on the drug. For this reason, each behavior and its determinants are measured distinctly.

External Factors

All elements of the Media Campaign's intended process of influence must operate in the context of a series of external factors. These factors are noted in Figure 2-A and presented in greater detail in Figure 2-C. In estimating the size of Media Campaign effects, such potential confounding influences have been controlled. In addition, in some cases researchers will be able to test whether individuals who vary on these external factors are more or less susceptible to Campaign influence.

External factors that will be considered in the evaluation are parental monitoring, family functioning, friends' attitudes and behaviors, academic success, ambition, religious involvement, and prior drug involvement. Because it is argued that sensation seeking (Section 2.3.4) is an important determinant, not only of drug use but also of responsiveness to advertising messages of a particular style, sensation seeking will also be measured. Finally, for this 4th semi-annual report we have developed a risk of marijuana use scale for defining risk subgroups (Section 2.3.5). Risk is related to sensation seeking, but is more comprehensive, incorporating information such as the child's alcohol and tobacco use. It is expected that analyses of the higher-risk youth should be much more sensitive to exposure-based behavior change, thereby increasing the likelihood of detecting Campaign effects on youth.

Parent Component of the Media Campaign

The Media Campaign seeks to address three distinct parent behaviors, each of which is modeled separately in Figure 2-D. The original parent objectives related to three parent behaviors, are as follows: (1) parent-child talk about drugs, (2) parental monitoring of youth behavior, and (3) support for community anti-drug activity. In addition, during the early period of Phase III, the Campaign encouraged parents to increase their engagement with their children's lives by encouraging the parents to do more fun activities with their children. Given their relative importance in the Media Campaign, the models for the first two behaviors are presented in greater detail. In all models, a box simply labeled "NYAMC activity" represents the Media Campaign, much as it is described in Figure 2-B.

Model A in Figure 2-D describes a limited set of determinants for parental monitoring behavior. NSPY includes measures of past and intended monitoring behavior. Only two of the determinants of

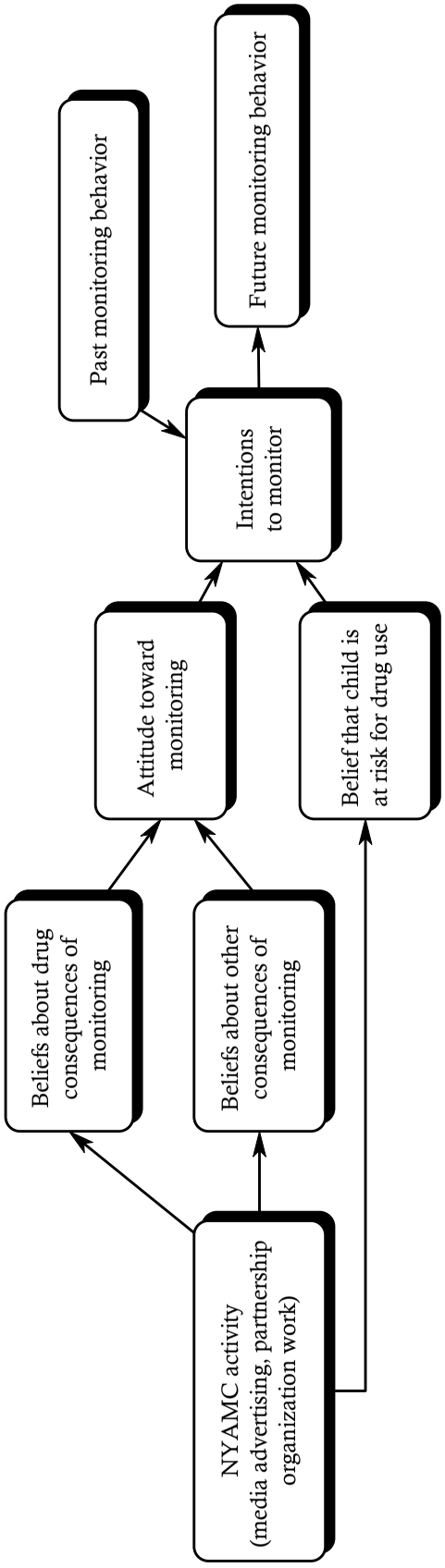


Figure 2-D. Model A – Effects of parental monitoring

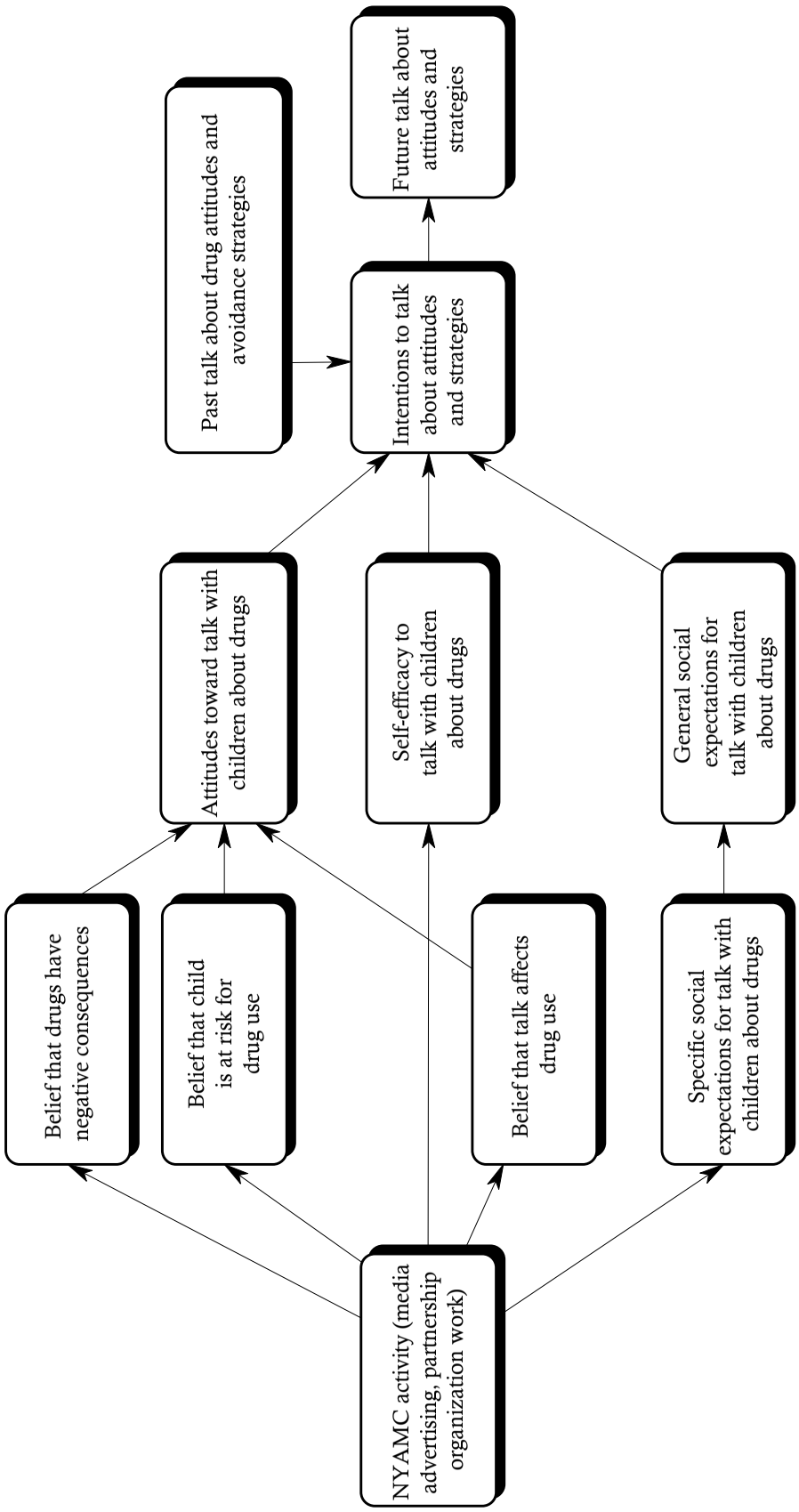


Figure 2-D. Model B – Effects on parent-child talk

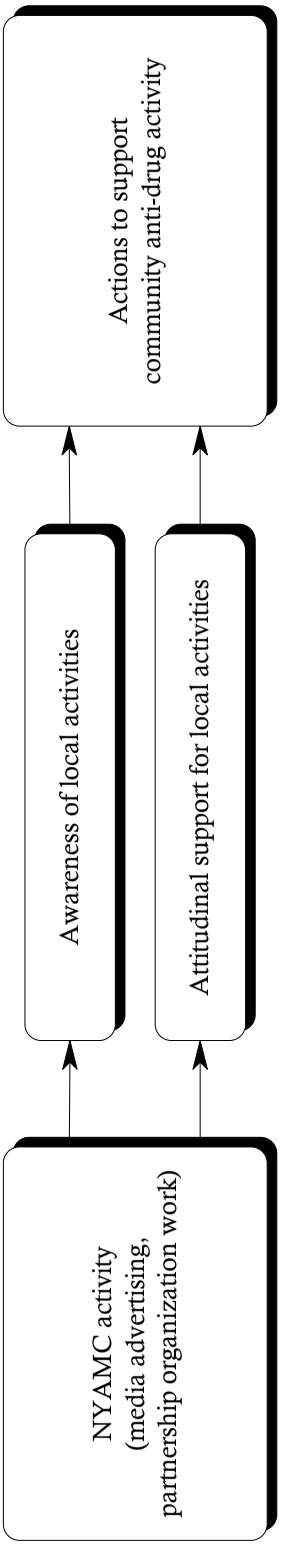


Figure 2-D. Model C – Effects on parental support for community anti-drug activity

intention are measured: attitudes toward monitoring and self-efficacy to engage in monitoring. In turn, and consistent with basic health behavior theory, attitudes are seen as related to beliefs about the consequences of such monitoring. Those consequences are divided into two parts: drug-related consequences (whether the parent thinks that the degree of monitoring will affect a child's drug use) and other consequences (including expected effects on the relationship between parent and child). A decision to increase monitoring may be seen by a parent as having both positive and negative consequences. Media Campaign activities are presumed to affect both beliefs in the positive consequences of monitoring and the self-efficacy of parents to engage in monitoring behavior.

Model B in Figure 2-D describes a more complete process for the influence of the Media Campaign on parent-child talk about drugs. Talk has been separated into two types of conversations: those dealing with drug use in general and those involving talk about specific strategies and skills for avoiding drug use. Although both are targets of the Media Campaign, one may occur independently of the other. Intentions for future talk are seen as the product of attitudes toward talking, self-efficacy to engage in talking, and general social expectations about whether one ought to talk with one's child about drugs. Attitudes are presumed to reflect three types of beliefs: belief that drug use has negative consequences for the reference child, belief that the reference child is at risk for drug use, and belief that parent-child talk is likely to discourage drug use by the reference child. General social expectations are hypothesized to be a function of the specific social expectations of others that the parent talk with the child. Media Campaign activity is presumed to affect all of the beliefs, self-efficacy, and specific social expectations for conversation about drugs.

Model C in Figure 2-D focuses on parents' actions to support community anti-drug activities. Although this outcome behavior is included among Media Campaign outcomes, it has taken a secondary priority to other objectives. Interview time considerations have meant that none of the process variables that may lead from Media Campaign activity to this behavior will be specifically measured. Similarly, there are no measures of the process variables that might lead to increased levels of parents engaging in fun activities with their children. Only the behavior itself is assessed.

Routes of Influence

In this section, five overlapping routes through which the Media Campaign may have influenced behavior are presented. These routes include several factors that are difficult to portray in figures. First, it is possible that there will be time lags between Media Campaign activities and their effects. Second, it is possible that effects are realized through social interactions and institutions instead of (or in addition to) being realized through personal exposure to media messages. Third, it is possible that messages directed toward a specific belief or behavior will generalize to other beliefs or behaviors. The five routes are summarized below.

1. **Immediate learning.** As a direct result of Media Campaign advertisements, youth immediately learn things about particular drugs that lead them to make different decisions about using those drugs. For example, they learn that trying marijuana has bad consequences so they are less likely to try marijuana. This new knowledge could have immediate consequences, which should be apparent in associations between exposure, beliefs, and behavior. In this way, young people may learn negative and positive consequences of their using a particular drug; social expectations about drug use; and skills and self-efficacy to avoid drug use if they wish.

2. **Delayed learning.** As a direct result of Media Campaign advertisements, youth learn things that lead them to make different decisions about drug use at a later time. The advertisements might have a delayed impact; their influence will show up immediately in associations between exposure and affected beliefs, but current exposure will predict only subsequent behavior. This might be particularly true for 9- to 11-year-olds (and possibly for 12- to 13-year-olds), where current learning would be expected to influence future behavior, when opportunities to engage in drug use increase.

3. **Generalized learning.** Media Campaign advertisements provide direct exposure to specific messages about particular forms of drug use, but youth learn things that lead them to make decisions about drug use in general. Thus, if they learn that cocaine has a particular negative consequence or that medical authorities are opposed to cocaine use, they may generalize those cognitions to a broad negative view of other types of drug use. From the perspective of the evaluation, this generalized learning would mean that exposure effects are not message specific and will not necessarily operate through an intervening path of acceptance of the specific consequences emphasized. This seems particularly likely among younger children, who may read the meta-message of the barrage of advertisements as saying that drug use is bad but without learning an elaborate set of specific rationales for that attitude.

4. **Social diffusion.** The advertisements stimulate discussion among peers and between youth and parents, and that discussion affects cognitions about drug use. The discussions may provide new information about consequences or social expectations, as well as new skills or self-efficacy. That information may be derived directly from the advertisements or merely stimulated by the presence of the advertisements regardless of their particular messages. Discussions may take place between individuals who have seen the advertisements and those who have not; thus, the effects would not be limited to those who have been personally exposed to or learned things from the advertisements. Discussions may produce or reinforce anti-drug ideas, or they may produce pro-drug ideas (called reactance).

5. **Institutional diffusion.** The presence of advertisements (and the other elements of the Media Campaign) produces a broad response among other public institutions, affecting the nature of what they do with regard to drug use. In turn, institutional actions affect youth cognitions and social expectations about drug use and their own drug use behavior. Thus, Media Campaign activities may stimulate concern about drug use among school boards and lead them to allocate more time to drug education. Religious, athletic, and other private youth organizations may increase their anti-drug activities. News organizations may cover drug issues more actively, and the nature of their messages may change. Popular culture institutions (movie theaters, music, and entertainment television) may change the level of attention to and the content of drug-related messages. Like the social diffusion route, institutional diffusion does not require an individual-level association between exposure and beliefs or behavior. From the perspective of the evaluation, this path of influence is expected to be seen only at the community level of analysis, which is not addressed in this report. Also, institutional diffusion is a slow process, and there would be a relatively long lag between Media Campaign activities and institutional response and an even longer lag until the effects on youth beliefs or behavior become apparent.

2.2 Sample Design and Data Collection Methodology

The data in this report are based on the initial data collection (Waves 1, 2, and 3) of NSPY as well as a longitudinal data collection (Wave 4) of data from eligible sample members in Wave 1. Waves 1, 2, and 3 will be referred to collectively as the initial recruitment phase while Wave 4 is referred to as followup phase. The

data collection period for the waves were November 1999 through May 2000 for Wave 1; July 2000 through December 2000 for Wave 2; January 2001 through June 2001 for Wave 3; and July 2001 through December 2001 for Wave 4. The number of completed youth interviews for each wave include Wave 1 – 3,312 youth aged 9 to 18; Wave 2 – 2,362 youth aged 9 to 18; Wave 3 – 2,459 youth aged 9 to 18; and Wave 4 – 2,478 youth aged 9 to 18. The number of completed parent or caregiver interviews for each wave include Wave 1 – 2,293 parents; Wave 2 – 1,632 parents; Wave 3 – 1,681 parents; and Wave 4 – 1,752 parents. The numbers of interviewed youth who also had an interviewed parent were 3,118 in Wave 1; 2,210 in Wave 2; 2,307 in Wave 3; and 2,354 in Wave 4. (See Detail Tables 2-1, 2-2, and 2-3.)

2.2.1 Sampling

The youth and their parents were found by door-to-door screening of a scientifically selected sample of about 34,700 dwelling units for Wave 1, a sample of 23,000 dwelling units for Wave 2, and a sample of 23,300 dwelling units for Wave 3. These dwelling units were spread across about 1,300 neighborhoods in Wave 1 and approximately 800 neighborhoods in both Wave 2 and Wave 3. There were 90 primary sampling units (PSUs) in the three initial waves. In all subsequent followup waves, respondents recruited in Waves 1 through 3 are being followed up if they live within or just outside of the boundaries of the 90 PSUs. The sample was selected in such a manner as to provide an efficient and nearly unbiased cross-section of America's youth and their parents. All types of residential housing were included in the sample. Youth living in institutions, group homes, and dormitories were excluded.

The sampling was arranged to get adequate numbers of youth in each of three targeted age ranges: 9 to 11, 12 to 13, and 14 to 18. These age ranges were judged to be important analytically for evaluating the impact of the Media Campaign. Within households with multiple eligible youth, up to two youth were selected.

Parents were defined to include natural parents, adoptive parents, and foster parents who lived in the same household as the sample youth. Stepparents were also usually treated the same as parents unless they had lived with the child for less than 6 months. When there were no parents present, an adult caregiver was usually identified and interviewed in the same manner as actual parents. No absentee parents were selected. When more than one parent or caregiver was present, one of the eligible parents was randomly selected. No preference was given to selecting mothers over fathers. Parents of both genders were selected at equal rates. This was done in order to measure the impact of the Media Campaign separately on mothers and fathers. When there were two sample youth who were not siblings living in the same household, a parent was selected for each.

The response rates were very consistent across the initial three data collection waves. The response rate in Waves 1 through 3 for screening dwelling units to find out whether any eligible youth were present was about 95 to 96 percent. Among dwelling units that were eligible for the survey, 74 to 75 percent in Waves 1 though 3 allowed the interviewer to enumerate the occupants and to select youth and parents for extended interviews. After selection of youth and parents, the interviewer sought signed consent from a parent to interview the sample youth. After that, the interviewer also sought signed assent from the sample youth. The interviewer then attempted to get extended interviews with the selected youth and parents. Among selected youth, the response rate was approximately 91 percent in Waves 1 through 3. This means that 91 percent of the youth received parental consent, signed to their own assent, and completed an extended interview. For Wave 4,

participants were located and eligibility was determined for approximately 87 percent of the parents and youth who completed an interview in Wave 1. Among those youth who were still eligible, the interview response rate was about 94 percent.

Among sample parents, approximately 88 percent completed the interview in Waves 1 through 3, whereas in Wave 4 the interview response rate for parents was about 92 percent. In all Waves, the percent of parents providing consent for the youth to complete an interview was higher than the percent of parents completing an interview themselves.

2.2.2 Extended Interview Methods and Content

Prior to beginning the interview, respondents were assured that their data would be held as confidential. To strengthen such assurances, a Certificate of Confidentiality was obtained for the study. Under the certificate, the Federal Government pledged that the evaluation team cannot be compelled by any person or court of law to release a respondent's name or to link a respondent's name with any answers he or she gives. Interviewers showed a copy of the certificate to respondents prior to the interview upon request.

The extended interviews were administered with the aid of laptop computers that the interviewers carried into the homes. Each interview had sections where the interviewer read the questions out loud and entered the responses into the computer and sections where the respondents donned a set of headphones, listened to prerecorded questions, and entered their own responses into the computer. The self-administered sections were arranged to promote a feeling of confidentiality for the respondent. In particular, it was designed to allow people to respond honestly to sensitive questions without allowing other members of the household to learn their answers. As part of the parental consent, parents were informed that only the child would see his or her responses. Interviewers were trained to discourage parents from looking at the screens while the youth completed the interview.

The computer played back a prerecorded reading of the questions rather than just having the respondent read the screen in order to facilitate the involvement of slow readers and cognitively-impaired youth. Youth and parents who did not wish to hear the questions read aloud could remove the headphones and complete the interview by simply reading and answering the questions on the screen. A touch-sensitive screen was used so that no typing skills were required. To help the respondent understand multiple choice questions, the computer highlighted the response alternatives while it recited them. The interview could take place in either English or Spanish. This approach was highly successful; in Wave 1 just 0.4 percent of sample youth and parents were willing but unable to complete the questionnaire for reasons of physical or mental disability or because they could speak neither English nor Spanish, the two languages in which interviews could take place. In Wave 2, 0.7 percent of the parents and 0.4 percent of the youth were willing but unable to complete the questionnaire for the reasons above. In Wave 3, just 0.6 percent of the parents and 0.3 percent of the youth were unable to complete the questionnaire for these reasons and in Wave 4, the percentage was 0.6 for parents and 0.0 for youth.

The teen questionnaire included sections on basic demographics; school and religion; media consumption; extracurricular activities; personal usage of cigarettes, alcohol, marijuana, and inhalants; expectations for future use of marijuana; feelings of self-efficacy to resist future offers of marijuana use; knowledge of friends'

and classmates' use of marijuana; receipt of marijuana offers; family functioning; antisocial behavior of self and friends; approval/disapproval and perceived risk of marijuana and inhalants; perceived ease of parental discussion on drugs and perceived parental reactions to personal drug use; past discussions about drugs with parents, friends, and others; awareness of drug-related media stories and advertising; recollection and assessment of specific Media Campaign-sponsored anti-drug advertisements on TV and radio; Internet usage; and participation in drug education classes and programs. In Wave 3, questions were added to the teen questionnaire concerning Ecstasy trial and use, recollection of the "branding" statement in specific advertisements, and doing fun things with parents. In Wave 4, additional Ecstasy questions were added to the teen interview concerning intentions to use, perceived expectations of use by peers and attitudes of use, including approval/disapproval of use and perceived harm of use.

The parent interview included sections on media consumption; communication with child; monitoring of child; family functioning; knowledge about child's use of cigarettes, alcohol, marijuana, and inhalants; personal participation in community drug prevention activities; awareness of drug-related media stories and advertising; recollection and assessment of specific Media Campaign-sponsored anti-drug advertisements on TV and radio; personal usage of cigarettes, alcohol, marijuana, and inhalants; basic demographics; and education, income, and religion. When parents were being asked about their children, each such question was targeted to a specific sampled child and repeated for every sampled child in the household. Other questions that were not about their children were, of course, only asked once. In Wave 3, questions were added to the parent questionnaire about recollection of the "branding" statement in specific advertisements, and the parent's perception of the efficacy of talking to children about drugs. In Wave 4, there were no changes to the parent questionnaire.

The laptop computer played the TV and radio advertisements for both youth and parents to help them recall their prior viewing more accurately. In order to limit the response burden for respondents, usually a maximum of four TV ads were played for each youth and parent. However, there was special advertising aimed at African Americans and at bilingual English/Spanish speakers. In order to measure their recall of the special advertising as well as the general advertising, as many as six TV ads were shown to respondents in these groups. For radio ads, up to two ads were played for most parents and most teens, and none for children aged 9 to 11. As with TV ads, for African American respondents and bilingual English/Spanish speakers, another two radio ads were sometimes played in order to measure exposure to special and general advertising.

In Wave 1, a total of 37 TV ads and 26 radio ads were aired during the wave and shown to respondents. The TV ads included 21 (16 in English and 5 in Spanish) aimed at parents and 16 (11 in English and 5 in Spanish) aimed at youth. The radio ads included 11 (8 in English and 3 in Spanish) aimed at parents and 21 (15 in English and 6 in Spanish) aimed at youth. There were additional radio ads that were audio versions of TV ads during Wave 1. These were not played for survey respondents for the reasons given in Chapter 3 of this report.

In Wave 2, a total of 31 TV ads and 19 radio ads were aired during this wave and shown to respondents. The TV ads included 16 (13 in English and 3 in Spanish) aimed at parents and 34 (32 in English and 2 in Spanish) aimed at youth. The radio ads included 9 (8 in English and 1 in Spanish) aimed at parents and 20 (15 in English and 5 in Spanish) aimed at youth. Wave 2 was not hampered by the issue of audio versions of TV ads, for only one of the Campaign Spanish radio ads was an audio duplicate of a television ad.

In Wave 3, a total of 22 TV ads and 27 radio ads were aired during this wave and shown to respondents. The TV ads included 10 (7 in English and 3 in Spanish) aimed at parents and 12 (9 in English and 3 in Spanish) aimed at youth. The radio ads included 16 (12 in English and 4 in Spanish) aimed at parents and 11 (8 in English and 3 in Spanish) aimed at youth. In Wave 3, six parent radio ads were played that were audio duplicates of a television ad. No youth radio ad was a duplicate of a television ad.

In Wave 4, a total of 16 TV ads and 19 radio ads were aired during the wave and shown to respondents. The TV ads included seven (3 in English and 4 in Spanish) aimed at parents and nine (6 in English and 3 in Spanish) aimed at youth. The radio ads included 9 (4 in English and 5 in Spanish) aimed at parents and 10 (8 in English and 2 in Spanish) aimed at youth. In Wave 4, seven parent radio ads and one youth radio ad were played that were audio duplicates of television ads.

Appendix D contains a short description of each ad by wave. A random sample of the ads that were scheduled to air in the two calendar months preceding the month of interview were selected for each respondent.[1] As it turned out, air dates sometimes changed between the time that the sampling software was initiated and the date of interview. For analysis purposes, exposure to ads were counted only when the ad aired during the 60 days immediately preceding the date of interview. The interview also contained a ringer TV ad—an ad that had not actually been shown, or a spill TV ad—an ad that had been shown but was targeted at the other (parent or youth) audience. Youth were shown parent TV ads to assess their spill effects and vice versa. This was done to allow study of the accuracy of ad recall. Some analyses of the ringer ad results were presented in Appendix C of the Second Semi-Annual Report, which presented strong evidence for the validity of the NSPY approach to measuring ad recall.

2.2.3 Weighting

Weights were developed for analysis to reflect differential probabilities of selection, differential response rates, and differential coverage. In Waves 2 and 3, youth in the age range of 12 to 13 and youth in the age range of 9 to 11 had the same probability of selection whereas youth in the age range 14 to 18 had a smaller probability of selection. In Wave 1, youth in the 12 to 13 age range had the largest probability of selection since they were oversampled. Youth in the 9 to 11 age range had somewhat smaller probabilities of selection, and youth in the 14 to 18 age range had the smallest probability of selection. Youth in the 14 to 18 and 9 to 11 age ranges with siblings in the 12 to 13 age range had higher probabilities of selection than those with no such siblings. (This was done to get more benefit out of each parent interview.) Youth with siblings in the same age range had smaller probabilities of selection since just one youth was selected per age range. Parents with spouses had smaller probabilities than single parents since generally only one parent was selected per household. For Wave 4, no new youth were selected. However, a new parent could be selected if the original sampled parent was no longer eligible for interview.

[1] The time period of 2 months was selected as a reasonable balancing point between minimization of bias (due to memory decay) and including a long enough period so that a variety of ads and a reasonable number of exposure opportunities could be included. Bias due to memory decay would be minimized by having a very short reference period such as the preceding day. However, such a reference period would likely produce a very unstable estimate of the exposure an individual respondent received typically. Results presented previously have established the 2-month reference period is working well (Hornik et al., 2001).

Response rates were found to vary geographically. Data from the 1990 Decennial Census were used to sort the sample into groups with different response rates. Within a group, the weights were adjusted upward by the inverse of the response rate. This has the effect of increasing the weights for difficult-to-reach households.

In this report, coverage is defined to be the NSPY sample-based estimate of the number of persons in the target population prior to poststratification to the corresponding estimate based on Census/CPS data. Coverage also varied geographically and by age. Table 2-A shows coverage rates by age for the initial recruitment waves. Overall, coverage was slightly less than 70 percent for all three waves with somewhat higher coverage rates for the 12 to 13 age group, and lower coverage rates for the 14 to 18 age group. It would appear, based on census estimates, that screener respondents with children in the desired age range chose not to reveal the presence of their children. Perhaps this was an easy way to refuse participation in the survey without being impolite. To compensate for this as best as possible, the weights were adjusted so that estimates of sample youth were consistent with those from U.S. Census Bureau estimates by gender, age group, race and ethnicity, and region. The U.S. Census Bureau estimates were a synthesis of data from the Current Population Survey (CPS) and the Decennial Census. The January 2000 CPS data were used to adjust Wave 1 and October 2000 data was used to adjust Wave 2. However, for Wave 3, the average of March 2001 and April 2001 CPS data was used for adjustment. In Wave 4, a regression line was used to "smooth" 12 months of CPS estimates and the regression-based point estimate for October 2001 was used to adjust the Wave 4 weights.

The ordinary CPS totals could not be used in the adjustment because the CPS counts youth in dormitories as residing at their parents' homes, but this is not done in NSPY. In the synthesis, CPS estimates were adjusted to remove estimated counts of youth living in dormitories. These were created by a special tabulation of the 1990 Decennial Census PUMS (Public Use Microdata Samples) that counted youth in dormitories in April 1990. It should also be noted that the CPS is itself adjusted for undercoverage and also for undercoverage in the Decennial Census; in October 1994, the CPS coverage rate for youth aged 15 was 89.5 percent (Montaquila, et al., 1996).

Table 2-A. Coverage rates by age

Age group	Wave 1 Coverage rate (%)	Wave 2 Coverage rate (%)	Wave 3 Coverage rate (%)
9 to 11	70	69	64
12 to 13	74	71	68
14 to 18	67	67	62

2.2.4 Confidence Intervals and Data Suppression

Confidence intervals have been provided for every statistic in the Detail Tables. These intervals indicate the margin for error due to the fact that a sample was used to derive the survey-based estimates rather than a census. If the same general sampling procedures were repeated independently a large number of times and a statistic of interest and its confidence interval were recalculated on each of those independent replications, the "true" value of the statistic would be contained within 95 percent of the calculated confidence intervals.

The confidence intervals reflect the effects of sampling and of the adjustments that were made to the weights. They do not generally reflect measurement variance in the questionnaires. The intervals are based on variance

estimation techniques that will be available in separate technical reports. In brief, subsamples of the full sample were identified and put through the same estimation techniques. The adjusted variation among the subsamples provides an estimate of the variance of the total sample. Details on how confidence intervals were calculated from variance estimates may be found in Appendix A.

Some estimates in the Detail Tables are suppressed. This was done when the reliability of a statistic was poor. This was measured in terms of the sample size and the width of the confidence interval. Estimated proportions near 0 percent and 100 percent are more likely to be suppressed than other estimates since it is difficult to estimate rare characteristics well. The exact criteria for this suppression are given in Appendix A.

2.2.5 Exposure Index and Imputation of Ad Recall

Because there were more ads being aired than could be reasonably shown to every survey respondent, a sample of ads was drawn as discussed above. Also as noted above, this was not a simple random sample of ads. Additional ads were selected and shown to African American respondents and bilingual respondents. In order to create a measure of ad recall that was consistent across race and language groups, the decision was made to impute recall for all ads that could have been shown to the respondent but were not. The imputation was based on two different procedures depending on how many individuals had seen an ad. When fewer than 500 cases were available, the imputation was based on drawing respondents from similar pools and transferring values in what is known colloquially as a hot-deck imputation. The donor pools were defined in terms of general recall of anti-drug advertisements (measured prior to showing any specific ads), cable subscription (yes/no), and the length of time the ad had been on the air prior to the interview. If the ad had not been aired at all within the 60 days preceding the interview, it was not included in the calculations. When more than 500 cases were available for a particular ad, a procedure called MART (Multiple Additive Regression Trees) was used to develop an imputation model. These procedures are fully presented in Appendix E, Section E.3.3.

2.2.6 Future Waves of Data Collection

The NSPY is a two-phase design. During the first phase, the recruitment phase, eligible youth and parents are enrolled in the study and interviews are conducted. The recruitment phase (Waves 1 through 3) consisted of three national cross-sectional surveys lasting about 6 months each. During the second phase, the followup phase—Waves 4 through 7, parents and youth who participated in the recruitment phase are followed and, if determined eligible, are interviewed at two additional times during the followup period. Wave 1 participants are followed for the first time in Wave 4 and again in Wave 6. Wave 2 and Wave 3 participants are followed during Wave 5 and again in Wave 7. Followup intervals can range from 6 to 24 months, depending on the participant's situation. In total, participants can be interviewed up to three times over the study period. Combining the initial data collection and followup phases, there will be seven 6-month waves from which national semiannual estimates are prepared. This report contains data from Waves 1 through 4.

2.3 Sample Description

This section presents the youth and parent sample sizes for Waves 1 through 4 and defines the characteristics (i.e., race/ethnicity, sensation seeking, risk score, past marijuana usage, and dyads) of the samples.

2.3.1 Youth

Detail Table 2-1 shows the sample size in Waves 1 through 4 for youth by age and other characteristics. The total Wave 1 sample size of 3,312 youth is nearly evenly split among the three targeted age groups. The Wave 2 sample size of 2,362 is larger in both the 14 to 18 age group and the 9 to 11 age group. The sample size is deliberately slightly larger for the youth aged 14 to 18 because larger design effects were anticipated for this age domain. The Wave 3 sample size of 2,459 is larger in the 9 to 11 age group but about even for the other two age groups. For Wave 4, which is the first followup of Wave 1 respondents, the total number of youth is 2,478 but the age groups are distributed differently from the other waves because of the aging of the Wave 1 sample. In Waves 1 through 3, the 14- to 18-year-olds had been slightly over 50 percent of the sample whereas in Wave 4, 1,391 of the 2,478 youth were in the 14 to 18 age range, which represents 56 percent of the Wave 4 sample. Many of the tables also show estimates for youth aged 14 to 15 and for youth aged 16 to 18. These are much less reliable than the other age breaks since the sample sizes are only 552 and 611 for Wave 1, 394 and 387 for Wave 2, 378 and 380 for Wave 3, and 806 and 585 for Wave 4. Thus, when the sample is broken down by an additional demographic such as gender, separate detail for the finer age breaks is never shown.

The estimated number of eligible 12- to 18-year-old youth in the nation is 27.7 million during Wave 4. As mentioned above, this excludes youth in institutions, group homes, and dormitories, as well as other types of group housing. The confidence interval around this estimate is narrow because of the adjustments used to force the estimate to agree with census information. Table 2-1 also shows breakdowns of the sample and the population by gender, race/ethnicity, region, urbanicity, and sensation seeking. Further, for youth aged 12 to 13 and 14 to 18, there are breakdowns by past marijuana usage. Some of these breakdowns require some elaboration.

2.3.2 Race/Ethnicity

The categories used in all tables are White, African American, and Hispanic. These are short labels for more complex concepts. White means White but not Hispanic. African American also excludes Hispanics. Race and ethnicity were asked as two separate questions. For older youth, aged 12 to 18, self-reported race and ethnicity were typically used. For children aged 9 to 11, race and ethnicity reported by the screener respondent were typically used. In both cases, respondents were first allowed to choose multiple races from the standard list of five races:

- White
- African American
- Asian

- Native Hawaiian or other Pacific Islander
- American Indian or Alaska Native.

For those who chose more than one category, there was a followup question to pick just one. For those who could not pick just one, interviewer observation was used. Separate detail is not shown in any of the tables for the last three categories because of the low reliability associated with small sample sizes. The total number of interviewed youth who are Asian, Native Hawaiian, other Pacific Islander, American Indian, or Alaska Native was just 115 for Wave 1, with about 38 per age range. For Wave 2 the total was 93 youth and for Wave 3 the total was again 115. Within age ranges there were about 30 for each age range for Wave 2 and from 30 to 44 in the age ranges for Wave 3. In Wave 4, the total dropped to 89 out of the 115 present in Wave 1 because 26 of these aged out of the sample. However, there are some respondents in every age group, and their responses are used in the overall estimates.

2.3.3 Sensation Seeking

Sensation seeking is a biologically based trait "based on the idea that persons differ reliably in their preferences for or aversions to stimuli or experiences with high-arousal potential" (Zuckerman, 1988, p. 174). Individuals who are high in the need for sensation desire complex and stimulating experiences and are willing to take risks to obtain them. This drive for novel, complex, and intense sensations and experiences is satisfied by a willingness to take more social risks (e.g., impulsive behaviors, sexual promiscuity), physical risks (e.g., skydiving, bungee jumping, driving fast), legal risks (e.g., getting arrested and put in jail), and financial risks (e.g., paying fines, impulsive purchases) (Zuckerman, 1979, 1994).

Several studies show that the variation in sensation seeking predicts behavioral differences, especially illicit drug use. High sensation seekers are more likely to begin experimenting and using drugs earlier than low sensation seekers, as well as use higher levels of a variety of different drugs (Donohew, 1988, 1990). High sensation seekers in junior high are four times as likely as low sensation seekers to use marijuana; in senior high, high sensation seekers were three times more likely to use marijuana than low sensation seekers (Donohew, 1988).

Sensation seeking among middle and high school students is generally measured using a 20-item scale developed specifically for adolescents (Stephenson, 1999; Zuckerman, 1979, 1994). More recent evidence suggests that an 8-item scale from the original 20 items has levels of reliability and validity sufficient to replace the 20-item scale (Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2000). In a personal communication, Dr. Philip Donohew reports a comparison between the eight-item and a reduced four-item scale on a sample of 6,529 seventh through twelfth graders surveyed by the Partnership for a Drug Free America in 1999. The eight-item scale had an internal reliability of 0.85, while the four-item scale was reduced only slightly to 0.81. The two correlated at 0.94. Although the evidence of these two studies is unpublished, it suggests that the four-item sensation-seeking scale is both a valid and reliable predictor of drug use and intention in middle and high school years.

This reduced series of four questions on sensation seeking were asked in the youth interviews. Respondents were asked to rank their agreement on a scale of 1 to 5 with the following statements:

a. I would like to explore strange places.

b. I like to do frightening things.

c. I like new and exciting experiences, even if I have to break the rules.

d. I prefer friends who are exciting and unpredictable.

Those with an average response greater than 2.5 were classified as being high sensation seekers. This was the overall median score on the four items. Given a fixed cutoff that does not vary by age or sex, one would expect the prevalence of high sensation seekers to be greater among males than females and to increase with age. This is also the pattern observed. It was decided to use a single threshold to facilitate comparisons across groups and time.

2.3.4 Risk Score

In this report, a new scale of risk of marijuana use was developed. The risk score was an empirically-derived scale that predicts the risk of using marijuana derived from a number of youth and parent risk factors. It classifies youth into two risk categories—high and low risks. The rationale for creating the risk-based subgroups is similar to the subgroups developed using the sensation-seeking score. The risk score scale incorporates the sensation seeking measure along with a number of other youth and parent risk factors. It can be argued that exposure to these advertisements may affect the high risk groups differently from the low risk groups. The role of the risk categories in moderating the relationship between exposure and outcomes is examined in this report.

The measures used to develop the risk score include:

- **Youth covariates**
  - Age (12-18)
  - Sensation seeking (high versus low)
  - Started smoking 12+ months ago
  - Started drinking 12+ months ago
  - Urbanicity 1 (urban versus rural)
  - Urbanicity 2 (suburban versus rural)

- **Parent covariates**
  - Marijuana use in past 5 years
  - Cigarette use in past month
  - Had no drink in past month
  - Attendance at religious services
  - Rating of importance of religion
  - Shares parenting with other adult in household

Greater details of the methodology used to develop the risk score is discussed in Chapter 4.

2.3.5 Past Marijuana Use

Youth were divided into four categories of marijuana usage, only two of which are shown in most tables. The nonuser row is for youth who have never tried marijuana. The occasional user row is for youth who have used marijuana 1 to 9 times in the past 12 months. Youth who have used more frequently in the past year are classified as regular users and youth who have tried marijuana but not smoked it in the last 12 months are called former users. There were too few former users and regular users for these categories to be used as standard row variables in tables.

2.3.6 Parents

Detail Table 2-2 shows sample sizes for parents, weighted population estimates, and confidence intervals on the population estimates. Using NSPY definitions and procedures, there were about 33.3 million parents of youth aged 12 to 18 in this country during Wave 4. As mentioned above, the NSPY definition of parent excludes noncustodial parents but does include stepparents, foster parents, and even nonparental caregivers if no parent lived with sample youth. The NSPY definition also excludes parents whose children live in group facilities and dormitories.

In addition to the breakdown of race/ethnicity used in the youth tables, there are breakdowns by parental gender, parental education, and age of children. In the NSPY definition, about 38 percent of "interviewed parents" were male for Wave 1, about 44 percent of "interviewed parents" were male for Wave 2, and about 40 percent of "interviewed parents" were male for Wave 3. For Wave 4, which is a followup of Wave 1, 37 percent of the interviewed parents were male. The sample sizes by age of children add to more than the total sample size since a parent with multiple children will be counted in each applicable row.

2.3.7 Dyads

Detail Table 2-3 shows sample sizes for dyads, weighted population estimates, and confidence intervals on the population estimates. A dyad is defined to be the combination of a youth and a parent for that youth. The sample size is smaller for dyads than for all youth because for dyad analysis, it was required that both the youth and his or her parent respond to NSPY. For dyad statistics, the rows are defined in terms of the characteristics of the youth. For youth with two parents, the confidence intervals reflect the assumption that both parents would have given the identical response about the youth. The only parent variables that are used in dyad tabulations are those that are specifically about the sample youth.

2.4 Potential Analysis Modes

In order to gauge the impact of the National Youth Anti-Drug Media Campaign on (1) awareness, (2) attitudes, and (3) behavior, the evaluation team has to answer three types of questions:

- Is the Media Campaign reaching its target audiences?
- Is there desirable change in the outcomes addressed by the Media Campaign, in drug use behavior, and in the beliefs and attitudes that underpin that use?
- How much of the observed changes in outcomes can we attribute to the Media Campaign?

Section 2.4.1 explains some of the approaches we will use to answer each of those questions.

2.4.1 Measuring Exposure to the Media Campaign

The Media Campaign has and will continue to publish information about how much media time it has purchased. More specifically, for each audience of youth or parents, information is available on the proportion that would have been in the audience for each ad and all ads. These data are summarized as gross ratings points (GRPs), which are the customary unit for measuring exposure to ads within the advertising industry. A fuller explanation for GRP is presented on page 3-1 of Chapter 3. The evaluation team's task with regard to exposure is to measure the extent to which placement of the ads and other Media Campaign communication efforts broke through into the minds of the audience—that is, are audiences aware of the Media Campaign and is awareness increasing over time? Can target audiences recall the ONDCP-sponsored ads and other messages that were shown? Audience awareness is being assessed in two ways:

- A set of general questions is asked about advertising recall for each medium: radio and television, print, movie theaters, outdoor advertising, and Internet. Each respondent is asked whether and how often he or she recalls seeing anti-drug messages from each source.[2] These measures may be reasonably interpreted as providing a general sense of level of exposure, rather than a precise measure of recent exposure. They ask respondents to summarize a lot of viewing or listening or reading experience and express it in a single number.

[2] See, for example, question D10 in the teen questionnaire. All the NSPY questionnaires can be found on the NIDA web site.

- To improve the precision of the exposure measurement, a second major approach to exposure measurement, the recall of specific Campaign ads, is being made. Thus far, radio and television advertising represent the largest part of the advertising effort. Focus is on those channels for this next type of measure. Through the use of Westat's Audio Computer-Assisted Self-Interview (ACASI) format, each respondent is shown Media Campaign television and radio ads at full length on a laptop computer brought to the respondent's home by a member of Westat's field interviewing workforce. (See Section 2.2 for a description of the NSPY.) The ads shown are all ads that have been broadcast nationally in the previous 2 months, according to the Media Campaign. For each respondent, a subsample of the Media Campaign's recent and ongoing ads (four television and two radio) is shown. Parent-targeted ads are played for parents and youth-targeted ads for youth. Ad samples for African American and bilingual (English/Spanish) respondents are also selected to permit separate evaluations of ads targeted toward these special populations. Each respondent is asked to tell whether they have ever seen the ad, how often they had seen the ad recently, and their assessment of the ad.[3]

  - It is possible that respondents might report that they have seen an ad even though they had not, because they forgot or because they want to be agreeable. If so, and all claims were taken at face value, exposure might be overestimated. Therefore, each respondent is asked whether he or she has seen an ad that has, in fact, never been broadcast. This provides a benchmark to assess true exposure.

  - In addition, the evaluation team recognizes that while the Media Campaign is spending much of its budget buying media time, it also seeks to enhance the extent to which anti-drug communication is on the air, more generally. The Media Campaign is working with national and local organizations; it is working with corporate partners; it is making efforts to disseminate information through mass media outreach and other public relations efforts. To try and capture the extent to which target audiences are aware of these efforts, a series of measures that can detect change in these more general aspects of the public communication environment were developed. Questions asked include the frequency of exposure to drug-related stories in a variety of media channels; the extent to which respondents have heard public discussion of several drug issues; and the amount of talk within families and among friends about drug issues. For all of these measures the evaluation team will examine whether the intensity of Media Campaign efforts are translating into changes in the perceived public communication environment about drugs. The evaluation design will likely not permit separate attribution of effects on parent and youth outcomes to the operation of these components of the Campaign. However, it will be possible to examine whether these efforts are associated with increases in the "buzz" about drug-related issues.

2.4.2 Measuring Changes in Attitudes and Behaviors

The second evaluation question addressed is whether observed outcomes are moving in the right direction. Models were developed based on existing theories of health behavior change and of communication effects. These suggest how the Media Campaign might work, if it was successful. They have determined what measures were incorporated into the survey questionnaires. The outcomes being measured capture quite a range of objectives for this Campaign:

[3] See, for example, question D17 of the teen questionnaire.

- **Behavior:** Trial and regular use of marijuana and of inhalants, primarily, with some additional measurement of alcohol and tobacco use; behaviors of parents—particularly parent-child discussions about drug use and parent monitoring of and engagement with their children's lives; and past behavior and intentions to engage in these behaviors in the near future.

- **Attitudes and beliefs:** Beliefs and attitudes that research has shown to be closely related to these behaviors. For example, with regard to youth drug use, beliefs about the health consequences, the mental functioning consequences, and the performance consequences of drug use are measured.

- **Social pressures:** Perceived social pressures to engage in these behaviors, for example, to use or not use drugs—what peers are doing, what confidence respondents have in their ability to resist drug use, what parents and friends would say about drug use.

In the first semiannual report (Hornik, et al., 2000), the evaluation team provided estimates of the simultaneous association of cognitions and behavior, while controlling statistically for the effects of confounding variables. In the second semiannual report, the team presented estimates of change in cognitions and behaviors between the first and second halves of 2000 and provided estimates of the association of Campaign exposure with these outcomes. In the third semiannual report, the change analysis was extended through the three initial waves of data collection, focusing on the difference between data collected largely during the first half of 2000 and data collected during the first half of 2001. Analysis of association between exposure and outcomes was done for youth and parents interviewed in all three waves. The present report is the first that permits examination of longitudinal effects using the Wave 1 sample followed up at 18 months. Future reports will have followup data on all parents and youth interviewed in waves 1, 2, and 3, and will report in more detail on persistent and lagged effects of Campaign exposure on cognitive and behavioral outcomes.

2.4.3 Attributing Observed Changes in Attitudes and Behavior to the Media Campaign

This is the most difficult task confronting the evaluation—making a clear case for or against the influence of exposure to the Media Campaign on observed attitudes, intentions, and behaviors, both overall, and for particular subpopulations of interest. The approach is outlined below.

In this report, as in the third semiannual report, the combined data from all waves are used to measure the association of exposure with outcomes. For example, are youth who report heavy exposure to Campaign messages more likely to have desirable beliefs about the negative physical consequences of marijuana than do youth who report less exposure? A sophisticated statistical technique called "propensity scoring" is used to reduce the risk that observed differences are the result of the influence of confounding variables rather than the result of the effects of exposure on outcomes. Findings from these analyses are given in Chapter 5 for youth and Chapter 6 for parents.

The present report includes several new features intended to increase the capacity of the analysis to detect campaign effects:

- For the first time, data was examined to determine whether the evidence for effects differs depending on the child's risk of taking up marijuana. Also examined was the dependence of effects on the characteristics of the youth or his/her parents, gender, ethnicity, and level of sensation seeking. Evidence for diversity in effects is presented along with the overall results in Chapters 5 and 6, for youth and parents respectively.

- This is the first report in which the cross-sectional causal analyses are supplemented with longitudinal causal analyses. The same national sample of youth and their parents is being followed for 2 or 3 years. This permits the examination of whether a young person who reported high versus low exposure when first interviewed progressed at a different rate on drug-related beliefs and practices in subsequent waves. Compared to the relatively more simple cross-sectional analysis, this longitudinal analysis capability improves the ability to reject threats to causal claims related to omitted confounding variables. In addition, it will permit response to concerns about ambiguity of causal direction (i.e., that the cross-sectional association between exposure and beliefs is the result of beliefs affecting recall of exposure rather than exposure affecting beliefs). Among nonusers at Wave 1 (about 80% of the population), Campaign effects on marijuana use as well as on cognitions will be examined. For this report, 18-month reinterview data was available for analysis on approximately 40 percent of parents and youth interviewed initially. Analyses incorporating the remaining 60 percent will appear in the fifth semiannual report scheduled for fall 2002.

- Previously, examination of exposure effects was confined to direct pathways (i.e., youth exposure on youth outcomes and parent exposure on parent outcomes). As illustrated in Figure 2D, alternate pathways are also feasible. In this report one of these is examined, specifically, the effects of parent exposure on youth behavior. As with direct effects, both cross-sectional and longitudinal relationships are analyzed. These analyses show the association of parent exposure with youth behavior, regardless of the path through which the effects have occurred (monitoring, talking, fun activities, or some unmeasured parent behavior that affects youth behavior).

2.4.4 Types of Longitudinal Analyses Reported

The addition of a longitudinal analysis capability is probably the most significant innovation of the fourth semiannual report. The approach taken was to use the longitudinal data to address the Campaign effects question in several ways, each of which provides a somewhat different form of strengthening the ability to make inferences. The first analysis (lagged effects) strengthens the ability to sort out causal order between exposure and outcome. It involves looking at the association of Exposure measured at Wave 1 with Outcome measured at Wave 4, controlling for a propensity score based on prediction of E1 from the confounders measured at Wave 1. This lagged association will capture both the delayed effects of Exposure at Wave 1 on outcome if that effect did not emerge until after Wave 1, as well as the effects of exposure at Wave 1 that flow through exposure at Wave 4 to outcome at Wave 4. In addition, and for an analogous purpose, the association of Exposure at Wave 1 with change in the Outcomes between Wave 1 and Wave 4 for the subsample of youth who have Outcome measures at both waves was reviewed. In Wave 4, this is presented only in a limited way, because of sample size considerations. It will be presented more systematically in the subsequent report.

The second analysis approach (stable exposure effects) makes use of an averaged measure of exposure that should show a more stable measure of exposure and thus more ability to detect associations with outcomes. It is based on the argument that previous cross-sectional analyses may have failed to find association (for youth) or underestimated the association (for parents) because the exposure variable was not an ideal measure of the effective exposure. This analysis is logically similar to the cross-sectional analysis done for the Wave 3 report with one possible advantage: by averaging two waves of exposure, it may provide a better estimate of exposure, compared to using only the single exposure measure. This would also involve a propensity score based analysis, with the propensity score based on predicting the average of exposure at Waves 1 and 4 from confounders at Wave 1.

Both the lagged and stable types of analysis were conducted for direct effects on parents, direct effects on youth, and indirect effects on youth through parent exposure. As with the cross-sectional analyses, two measures of exposure were examined: general and recall-aided specific.

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3. Exposure to Anti-Drug Messages

This chapter focuses on exposure to both Media Campaign efforts and exposure to non-Campaign anti-drug efforts during the period from September 1999 to December 2001. First, the chapter discusses advertising placement activities of the Media Campaign. Next, it presents statistics regarding the level of ad recall among youth and parents, with some focus on people's recognition of specific television and radio ads from the Campaign. The third section provides assessments of the television advertisements recognized by youth and parents, as they provide one way of gauging the population's judgment of prominent Media Campaign content. The fourth section discusses youth and parent exposure to other drug information, including encounters with drug information on the Internet, drug education classes, discussions about drugs, discussions about anti-drug ads, and perception of media and community attention to drug use. The last section presents a summary and conclusions.

WHAT ARE GROSS RATING POINTS (GRPs)?

GRPs are the customary unit for measuring exposure to ads within the advertising industry. If 1 percent of the target population sees an ad one time, the ad earns one GRP. It is also quite typical to report GRPs on a weekly basis. So, 100 GRPs is equivalent to one weekly exposure to one ad for each person in the target population. In more common language, an ad that earns 100 GRPs in a week is projected to have been seen by the average person 1.0 times, and an ad that earned 250 GRPs would have been seen by the average person 2.5 times in that week. Exposure to multiple ads, or to ads available through multiple channels, is calculated by summing the GRPs for each of the individual ads for each medium. GRP estimates are averages across the relevant population.

If 100 GRPs have been purchased for a week, that means that the average number of times that a random person saw or heard programs, billboards, newspapers, or magazines carrying the ad was 1.0. This does not mean that everyone saw or heard the ad exactly once. It is quite possible that some saw or heard it many times while others saw or heard it rarely, but the average number of times for a random person is 1.0.

GRPs are estimated for each ad based on the projected audience for a particular medium and program. For example, based on television ratings data from Nielsen Media Research, the audience for a particular television program at a particular hour can be estimated. If an ad plays during that program, it is assigned the program's GRPs. For example, if 10 percent of the 12- to 17-year-old audience is estimated to be in the audience for program A from 8 to 9 p.m., then an ad played on that program earns 10 GRPs. Parallel projections of audience size are made for all media based on data from a variety of media monitoring companies, and GRP estimates are calculated accordingly. Clearly GRP estimates are accurate only to the degree that the estimates of audience size are accurate. Also, at best, GRPs only capture the availability of an audience. They do not guarantee that an audience member was actually paying attention to the ad.

3.1 Media Buying Reports

- **Based on Media Campaign reports of purchased time and space, it is estimated that the average youth has been exposed to 2.5 youth-targeted ads per week and that the average parent has been exposed to 2.2 parent-targeted ads per week, during the period from September 1999 through December 2001.** (These estimates include Media Campaign advertisements intended for the general market youth or general market adults, respectively; they do not include exposure by youth or parents to advertisements intended for other audiences, often called "spill." They also do not include supplementary targeting efforts intended for special audiences; e.g., Spanish-speaking Hispanics, which are described later.)

Estimates of expected Campaign exposure for this report are derived from reports of media time purchased by Ogilvy on behalf of the Media Campaign for the 28-month period from September 1999 through December 2001. These estimates show that Ogilvy obtained a total of approximately 30,740 gross rating points (GRPs) for advertisements intended for general market youth and approximately 26,471 GRPs for advertisements intended for general market parents.[1] These totals translate into an average of 252 targeted GRPs for general market youth per week and 217 targeted GRPs for general market parents per week. In turn, such estimates are equivalent to 2.5 targeted ad exposures per week for general market youth and 2.2 targeted ad exposures per week for general market parents.

Table 3-A provides more detail about these estimates. The distribution of GRPs across various media and channels reveals the predominance of particular media as sources of GRPs for each of the two audiences. Television and radio account for over 80 percent of GRPs for youth and 57 percent of GRPs for parents.

Table 3-A. Targeted gross rating points (average per week and per medium)

	Youth GRPs	Percent of Youth	Parent GRPs	Percent of Parents
All media for 121 weeks (9/99 – 12/01)	30,740		26,471	
Television per week	135	54	60	27
Radio per week	69	27	65	30
Print per week	24	10	32	15
Outdoor per week	--	--	56	26
Other per week	24	10	4	<1
All media per week	252	100	217	100

NOTE: The "other" category for youth includes advertising on basketball backboards, in movie theaters, on the Internet, and other activities such as postings of flyers; the "other" category for adults includes movie theaters and Internet.

- **The GRPs for both youth and parents were sharply down during Wave 4, from July through December 2001.** The number of GRPs to which youth and parents were exposed varied over the 121 weeks of Phase III of the Campaign. As depicted in Figure 3-A and Table 3-B, youth GRP exposure had shown upward and downward trends during the first three waves of measurement

[1] Ogilvy has provided the Evaluation team with detailed information about the media purchases made, organized by channel, by week, and for many channels by the name of ad. The GRP data presented in this report are derived from that information, supplied as of January 2002. It should be recognized that these are not definitive buying information. Some of the information is based on postbroadcast confirmed buys, some of it on prebroadcast scheduled buys, and some on estimated buys. Also, there are survey errors of unreported magnitudes in the audience surveys.

Figure 3-A. Weekly youth-targeted general market GRPs (September 1999 through December 2001)

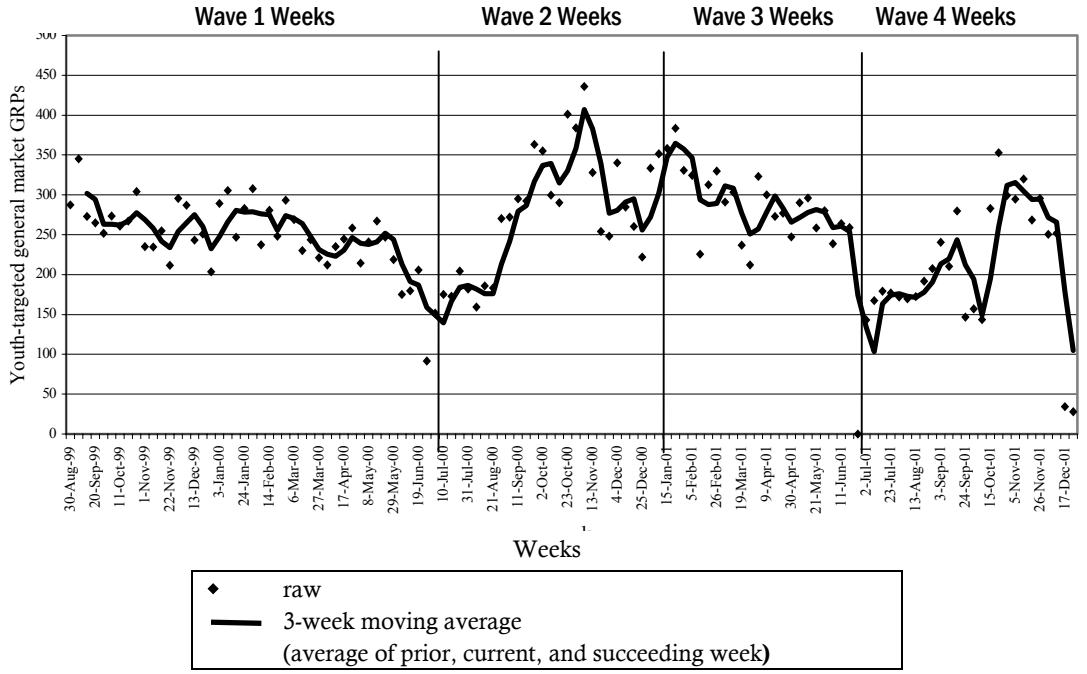
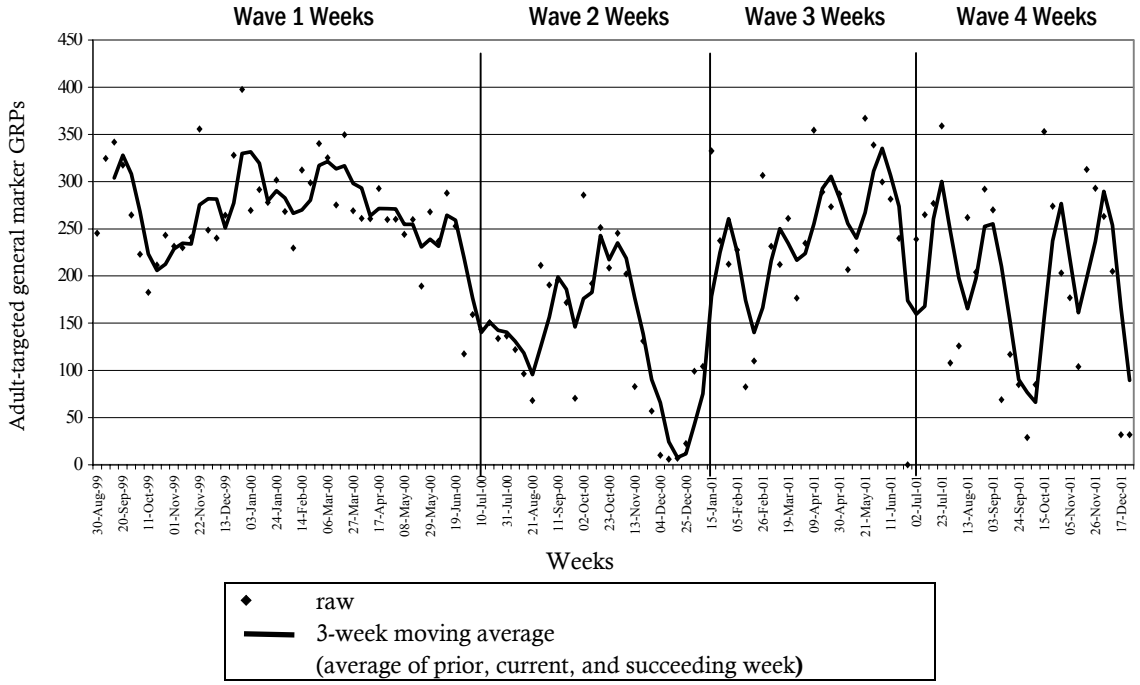


Figure 3-B. Weekly adult-targeted general market GRPs (September 1999 through December 2001)



(from September 1999 through June 2001), but the overall average in each wave was always more than 250 (259, 254, and 281 GRPs per week for Waves 1, 2, and 3 respectively). Wave 4 was down 20 percent from the average of the previous levels, with an average of 209 GRPs per week from July through December 2001. This represents approximately 2.1 exposures on average per week in that wave. The youth Wave 4 GRPs appeared to have a low period between July and mid-October (due, in part, to the coverage of September 11 events as well as the summer disruption in normal media programming), a somewhat higher period between mid-October and

December, and then minimal purchases of ad time at the end of December. The Campaign has reported that declines in youth GRPs in Wave 4 are due, in part, to a concentration of media buys on more "high visibility" and high cost prime time and event TV programming, which yields less GRPs per dollar spent but which it believes creates greater impact. Some of the youth decline in Wave 4 also reflected the lack of any spot radio or television buys during that period, without a commensurate increase in other media time purchases.

Parent GRPs were also down during Wave 4 (Figure 3-B and Table 3-B). Parent GRPs per week had been high in Wave 1 (275), sharply down in Wave 2 (152), up in Wave 3 (230), but were back down in Wave 4 (194). Declines in parent GRPs are due, in part, to the same reasons as the youth declines cited above (concentration on high visibility prime time and event TV programming, media cost inflation, and elimination of local out-of-home activity in Wave 4). However, as will be shown below, the overall decline in total parent GRPs during Wave 4 might have been mitigated by a concentration in channels that reached a wide audience.

In addition to the broad up and down patterns across waves, there is a good deal of variation across weeks within waves, particularly for parents. This variation in GRP exposure is due partly to ad flighting. Flighting involves running advertising only for specific periods of time, such as four 10- to 12-week periods, rather than running it continuously. GRPs are grouped into flights and run within behavioral messaging platforms to achieve Campaign communication goals. GRPs vary within flights depending on the goals for a particular platform, the total GRPs purchased for the time period, and the media mix used for each platform. Section 3.1.1 provides some additional information about the adult pattern, which makes this rise and fall appear to be less extreme. As noted previously, the drop in early September through mid-October GRPs can be attributed directly to the aftermath of September 11th.

- **The Campaign also reported additional Campaign-related exposure beyond the main general market efforts intended for youth and adults.** In addition to the estimated general market exposure reported above, youth and parents also might have been exposed to advertising intended for people other than themselves, or to unpaid advertising devoted as a pro bono match to the paid advertising.

Table 3-B. Distribution of youth and adult average weekly GRPs across waves

	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 2001
Youth	259	254	281	209
Adults	275	152	231	194

Insofar as youth saw or heard an anti-drug advertisement intended for parents or vice versa, one could argue that the advertisement garnered exposure not only among its target audience but also that there was "spill" exposure generated among a secondary audience. Estimates of the potential amount of such spill are substantial. For the period of July 2001 to December 2001 (which overlaps with the period covered by this report), for example, youth GRP estimates would increase by approximately 33 percent[2] if spill exposure to parent advertisements were added to the youth total. This is worth noting from the standpoint of general awareness of the Media Campaign's efforts. However, the Campaign has distinguished between youth and parent audiences and has developed explicit and distinct objectives and advertising efforts for each group. In doing so, they have assumed that the exposure to *particular* targeted messages, rather than to *any* anti-drug messages in general, is crucial. Therefore, much of this report focuses on expected and reported exposure to communication efforts specifically intended for, or targeted toward, each audience group.

[2] According to a January 2002 Ogilvy estimate, youth GRPs for July 2001 through December 2001 were approximately 7,681 with spill exposure accounting for 2,569 GRPs.

3.1.1 Distribution of Exposure

Reported GRP numbers are average estimates of exposure across the entire population of a specified group. It is possible that the same level of GRP performance can be achieved by producing many exposures for relatively few people or a few exposures for many people. For example, a media buying plan that bought four exposures per week for half of a target population would achieve the same GRP level (200=4 x 0.50 x 100) as a media-buying plan that purchased two exposures per week for all of the population (200=2 x 1.00 x 100). This is why media buying strategies customarily are expressed in terms of both reach and frequency, or more broadly, in terms of the distribution of exposure, rather than just the average exposure.

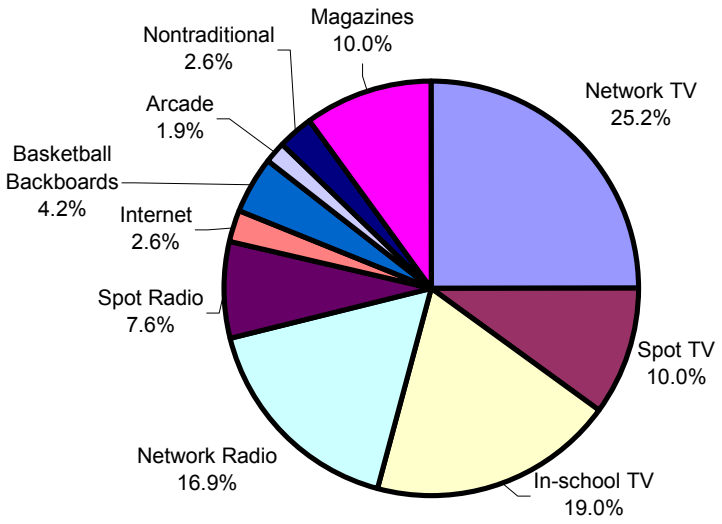
NSPY provides direct estimates of the reach and frequency of ad viewing and hearing.[3] Before presenting those estimates, it is useful to look at the general viewership levels of each of the channels in which advertising was bought. By doing so, GRPs can be classified as having been bought either on media with wide reach or on media with more narrow reach. One pattern that stands out across both groups is the predominance of television and radio GRPs, particularly for youth.

- **Television and radio GRPs composed the vast majority (over 80%) of total youth-targeted GRPs.**
  - While advertisements intended for youth were placed in a variety of media, most GRPs for youth-targeted ads were generated through television and radio. Twenty-five percent of youth GRPs resulted from combined network and cable television placement, nearly 20 percent resulted from in-school television (largely through the Channel One program), and another 10 percent came from "spot" TV in more than 100 metropolitan areas around the country. Approximately 25 percent of youth GRPs came from network and spot radio. (See Figure 3-C.)
  - Almost two-thirds of targeted youth GRPs were obtained in media with the potential for wide reach, and about one-third in media with less wide reach. For instance, network radio (17% of the GRPs) and network and cable television [4] combined (25% of GRPs) have the potential to reach most of the population. With all TV and radio buys, nonetheless, the specific reach and frequency will depend strongly on the particular buys in terms of programs and times. Media channels with narrower reach among youth include in-school television (19% of youth GRPs mostly on Channel One), basketball backboards (4%), arcades (2%), and so-called nontraditional media, such as movie theaters and flyer postings (3%). In addition, the Campaign reports roughly 3 percent of youth-targeted GRPs arose from Internet efforts. Another media outlet used by the Media Campaign to a limited extent, magazines (10% of youth GRPs), also has considerably lower reach than television or radio.

[3] The Media Campaign provided data in a variety of formats. Most of the information used in this report exploits the information about weekly purchases of media time for specific ads and/or on specific media. In addition, the Campaign has supplied estimates for overall reach and frequency for an advertising platform across all media cumulatively for the weeks the platform was on the air. These estimates depend on complex assumptions about the probability of an individual who is exposed to a message on one medium being exposed to the message on a second medium. They are not presented in this report. The survey-based estimates reported in the remainder of this chapter present parallel information and describe the distribution of recalled exposure. Evidence for the validity of these measures was provided in previous reports (Appendix C, Second Semiannual Report.)

[4] The combination of network and cable television is referred to as network TV in presented graphs.

Figure 3-C. Targeted youth media placements by medium (September 1999 through December 2001)



- **While television and radio represented the great majority of GRPs for youth, this was less the case for GRPs purchased for parents.**

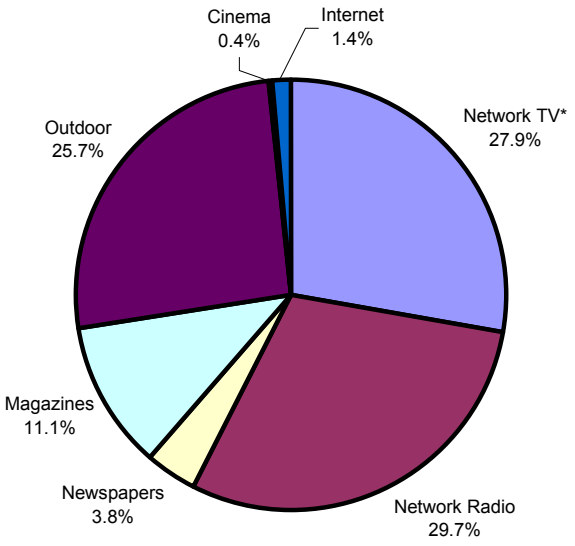
  - While the Media Campaign purchased 135 targeted GRPs per week for youth on television, for example, it purchased only 60 such GRPs per week for parents on television. As can be seen in Figure 3-D, many of the general market adult GRPs came from media other than television, radio, or even print. In fact, just over a quarter of all of the adult GRPs came from outdoor media (billboards, bus shelter placards, etc.). The Campaign purchased outdoor advertising intended for general market adults in only 10 major media markets,[5] which collectively contain roughly a third of the U.S. population.

  - For parents, the overall balance across waves between wide-reach media and other media is somewhat similar to that of youth (Table 3-D). Approximately half of the GRPs came from wide-reaching network TV (28% of GRPs) and network radio (30% of GRPs); with the other half coming from media with less reach, including newspapers (4% of GRPs), magazines (11% of GRPs), and outdoor media (26% of GRPs).

- The proportion of wide-reach and narrow-reach media used by the Campaign was stable for youth across waves. In contrast, for adults, that ratio varied sharply. Table 3-C presents the proportion of GRPs purchased across waves according to whether they were purchased on wide- or narrow-reach media. For youth, wide-reach media make up 60 percent of the purchased GRPs across all four waves. In contrast, the cross-wave pattern for parents is quite different. Just less than 50 percent of all GRPs were on wider reach media for Waves 1 and 3, but for Waves 2 and 4, although overall GRPs were down, a larger proportion (63% and 85%) were bought on wider reach media. Thus, even though the total adult GRPs declined in Waves 2 and 4, the GRPs on the wider reach media were actually the highest during Wave 4. Thus, the proportion of the population likely to have been reached at some level would have been more stable than what was suggested by the overall GRP figures.

[5] According to Ogilvy, those markets were New York, Chicago, Los Angeles, Philadelphia, San Francisco, Dallas/Ft. Worth, Atlanta, Boston, Detroit, and Washington, DC.

Figure 3-D. Targeted adult media placements by medium (September 1999 through December 2001)



* The combination of network and cable television is referred to as network TV in presented graphs.

Table 3-C. GRPs per week purchased for youth and parents across waves, by reach of the media

		Expected weekly exposures (% of all exposures)				
Youth	Reach	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 2001	All Waves
	Wider reach channels (Network, Cable, and Spot TV; Network and Spot Radio)	1.54 (59%)	1.59 (63%)	1.70 (61%)	1.30 (60%)	1.53 (60%)
	Narrower reach channels (Magazines, Movie Theaters, Internet, In-school TV, etc.)	1.05 (41%)	0.95 (37%)	1.11 (39%)	0.79 (40%)	0.97 (40%)
	Total per week	2.59	2.54	2.81	2.09	2.52
Adults	Wider reach channels (Network and Cable TV, Network Radio)	1.33 (48%)	0.95 (63%)	1.06 (46%)	1.66 (85%)	1.25 (58%)
	Narrower reach channels (Newspapers, Magazines, Outdoor Media, Internet, Movie Theaters)	1.42 (52%)	0.57 (37%)	1.24 (54%)	0.28 (15%)	0.87 (42%)
	Total per week	2.75	1.52	2.30	1.94	2.12

3.1.2 Distribution of General Market Ad Platforms

The Media Campaign strategy for both youth and adults has been to focus on a limited number of themes, or broad messages, called message platforms. Furthermore, the Campaign planned to focus much of the advertising during any particular period on one specific platform so that the message of that period received maximum exposure.

Tables 3-D and 3-E outline the major platforms for both general market target audiences. Each ad that was broadcast was associated with a particular platform (or platforms) on the basis of the concepts it addressed. Tables 3-D and 3-E also list the names of television and radio Campaign ads airing during

the period from late 1999 through 2001, according to their respective platforms. Descriptions of the ads are provided in Appendix D.

Table 3-D. Distribution of youth message platforms on general market TV and radio

Advertising platform	Percentage of television GRPs[1]	Ads in this platform during NSPY Waves 1,2,3 and 4 [2]	Percentage of radio GRPs[1]	Ads in this platform during NSPY Waves 1, 2, 3 and 4 [2]
Negative consequences	27.6	Two Brothers[3], No Thanks, Hockey, Mother/Daughter, No Skill, Vision Warrior, Brain	19.1	Two Brothers, Make You Think, Stressed, Brother Jeff, If Pot Were a Person, Money, The First Time, The Rant
Normative education/ positive alternatives	51.6	Mary J. Blige[3], Drugs Kill Dreams (Williams Sisters)[3], Andy MacDonald, Scatman[3], Dixie Chicks, DJ, Family, Football, Friends, Icon, Love, Most Teens, Swimming, Tara Lipinski, U.S. Women's Soccer Team, Dance, Music, Famous, Drawing, Music-Mix Tapes, Being Myself/My Future, Tiki Barber, Derrick Brooks	44.3	Mary J. Blige, Drugs Kill Dreams, Scatman, What's Yours, What's Yours- Urban, Margot, Alberto, Basketball, Cross-Country, Limericks, What's Yours, What's Yours-Urban
Resistance skills	26.3	Drugs Kill Dreams[3], How to Say No, No Thanks, Michael Johnson, It's OK to Pass, What I Need	25.6	Drugs Kill Dreams, Excuses, Orientation, What to Say- Boy, What to Say- Girl, Moment of Truth
Other	1.1	Ads not associated with the major platforms include Lauryn Hill, Layla, I'm Free, Miss America, and others	11.0	Ads not associated with major platforms

[1] Some ads were counted in more than one platform, so percentages sum to more than 100 percent.

[2] This table describes general market platform distribution. The Campaign also produced some advertisements exclusively for special audiences, such as Spanish-language ads for Hispanics. TV ads exclusively intended for Hispanics included Fast Food, Second Trip, You Know How to Say It, Natural High, and Test. Such radio ads included Laugh, Weekend, Boy Meets Girl, Typical Story, She Did It, and The First Time.

[3] On both television and radio.

Table 3-E. Distribution of adult message platforms on general market TV and radio

Advertising platform	Proportion of television GRPs	Ads that were in this platform during NSPY Waves 1, 2, 3 and 4 [1]	Proportion of radio GRPs	Ads that were in this platform during NSPY Waves 1, 2, 3 and 4[1]
Parenting skills/ personal efficacy	72.2	Clinic, Phone, Office, Email, TV, Instructions ads (Stay Involved and Praise and Reward), Smoke, Keep Trying, Smoke, My Hero[2], My Hero-African American, Thanks[2] O'Connor, Anyway You Can, Kitchen, Ananda, Gene	71.0	Tree Fort, Cooking Dinner, Basketball, Keep Trying, Desperate, My Hero, Thanks, I Know My Kid
Your child at risk	10.9	Pipe[2], Roach, Weed, Drugs, Clip[2], Pot, Bag[2]	11.2	Pipe, Clip, Grass, Bag
Perceptions of harm	15.5	Symptoms, Under Your Nose, Funeral, Deal, Clinic, Needle/Spray Can[2].	17.0	Happy Birthday Steven, Kathy Abel, Symptoms Sooner/Later-David, Sooner/Later-Megan
Other	<1	Ads not associated with the major platforms: Car, Eddie George, Derrick Brooks	<1	Ads unidentified in GRP reports.

[1] This table describes general market platform distribution. The Campaign also produced some advertisements exclusively for special audiences, such as Spanish-language ads for Hispanics. TV ads exclusively included for Hispanics included Mirrors, Heroes: Dancing, Heroes: Swimming, Game Show, and Natural High. Such radio ads included Sharing (Pepperoni) and Game Show.

[2] On both television and radio.

For youth, for example, over 50 percent of the general market television exposures (GRPs) emphasized Normative Education/Positive Alternatives, which involve the idea that most youth do not use drugs and/or that others expect the youth not to use drugs. This emphasis at least partially reflects the introduction (in late 2000 and early 2001) of a series of "What's Your Anti-Drug?" ads that stressed the number and variety of youth who do not use drugs (along with their favorite alternative behaviors). The Media Campaign categorizes these ads as in the Normative Education/Positive Alternatives platform. Discussion of Resistance Skills (e.g., how to refuse drug offers) and Negative Consequences (e.g., physical or mental health or schooling outcomes of drug use) received approximately 27 percent of the GRPs each. (It is worth noting that ads could represent more than one platform and a small number did so.) The pattern is similar, although with slightly less of an emphasis on Normative Education/Positive Alternatives, for radio ads.

For parents, the major emphases were on parenting skills and on boosting personal efficacy to intervene (72%), with secondary emphases on the idea that one's child is at risk of drug use (11%) and on the perceptions of harm resulting from drug use (16%). As with youth, a similar pattern was seen regarding radio platforms.

- The Campaign emphasis on different platforms varied sharply across waves for both youth and parents as planned in the Campaign's flighting schedule. Tables 3-F and 3-G present the proportion of television and radio GRPs that were dedicated to each of the major platforms across the four waves for youth and adults, respectively. For youth, the Wave 1 distribution of GRPs across three platforms gave way to a focus on Normative Education/Positive Alternatives for Wave 2. In Wave 3, there was a division of ads between Normative Education/Positive Alternatives, and Resistance Skills and Negative Consequences messages had largely disappeared. However, in Wave 4, Negative Consequences were the focus of the majority of the ads. Normative Education/Positive Alternatives were also highlighted during this wave, but there was little attention to Resistance Skills (Table 3-F).

Table 3-F. GRPs per week purchased for specific youth platforms across waves (TV and radio)

Platform	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 2001
Negative Consequences	24.7%	16.6%	0.0%	61.3%
Normative Education/Positive Alternatives	40.1%	71.1%	41.6%	34.6%
Resistance Skills	33.0%	3.0%	46.5%	3.0%
Other	2.2%	9.2%	11.8%	0.01%

For parents, there was also substantial variation in platform emphasis across waves. Perceptions of Harm, which received nearly one-third of GRPs in Wave 1, did not air in subsequent waves. Your Child at Risk (which includes the anti-inhalant advertising) took a substantial portion of the GRPs only in Wave 3. Parenting Skills/Personal Efficacy was strongly present across all four waves, and accounted for almost all of the GRPs during Waves 2 and 4 (Table 3-G).

Table 3-G. GRPs per week purchased for specific parent platforms across waves (TV and radio)

Platform	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 2001
Parenting Skills/Personal Efficacy	54.2%	98.8%	48.6%	91.3%
Your Child at Risk	13.6%	0.0%	51.4%	7.9%
Perceptions of Harm	31.0%	1.0%	0.0%	0.0%
Other	1.2%	0.0%	0.0%	0.0%

3.1.3 GRPs Purchased for Minority Audiences

The Media Campaign also reported additional efforts to reach specific minority populations with advertisements developed and intended specifically for those groups, such as Spanish-language ads for Hispanics attending to Spanish media programming. The media use behavior on which GRP estimates are based are available from commercial sources for African-American and Hispanic targets. Parallel data are not available for other targeted minority audiences such as Asian, Pacific Islander, or Native American. Table 3-H describes each of these efforts. There are two ways these advertising efforts can affect exposure. They can add to the overall exposure for the general population and they can add to the specific exposure among the target populations. These are considered separately. These extra GRPs do not add a great deal to the overall level of GRP exposure. Table 3-H illustrates the relatively small contribution to overall general market GRPs that these efforts would contribute if they were combined. The first row reflects the average weekly GRPs reported exclusively for each group. One hundred GRPs for Hispanics, for example, could reflect a one-time reach of all U.S. Hispanics. Those totals then can be viewed in terms of their potential contribution to the general population's Campaign experience.

The numbers presented in Table 3-H reflect the approximate number of additional age-group-specific GRPs to which the general population could have been exposed as a result of the special targeting efforts during Wave 4. For African American youth, for example, roughly 40 GRPs were obtained for targeted efforts among that population in an average week. Given that African American youth constitute approximately 16 percent of the U.S. population of 9- to 18-year-olds, these targeted efforts would contribute an additional estimated 7 GRPs (i.e., 40 x 0.16) to the average U.S. youth's communication experience. This addition reflects only a 3 percent increase over and above the general market GRPs obtained for U.S. youth, which, while noteworthy, does not alter the larger picture of GRP distribution substantially.

Table 3-H. Estimated additional Wave 4 GRPs generated exclusively to reach specific groups

	African American youth	African American adults	Hispanic youth	Hispanic adults	Residents of Puerto Rico (youth)	Residents of Puerto Rico (adults)
Weekly within-group GRPs for targeted efforts	40.4	25.4	13.6	91.2	160.8	43.0
Percentage of U.S. population for age group	16%[1]	13%[1]	15%[1]	14%[1]	1%[2]	1%[2]
Additional general population GRPs per week for Wave 4	6.5	3.3	2.0	12.6	1.6	0.43
Percentage additional weekly general population Wave 4 GRPs	3%	2%	1%	6%	<1%	<1%

[1] From NSPY. Percentages reflect percent of total U.S. 9- to 18-year-old youth or of total U.S. adults.

[2] From U.S. Census (www.census.gov, accessed February 9, 2001). Same percentage used for youth and adults.

Data to assess the add-on effect of these extra GRPs for the specific populations are not available to the evaluators. If the respective audiences had received a full dose of the general market advertising and then received this focused advertising as an add-on, this would be a major addition. However, this is an unlikely result for primary Spanish-language speakers. The Spanish-language advertising is designed, presumably, to make up for the fact that English-language advertising is inaccessible to

primary Spanish-language speakers. It might be that the GRPs for Hispanic audience represents a large portion of the Campaign GRPs for primary Spanish speakers, including many Puerto Rican residents, rather than being an add-on.

For African American audiences and Hispanic bilinguals, the issue is less clear. However, these two groups and general market audiences have different media use patterns. Presumably, the general market media buys reflect media use across the entire population. Then it might be expected that African American and Hispanic bilingual audiences would be either less or more exposed, on average, to the general market materials than would the general market audience. Thus, the buys reflected in Table 3-H, even for the African American audience, are in unknown portions an add-on to and a makeup for reduced access under the general market media buy. However, as will be shown below, there is consistent evidence that Hispanic and African American audiences do report higher total exposure to most Campaign media; this may reflect either an advantage with regard to general market exposures or add-on effects of targeted exposures.

3.1.4 Inhalant and Ecstasy GRPs

The Media Campaign reported some efforts to reach parents and youth with ads that focused on the risks of inhalants and of Ecstasy. While these anti-inhalant and anti-Ecstasy ads are included as part of the major youth and parent platforms discussed in Section 3.1.2, the Campaign also classifies them as separate platforms. The following discussion refers only to media time purchased for the general market audience, and does not include time purchased to reach Hispanic or African American audiences.

During Wave 1, no anti-inhalant GRPs were purchased for youth, but a combined total of 524 TV and radio anti-inhalant GRPs were purchased for parents. These 524 GRPs represent approximately 13.4 GRPs a week, which means parents could be expected to have seen one anti-inhalant ad every 10 weeks. In Wave 2, neither youth nor parent anti-inhalant GRPs were purchased. During Wave 3, the average parent would have seen or heard one anti-inhalant ad every 2 weeks, but no youth anti-inhalant GRPs were purchased. In Wave 4, however, anti-inhalant GRPs were purchased for the youth audience (youth could be expected to have seen less than one anti-inhalant ad every 10 weeks) but not for parents (Table 3-I).

Table 3-I. Estimated Inhalant GRPs purchased by wave

		GRPs purchased per wave (per week)				
	Inhalants	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 200	Total GRPs All Waves
Youth	TV (Brain)	0	0	0	10	261
	Radio	0	0	0	0	0
	Total TV and Radio	0	0	0	10	261
	As a percentage of all TV & Radio GRPs	0%	0%	0%	4%	0.08%
Adults	TV (Needle/Spray Can, Funeral, Under Your Nose)	5	0	26	0	859
	Radio (Happy Birthday Steven, Kathy Abel, Needle/Spray Can)	8	0	19	0	788
	Total TV and Radio	13	0	45	0	1,647
	As a percentage of all TV & Radio GRPs	10%	0%	43%	0%	11%

The Campaign did not begin running anti-Ecstasy ads until Wave 3. During Waves 3 and 4, approximately a tenth of an exposure a week was purchased for parents, and during Wave 4 around a fifth of an exposure a week was purchased for youth (Table 3-J).

Table 3-J. Estimated Ecstasy GRPs purchased by wave

		GRPs purchased per wave (per week)				
	Ecstasy	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 2001	Total GRPs All Waves
Youth	Radio (The Rant)	0	0	0	16	424
	As a percentage of all TV & Radio GRPs	0%	0%	0%	10%	1.7%
Adults	Radio (Sooner or Later-Megan, Sooner or Later-David)	0	0	9	13	560
	As a percentage of all TV & Radio GRPs	0%	0%	8%	8%	3.7%

3.2 Recall of Exposure from NSPY Questionnaires

To assess exposure to the Campaign, NSPY included two complementary measurement approaches. First, all respondents were asked for an estimate of how often they had seen or heard anti-drug advertisements in each of the major media in which the Media Campaign had purchased time (including television and radio, newspapers and magazines, outdoor venues, or movies). These questions were modeled after a measure used in the Monitoring the Future (MTF) study so as to maximize comparability across surveys.[6] These measures are intended to provide a general impression of the intensity of recent exposure and will be particularly helpful in comparisons over time and across media.[7] They are likely to capture both exposure to advertising from a variety of sources directed to the particular group of respondents (youth or parents) and also the aforementioned "spill" exposure to advertising directed toward the other audience, as well as some pro bono advertising.[8]

In addition, to improve the precision of the measurement of exposure, questions also were included regarding the recognition of specific ads. Television and radio advertising represented a large part of the advertising effort, particularly for youth, and was the focus for this measure.

[6] Previous reports (Hornik et al., December 1999) discuss the differences between MTF and NSPY findings, and plausible reasons for the differences.

[7] See questions D10-D13 of the Teen and Child questionnaires and questions F1-F4 of the Parent questionnaire—all on the NIDA web page.

[8] During Waves 1-3 there was a single question that asked about the combination of radio and television exposure, following the MTF model exactly. In Wave 4, in order to separate these two channels, half of the sample was given either two questions, addressing each channel separately, or the single question that had been used in the previous waves. Since assignment to the two or one question sequence was done randomly, it was possibly to calibrate the responses to maintain the previous scale. This permits over time comparisons.

3.2.1 General Measures of Exposure

The great majority of youth and parents recalled some exposure to anti-drug advertising, which can include paid, pro bono, and spill (Table 3-K).[9] The four general recall questions were transformed into quantitative measures of exposure and summed to provide rough estimates of total recalled

Table 3-K. Overall recalled exposure to anti-drug ads across all media (November 1999 through December 2001)

	Percentage of parents					Percentage of youth				
Exposures per month	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 2001	Average All Waves	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 2001	Average All Waves
Less than 1	7.0	6.6	7.9	7.3	7.2	6.9	5.7	5.9	8.3	6.2
1 to less than 4	20.1	23.4	21.4	25.0	22.4	17.1	15.1	17.5	17.8	16.9
4 or more	72.9	70.0	70.7	67.7	70.4	74.0	79.2	76.6	73.9	75.9
Median exposures	10.5	9.0	9.5	8.3	9.5	12.0	16.0	12.5	11.8	13.1

exposure.[10] Using these measures, over 90 percent of youth and parents recalled seeing or hearing some form of anti-drug advertising at least once per month. Moreover, this degree of reported general high exposure was relatively constant across all waves. There were no significant overall changes from 2000 to 2001 among youth or parents. Youth reported a significant decrease between of 3 percent in having seen newspaper or magazine ads at least weekly (i.e., at least 4 times per month) and parents reported a significant 1 percent increase in having seen movie theater ads at least weekly between 2000 and 2001 (Detail Tables 3-23 through 3-32).

- **More than 75 percent of youth reported weekly exposure (4 or more times per month) from the combination of the sources (Table 3-K).** Thus, the purchase of approximately 2.5 targeted general market exposures per week among youth, according to the GRP data, produced recall of at least one ad per week among 76 percent of the youth population, but less than that among 24 percent of the population. The median number of recalled ad exposures by youth was 13.1 per month, across all sources. (The median number of ads recalled is the number of exposures such that half the audience saw the ads as many or more times and half the audience saw them as many or fewer times.) These numbers can be compared, though only roughly and with caution, with the estimates of potential exposure generated from the aforementioned GRP data. The median recall of 13.1 ads per month for youth translated into 3.1 exposures per week; GRP estimates would suggest a similar 2.5 for targeted youth GRPs alone.

[9] In all tables throughout this section of Chapter 3, only youth aged 12 to 18 at any wave are included. In previous reports, youth aged 9 to 11 were also included in overall charts. Therefore the Waves 1, 2, and 3 estimates are not identical to those in previous reports.

[10] Each general recall question had answer categories shown below. Each category was recoded as indicated. The recoded answers were then summed to get the rough estimate of total recalled exposure.

Answer Category	Recoded times per month
Not at all	0.0
Less than one time a month	0.5
1 to 3 times a month	2.0
1 to 3 times a week	8.0
Daily or almost daily	30.0
More than 1 time a day	45.0

- **A slightly lower percentage of parents, (70 percent) than youth reported weekly exposure from the combination of the sources (Table 3-K).** The Media Campaign purchased roughly 2.2 targeted general market exposures per week for parents, somewhat less than the level achieved for youth. As with the youth estimate, this number can be roughly compared with the estimates of potential exposure generated from the GRP data. For parents, the median recall of 9.5 ads per month translated into around 2.3 exposures per week, quite similar to the targeted parent GRP level of 2.2.

- **Recalled exposure varied across different media channels.** Table 3-L displays reports of weekly exposure to each of the various channels employed by the Campaign. While approximately half of youth and parents recalled seeing or hearing radio or television ads weekly, only about one-quarter recalled such frequent exposure to print or outdoor advertising, and fewer than one-tenth recalled weekly exposure to movie or video messages.

Table 3-L. Weekly recall of general anti-drug advertising by medium across all waves (November 1999 through December 2001)

	Percent who recall seeing or hearing ads at least weekly			
Group	TV and radio ads	Newspaper and magazine ads	Movie theaters and video rental ads	Billboard and other public postings
Parents	49.2	20.7	3.4	23.4
Youth 12 to 13	53.5	25.9	8.5	27.2
Youth 14 to 15	60.1	28.0	6.8	28.2
Youth 16 to 18	60.0	24.6	6.4	25.4
Youth 12 to 18	56.6	26.0	7.1	26.8

  - Estimates of general recall were largely consistent with the focus of GRP purchases, with 60 percent of youth-targeted GRPs (including in-school TV) and 58 percent of parent-targeted GRPs estimated for radio and television (see Figures 3-C and 3-D).

  - Youth and parents reported similar general exposure within various media, even though not all media carried equal amounts of content officially targeted to both groups. The Media Campaign mostly purchased outdoor advertising to reach parents, for example, and yet comparable percentages of youth and parents reported at least weekly exposure to billboard ads or other public postings.

Changes in General Exposure from 2000 to 2001

- **The data suggests minimal fluctuations in youth or parent overall recall of Campaign ads.** This is somewhat surprising when one considers that the average weekly GRPs did show some change across waves. For youth, Wave 1 average weekly GRPs were 2.6; Wave 2 averaged 2.5 youth GRPs per week; Wave 3 average youth GRPs were 2.8 per week; and in Wave 4 average weekly youth GRPs were 2.1. Parent GRPs also exhibited an up-and-down pattern: Wave 1 average adult weekly GRPs were 2.8; Wave 2 averaged 1.5 adult GRPs per week; Wave 3 averaged 2.3 adult GRPs per week; and Wave 4 average weekly adult GRPs were 1.9 (Table 3-C). As can be seen in Table 3-K, expected GRP exposures did track the general exposure measure, but not very closely. Why might it have not tracked GRP exposure more precisely? The general exposure measure may include recall of advertising for the other target audience and advertising perceived as anti-drug, but not sponsored by the Campaign. Also, while respondents were asked to recall ads seen or heard in recent months, they may have included longer periods, stretching back to previous waves, in their recall estimates. The general exposure measure may not be very sensitive to the magnitude of changes in GRP purchases that occurred across the four waves.

- **There were few statistically significant changes between 2000 and 2001 in recall of exposure to any of the specific media, either overall or for subgroups (Detail Tables 3-28 through 3-31).**

  - Among youth, there were no significant changes either overall or for subgroups for recall of general TV and radio advertising from 2000 to 2001. As discussed in preceding reports, in Wave 2, 14- to 18-year-olds reported more exposure to television and radio anti-drug advertising than their counterparts in Wave 1, but Wave 3 and Wave 4 levels were equivalent to the Wave 1 level. No other age group demonstrated any change. The increase in reported exposure among Hispanic youth between Waves 1 and 2 remained in both Waves 3 and 4, thus keeping Hispanic, White, and African American teens relatively equivalent in their recall of anti-drug television and radio advertising. Wave 2 witnessed an increase in high sensation-seeking youth and high-risk youth's recall of anti-drug TVand radio advertising. However, reported recall among these groups declined in both Wave 3 and Wave 4 to levels similar to those seen at Wave 1 (Detail Table 3-28).

  - All youth aged 12 to 18 showed decreased recall (-3%) of print advertising between 2000 and 2001. Recall of print advertising seen at least once a week reached a high of 31 percent in Wave 2, but declined to 27 percent in Wave 3 and 22 percent in Wave 4 (Detail Table 3-29).

  - There were no overall significant changes in recall of billboard or other publically posted anti-drug ads or movie/video sources from 2000 to 2001. The only subgroup change was a 3 percent decrease in 16- to-18-year-olds recall of movie or video rental ads at least weekly (Detail Tables 3-30 and 3-31).

  - Among parents, there were few changes of any size from 2000 to 2001. There was a 1 percent significant increase in parents reporting having seen movie theater or video rental ads at least weekly (Detail Table 3-35). The only other significant change from 2000 to 2001 was a 4 percent decrease in college educated parents recalling having seen newspaper or magazine ads at least weekly (Detail Table 3-34).

The general recall measures, as noted, provide an overall sense of parent and youth exposure across each of the major Media Campaign channels and they correspond, on average, to the aforementioned GRP data. They are useful for comparisons among media and will continue to be useful in future reports for comparisons over time. They also provide confirmation that there is some spill exposure, in that ads targeted to a particular audience were probably also seen by the other group. This is clearest for youth reports of exposure to outdoor media, where recalled exposure is comparable to parents' recall, even though few youth-specific outdoor media buys were made.

However, these questions are quite general and depend on respondents' ability to recall and summarize exposure without very much assistance or prompting information. For discussion of estimates with arguably more precision, the chapter now turns to evidence about the specific recall of television and radio ads.

3.2.2 Television and Radio Specific Advertising Recall

Respondents were shown a sample of specific Campaign television ads and played a sample of Campaign radio ads at full length on their laptop computers. Each respondent was presented ads that were broadcast nationally in the 2 calendar months prior to the interview and asked whether they had ever seen or heard the ad, how often they had seen or heard the ad in recent months, and how they evaluated the ad. The validity of recall data was a concern in that respondents who did not want to

admit to forgetfulness or simply wanted to be agreeable might claim to have seen an ad even if they had not. To assess this tendency, each respondent was asked whether he or she had seen one of three ads (otherwise known as "ringer ads") that had never been broadcast.

Previous Campaign evaluation reports (Hornik et al., 2000; Hornik et al., 2001) provided strong evidence for the validity of the measures. Broadcast television ads were much more often recalled than ringers. Also, the specific television ad recall measures tracked the GRP data closely, ad by ad, for youth and, to a lesser extent, for parents.

Evidence also suggests that parent TV recall measures also are valid, although this evidence is less impressive than for youth.

Television Recall

Across the first four waves, approximately 56 percent of the total youth-targeted GRPs were obtained through television (including Network TV, Cable TV, Spot TV, In-school TV, and televisions in arcades). Each week, the Media Campaign purchased about 135 general market youth-targeted television GRPs, on average, indicating that the average youth respondent should have been exposed to 1.4 television ads per week. For parents, general market television efforts were less substantial, enough to produce an average of 60 GRPs per week, or about 0.6 weekly TV exposures for the average adult. How do those numbers compare with evidence about youth and parental recall of the specific ads that they were shown?

The following analyses rely on strict segmentation of ads by the parent-youth dimension and by language. In other words, youth-targeted ads are not considered in analyses for parents and vice versa. This means that youth–parent "spill" is not reflected in these specific ad recognition results. Spill is the phenomenon of ads targeted to one group being watched by members of another group. Similarly, a person who speaks only English or only Spanish was never shown an ad in the other language. Bilingual English–Spanish speakers were shown both sets of ads, and special efforts were taken to be sure that African American respondents had targeted ads played for them.

Each respondent was shown a sample of the ads that had been broadcast during the previous two months that were targeted to their audience (parent/youth and in their language (Spanish/English)) and asked about how many times he or she had seen each ad in "recent months." Imputation was used to fill in reasonable projections for any remaining ads that were not sampled and shown to each respondent. The results were then recoded and summed across ads.[11]

About 84 percent of youth and about 69 percent of parents recalled seeing at least one of the ads that had been playing in the previous 60 days. The median number of recalled viewings of youth-targeted TV ads by youth was 6.0 times over recent months or about 0.7 times per week. The mean was considerably higher at 9.6 times or about 1.1 exposure per week. Such a difference between the mean

[11] **Recoding of NSPY ad recall data**

Question: Here is another TV ad. Have you ever seen or heard this ad?	[If yes,] In recent months, how many times have you seen or heard this ad?	Recoded Response
No		0.0
Don't know		0.5
Yes	Not at all	0.0
Yes	Once	1.0
Yes	2 to 4 times	3.0
Yes	5 to 10 times	7.5
Yes	More than 10 times	12.5

and the median is consistent with a pattern of uneven distribution of exposure where some youth saw the ads many times, while others saw the ads much less frequently or not at all. The median number of viewings of parent-targeted TV ads in recent months by parents was 3 times or about 0.35 per week. As with youth, the mean was considerably higher at about 6.3 times or about 0.7 of an exposure a week, indicating an uneven distribution where some parents recalled seeing the ads many times, while others recalled seeing them much less frequently or never saw the ads.

Changes from 2000 to 2001 and Diversity in Patterns of Change

There were different patterns of change over time among youth and parents. All youth reported a continually increasing recall of specific television ads across the four waves, with 35 percent of all youth claiming weekly exposure at Wave 1, but 53 percent claiming such exposure at Wave 4. Parent recall was declining across the first three waves, but then showed a sharp increase in Wave 4. (See Table 3-M.)

Table 3-M. Percent recalling having seen TV ads at least once per week across waves (November 1999 through December 2001)

Group	Wave 1 2000	Wave 2 2000	Wave 3 2001	Wave 4 2001	Average 2000	Average 2001	2000 to 2001 Change	95% Confidence Interval on change
Parents	25.5	22.6	19.8	39.2	24.1	29.7	5.6*	+2.5 to +8.8
Youth 12 to 13	39.5	42.9	50.6	59.7	41.2	55.2	13.9*	+10.2 to +17.7
Youth 14 to 15	39.4	37.9	48.0	59.7	38.7	53.6	15.0*	+9.6 to +20.3
Youth 16 to 18	29.3	35.6	46.9	47.8	32.4	47.3	14.9*	+9.8 to +20.0
Youth 12 to 18	35.4	38.5	48.3	53.0	37.0	51.6	14.71*	+11.7 to +17.6

* Between year change significant at $p<0.05$.

For parents, the pattern of variation in recall levels was consistent with the variation over time in ad time purchased (Figure 3-E). The sharp increase in parent TV GRPs during Wave 4 is reflected in the recall data. For youth, in contrast, these changes were less consistent. Figure 3-F shows that the up-and-down pattern in youth TV GRPs does not match the straight upward pattern of youth TV ad recall. The inconsistency could be partially explained by the fact that respondents were questioned about their recall of ads on the air in recent months (60 days), so interviews in Wave 2 actually covered the period from the final 2 months of Wave 1 and the first 5 months of Wave 2, and for Wave 4 covered the final 2 months of Wave 3 and the first 5 months of Wave 4.

Additionally, many of the youth ads that were used in later waves also aired in earlier waves. So, it is possible that although youth were asked how frequently they had seen the ad in recent months, their answers may have reflected longer term recall. Finally, as will be discussed below, the Campaign TV ads were also sometimes used in soundtrack versions on radio. This was particularly true for the parent ads. It is possible that respondents' high levels of recall of Wave 4 TV ads reflected confusion about the media on which an ad was heard or seen.

Overall, parents and youth are clearly increasing their recall of Campaign television advertising, substantially reflecting both the increases in television GRPs and perhaps the effectiveness of the ads and their placement in reinforcing recall of the ads.

Figure 3-E. Parent TV GRPs and Ad Recall

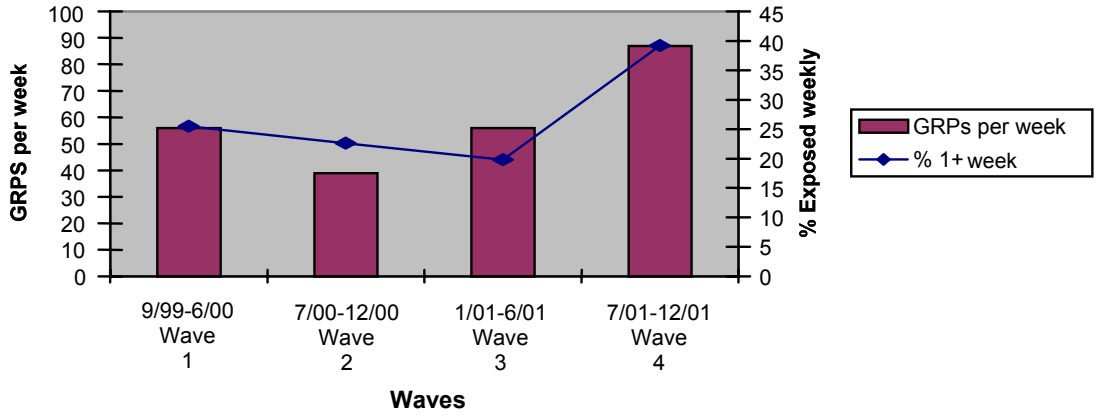
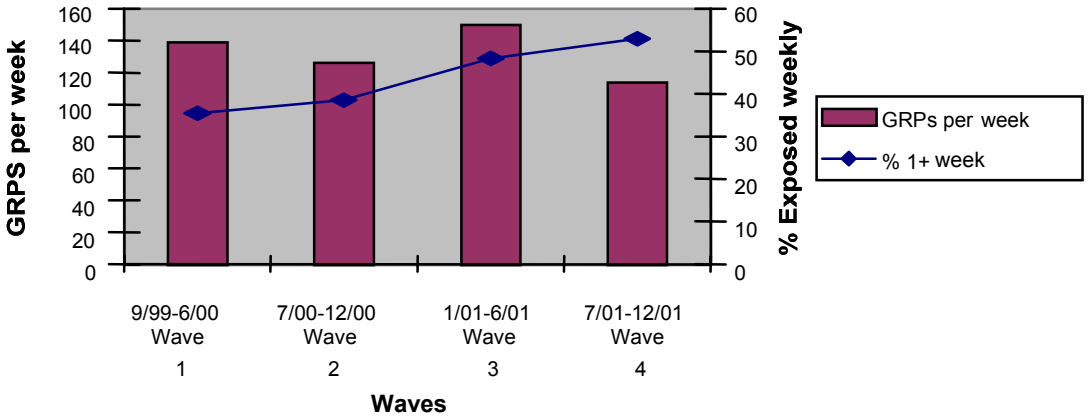


Figure 3-F. Youth TV GRPs and Ad Recall



Overall recall of anti-inhalant ads was low, reflecting the relatively small amount of media time purchased for them. During Waves 1 and 3, the Campaign broadcast anti-inhalant ads for parents. Parents were asked about recall if an anti-inhalant ad had been on the air in recent months (60 days) prior to their interview. During Wave 1, about 7 percent of parents recalled seeing such ads and about 33 percent of parents recalled seeing one of these ads during Wave 3. Only 1.2 percent and 3.5 percent of all parents in those waves claimed to have seen the inhalant ads once a week or more (Detail Table 3-11). The GRPs for inhalant-focused ads in Wave 3 were purchased at more than three times the rate as those purchased in Wave 1, so this discrepancy is not surprising. No general market anti-inhalant ads targeted at parents were run during Waves 2 and 4.

Radio Recall

The Media Campaign complemented its purchases of television time with purchases of radio time. For youth, that included an average of 69 weekly targeted GRPs and approximately 65 weekly targeted GRPs for parents. As previously noted, a sample of radio ads was played for each parent and all youth between 12 and 18 years of age. Children aged 9 to 11 were not played any Campaign radio ads. Respondents were asked whether they had ever heard each radio ad, and how often, following the question format of the television ads.

Wave 1 radio estimates for youth are not used in this report because many of the radio ads broadcast during that period were essentially soundtracks from the television ads, and any Wave 1 radio ad that was an audio duplicate of a television ad was not played for Wave 1 respondents. There was a

concern that respondents would not be able to recall whether they had heard or seen an ad on radio or television, if they had been exposed to it through both media. That confusion would potentially make radio exposure estimates inaccurate. Their responses to the questions about television ads, which were asked about first, likely would have reflected their total exposure through both TV and radio, rather than uniquely indicating radio exposure.

Beginning in Wave 2, however, all radio ads were played for both youth and parent respondents, regardless of whether they were audio duplicates of TV ads. Such media source issues did not hamper Wave 2 or Wave 3 data, however, as no network radio ads for youth were audio duplicates of a television ad. But in Wave 4, "Two Brothers" appeared both as a network TV youth ad and a network radio youth ad, accounting for 46 percent of the television GRPs and for 36 percent of the radio GRPs. The parent data has a similar problem. In Wave 3, two adult ads, "Needle/Spray Can" and "My Hero" received a considerable number of parent GRPs on both network TV (38%) and network radio (63%). In Wave 4, "My Hero" and "Thanks" both received a considerable number of parent GRPs on both network TV (51%) and network radio (79%). Parent radio recall estimates for Waves 3 and 4 and, to a lesser degree, youth radio recall estimates for Wave 4, may be biased upward compared to previous wave estimates, given the heavy overlap in ads on both media.

Overall, Campaign radio ads were recognized by 41 percent of 12- to-18- year olds during Waves 2, 3, and 4. This left 59 percent who reported no recognition of the Campaign radio ads presented. The mean number of targeted radio ad encounters among this age group in recent months was 1.78, whereas the median was 0 over Waves 2 through 4 (Table 3-N). This pattern suggests that the majority of youth heard no ads or only one radio ad from the Campaign during these waves. Instead, a minority of adolescents heard some ads repeatedly.

- **Youth recall of radio ads varies across waves.** As shown in Table 3-N, in Wave 2 less than 35 percent of youth claimed to have heard any Campaign radio ads in recent months. However, in Wave 3 this number increased to 57 percent, a 22-point increase. But by Wave 4, this trend had reversed. Approximately 31 percent of Wave 4 youth claimed to have heard any Campaign ads in recent months. This pattern can be seen in all subgroups (Detail Tables 3-16 and 3-17). These patterns also coincide with changes in radio GRP purchases: in Wave 2, 69 GRPs per week were purchased; in Wave 3, 80 GRPs per week were purchased; and in Wave 4, 54 GRPs per week were purchased.

Table 3-N. Youth recall of radio ads heard per month across waves

Number of ads heard in recent months	Wave 2[1] (%)	Wave 3 (%)	Wave 4 (%)	Average for Waves 2-4
0 times	65.2	42.7	69.5	59.3
0.01 to 0.99	10.9	17.2	10.5	12.9
1-3.99	20.3	27.8	16.9	22.1
4 –11.99	3.4	10.9	2.7	5.2
12 or more	0.2	1.3	0.4	0.5
Mean	1.35	3.05	1.16	1.78
Median	0	1	0	0

[1] No Wave 1 radio estimates for youth were generated because many of the radio ads were soundtracks from the TV ads and were not played for respondents.

While less than 50 percent of parents had heard at least one of the radio ad**s** in 2000, more than 50 percent had heard at least one radio ad by 2001 **(**Table 3-O). The mean number of encounters with radio ads by parents in recent months was 3.4 (Detail Table 3-22), with roughly 13 percent of parents having heard a Campaign radio ad at least once a week (Detail Table 3-21).

Table 3-O. Change in parent recall of radio ads heard per month across waves

Number of ads heard in recent months	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)	Average 2000 (%)	Average 2001 (%)
0 times	51.5	53.8	41.6	48.9	52.6	45.4
0.01 to 0.99	9.2	5.7	11.8	4.4	7.4	8.0
1 to 3.99	29.4	29.6	29.4	31.8	29.5	30.7
4 to 11.99	8.2	10.5	15.2	12.7	9.4	14.0
12 or more times	1.7	0.4	1.9	2.1	1.1	2.0
Mean	3.05	2.95	3.94	3.77	3.00	3.85
95% Confidence Interval for Means					(2.75, 3.25)	(3.54, 4.16)

Parent recall of Campaign ads increased significantly from 2000 to 2001. Table 3-O shows that while approximately 47 percent of parents recalled hearing radio ads in 2000, this increased to 55 percent in 2001. Much of this change seems to be the result of a large increase in recall during Wave 3. A similar pattern is suggested by Table 3-P, which shows the percent of parents who recalled having heard a radio ad at least once a week.

Table 3-P. Change in parent recall of having heard radio ads at least once per week

Having heard radio ads at least weekly	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)	Average 2000 (%)	Average 2001 (%)	2000-2001 change (95% Confidence Interval)
Overall	**10.0**	**11.0**	**17.1**	**14.9**	**10.5**	**16.0**	**5.5 (3.0, 7.9)***

* Between year change significant at p<0.05.

Only Wave 3 parents report much exposure to inhalant radio ads. During Wave 1, only 9 percent of parents recalled radio inhalant ads. During this period, enough inhalant radio GRPs were purchased for the average parent to be exposed to one inhalant ad every 10 weeks. In Wave 3, about 40 percent of parents recalled hearing inhalant radio ads. During this period, enough radio GRPs were purchased for the average parent to be exposed to approximately one inhalant ad every 5 weeks. No general market inhalant radio ads for parents were aired during Waves 2 or 4 (Detail Table 3-26).

3.2.3 Recall of the "Brand"

One of the major innovations of Phase III of the Campaign was the inclusion of a "brand" for the Campaign. A brand is used in many advertising campaigns to provide a recognizable element (a name, a slogan, a unique visual presentation, a unifying concept, or all four) to coordinate components of a Campaign including print, radio, and television advertisements, as well as nonadvertising activities. Insofar as the brand is recognized and positively regarded, the familiar presence of the brand may create some initial positive response to any new ad. It also may increase the perception that each ad is part of a larger program and that may influence acceptance of the Campaign's messages. It is clear that the Campaign's brand has diffused into the populations of both

parents and youth with Wave 4 showing evidence for that even more strongly than at Wave 3. The Campaign introduced the parent brand first, which involved a series of phrases that included a set-up word, such as "Communication," and ended with a colon and the phrase: "the Anti-Drug," for example, "Communication: The Anti-Drug." The youth brand, introduced during Wave 2 at the end of 2000, used a similar approach. In the first series of ads, youth were asked to name what their anti-drug was—meaning what it was that kept them from using drugs. In a typical ad, a series of blanks would precede the phrase: |_| |_| |_| |_| |_|: My Anti-Drug. In some ads, the blanks would have a possible response filled in, e.g.: "Music: My Anti-Drug," as if it were written in by the respondent.

To evaluate the extent to which youth and parents recognize the brand, Waves 3 and 4 of NSPY included a section focusing on brand recall. This section was presented to respondents before presenting the Campaign ads for recall, since the ads often included the brand.

Youth were asked:

> "We want to ask you about some brief phrases that might or might not have appeared in the media around here, as part of ads against drug use. In recent months, have you seen or heard … the following phrases?

They were then shown "|_| |_| |_| |_| |_|: My Anti-Drug." They were also shown one of two phrases that were not the Campaign brand, discussed below.

- In Wave 3, about 60 percent of the 12- to 18-year-old respondents who were asked this question reported recall of the Campaign brand. In Wave 4, Campaign brand recall increased to 74 percent.

Parents were asked:

> In recent months, have you seen or heard any ads containing phrases such as "Communication: the Anti-Drug" or "Parents: the Anti-Drug"?

Approximately 46 percent of the parents responded positively to these phrases in Wave 3. In Wave 4 Campaign brand recall among parents increased to 63 percent.

These increases in reported brand recall are possibly the result of the brand having been on the air for a longer period of time, thus more youth and parents were exposed to it. These were substantial recognition rates, but there is a concern. It is possible that some of the youth and parents may have said "yes" because they wanted to appear knowledgeable, or because the phrase sounded familiar enough that they thought they might have heard it, even if they had not. Therefore, it is important to try to measure the recall as if the brand had not been used by the Campaign.

It was not possible to obtain an estimate of recall before the brand was introduced, which would have been the strongest way to estimate a baseline level. Therefore, two other approaches were used in the evaluation instead.

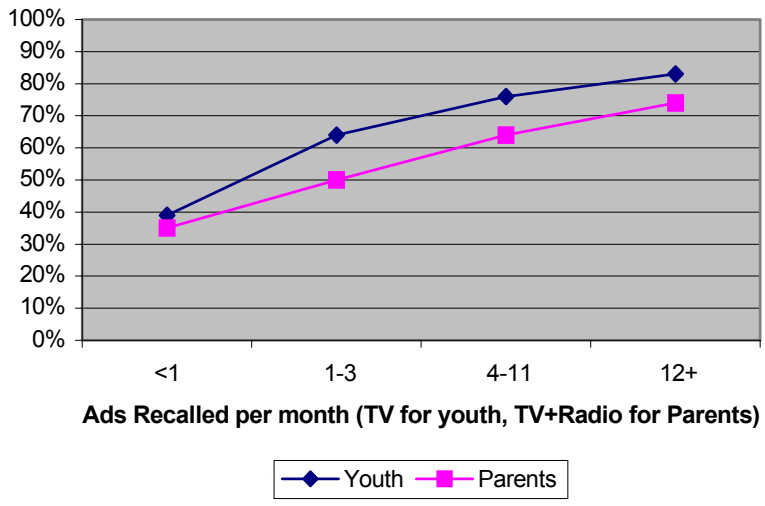
In one approach, used for both youth and parents, the brand recall rates were compared across levels of the specific ad exposure measure used above. If the brand recall claims were reliable, they should be substantially related to the specific Campaign ad recall claims since the ads often included the brand. Those with more exposure to such ads would have had many more opportunities to see or hear the

brand. (Evidence for the validity of the specific recall measures was strong,[12] so if the brand recall was associated with it, there would be reason to accept the brand recall as credible as well.)

The second approach, used with the youth only, was to ask about recall of phrases that sounded like they might have been used but had not been. The two false brands that were played to youth respondents are "I'm drug free and I'm doing just fine" and "Drugs —I don't need them." In Wave 3 we reported that the recall rates for the false brands ("ringers") was about equal to the recall rates for the true brands (all at around 60%.) This was a surprising result, but we claimed that there was evidence of brand learning on the basis of the association of ad recall and true brand recognition as shown again below. We explained the high recall rates on the basis of an argument that the ringers sounded like reasonable brands and were easily thought of as legitimate, while the true brand was less conventional appearing. In Wave 4, the evidence for brand learning is much stronger. During Wave 4 for youth, the average recall of the true brand was 74 percent, while the recall of the ringers had fallen to about 51 percent. The false recall remains surprisingly high, but now is much lower than the true brand recall rates.

The results of the analysis of brand recall and specific exposure is captured in Figure 3-G. For youth, only 39 percent of the lowest exposure group said they recognized the brand, while 83 percent of the highest exposure group—those who had seen television ads more than 12 times per month—did so. For parents, where recall of both television and radio ads are included in the exposure measure, 35 percent of the lowest exposure group and 74 percent of the highest exposure group recalled the brand phrase. These are large and statistically significant differences. The more people were exposed to the Campaign, the more they recalled the brand, just as would be expected.

Figure 3-G. Recall of brand phrase by specific ad recall (%)



As additional support for the claim of true brand learning, there is no evidence of a similar association for youth between television ad recall and recall of the ringers. About the same proportions of youth claim to recall the ringer ads, regardless of their levels of television ad recall.

There is an important caveat here. Because we cannot directly assess what the false brand recall would have been without the Campaign, we cannot precisely estimate true brand recall rates. We assume that the 50 percent levels for the ringer brands are a higher level of false recall than would have been

[12] Hornik et al. (2001). Appendix C, pages C-1-C-5.

shown had we been able to use the true brands before their launch, because they have a less conventional appearance. Also, the lowest exposure groups do *not* represent the level that would be expected without the Campaign because they include parents and youth who might have been exposed to the brand through other channels—not only through the television ads captured by the specific recall measure. On the other hand, true brand recall rates may not have been as high as the observed average youth and parent recall—68 percent and 55 percent respectively, since some of the claimed recall could have been due to false recall. However, both these rates were significantly higher than their counterpart rates for those with minimal TV and radio exposure, suggesting that substantial brand learning occurred.

Thus, while the magnitude cannot be precisely estimated, there is good evidence for brand learning, particularly among youth.

3.2.4 Television Ad Evaluation

All respondents were asked to evaluate a subset of the television ads that they reported having seen in recent months. The goal was to assess how individuals interpret and evaluate ads from the Media Campaign when they see or hear them. In addition, these data will be used in future reports to see whether the evaluative response to the ads affects respondents' susceptibility to Media Campaign effects. Researchers will be able to examine whether individuals who were less convinced by or more skeptical of the ads were less likely to avoid initiation or continuation of drug use.

The three positively-phrased evaluative questions (whether the ad was attention getting, convincing, or said something important to the respondent) were summed to create a mean positive evaluation score for each ad and for each respondent. Additionally, a single skeptical item (whether the ad exaggerated the problem) was analyzed separately. It was recoded so a higher score indicated less belief that the ad exaggerated. Both positive and negative responses were placed on a scale from –2 to +2, with 0 representing a neutral response. From 2000 to 2001, youth evaluations of the TV ads became more negative, while parent evaluations of the TV ads became more positive.

- **Overall, youth tended to favorably rate the television Campaign ads that they were shown across all waves** (Table 3-Q and Detail Tables 3-12 and 3-13).
  - On a five-point scale ranging from –2 to +2, mean responses from the three age groups of youth interviewed (12- to 13-year-olds, 14- to 15-year-olds, and 16- to 18-year-olds) ranged from 0.57 to 1.00. The responses to the "exaggerated the problem" evaluative question told a similar story, with a tendency for youth respondents to somewhat disagree with the notion that an ad "exaggerated the problem." The responses ranged from 0.67 to 0.80 (Detail Tables 3-12 and 3-13).
  - There are several subgroup differences in evaluations of the ads worth noting. Older youth, White youth, and males tended to be more skeptical in their ad evaluations. High sensation seekers, high risk youth, and occasional marijuana users were also more skeptical (Detail Table 3-12).
  - Similar subgroup differences were seen regarding the belief that the TV ads "exaggerated the problem." Older youth, males, high sensation seekers, high risk youth, and occasional marijuana users were more likely to agree that the ads "exaggerated the problem" (Detail Table 3-13).

Table 3-Q. Television ad evaluation scores among youth and parents (November 1999 through December 2001)

Age	Mean evaluation score			Disagree that the ad exaggerated the problem		
	2000 (W1& 2)	2001 (W3&4)	2000-2001 (95% Confidence Interval)	2000 (W1&2)	2001 (W3&4)	2000-2001 (95% Confidence Interval)
Parents	**1.07**	**1.27**	**0.20 (0.15, 0.26)***	**0.99**	**1.22**	**0.23 (0.15, 0.31*)**
12 to 13	1.00	1.00	0.00 (-0.07, 0.07)	0.84	0.76	-0.07 0.17, 0.03)
14 to 15	0.79	0.73	-0.07 (-0.15, 0.02)	0.74	0.73	-0.01 (-0.09, 0.08)
16 to 18	0.54	0.59	0.04 (-0.05, 0.13)	0.65	0.69	0.04 (-0.06, 0.14)
12 to 18	0.76	0.75	-0.01 (-0.06, 0.04)	0.73	0.72	-0.01 (-0.06*, 0.05)

Note: Evaluation scale runs from –2 to +2 being most positive.

* Between year change significant at p<0.05.

- **Among youth, overall, there were no significant changes in ad evaluation scores from 2000 to 2001. (Table 3-Q).**
  - There was essentially no change in ad evaluation from 2000 to 2001 among all youth aged 12 to 18 on either measure (Detail Tables 3-12 and 3-13).

There was a significant difference in the evaluation score trends for White versus African American youth. Whites started out more skeptical of the ads than African Americans (0.74 versus 0.87 in 2000) and the two groups separated further over time. Whites became more skeptical (0.68 in 2001) while African Americans rated ads even more favorably (0.98 in 2001) (Detail Table 3-12).

- **While youth were not changing, their parents were moving in a positive direction. Parents' already positive evaluation scores increased markedly across waves (Table 3-Q and Detail Tables 3-14 and 3-15).**
  - The mean evaluation score over the 2 years from parents was 1.17, suggesting that parents, like youth, tended to rate the ads more favorably than negatively. Parents also tended to disagree that an ad exaggerated the problem.
  - Most demographic subgroups of parents offered largely similar average assessments of the Campaign TV ads, although some differences did appear. Mothers rated the ads more favorably than did fathers. African American and Hispanic parents were somewhat more favorable in their response to the TV ads than were White parents (Detail Table 3-14).
  - Parents became much more positive about the ads with a statistictically signficant gain of 0.20 points. They also became less likely to agree that TV ads exaggerated the drug problem from 2000 to 2001. There was an overall statistically significant increase of 0.23 (Table 3-Q and Detail Tables 3-14 and 3-15).

3.2.5 Internet Use and Encounters with Drug Information On Line

Youth Internet Use

Results from the first four waves suggest that the vast majority of adolescents now have at least minimal contact with the Internet, as can be seen in Table 3-R (and Detail Table 3-37). Approximately 87 percent of adolescents report using the Internet in the past 6 months. Internet use

among 12- to 18-year-olds significantly increased from 2000 to 2001, up 3.5 percent. However visits to pro-drug and anti-drug sites did not significantly change from 2000 to 2001.

Table 3-R. Youth Internet use and encounters with drug information on line in past 6 months (November 1999 through December 2001)

	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)	2000-2001 Change (%)	95% Confidence Interval on Change (%)
Percent using the Internet at least a few times	**83.1**	**86.6**	**89.6**	**87.2**	**3.5**[1]	**+1.6 to +5.4**
Percent visiting anti-drug Internet site among all youth	10.0	9.1	10.7	9.3	0.5	-1.2 to +2.2
Percent visiting pro-drug Internet site among all youth	6.3	3.9	6.6	4.4	0.5	-0.8 to +1.7

[1] Between year change significant at $p<0.05$.

Race and sensation seeking were associated with Internet use. White adolescents reported higher rates of Internet use than either African American or Hispanic youth. Compared with their low sensation-seeking peers, a slightly higher percentage of high sensation-seeking youth reported having had at least minimal contact with the Internet in the past 6 months (Detail Table 3-37).

Despite wide diffusion of access to the Internet, most youth currently do not encounter information related to drugs on line. However, twice as many youth report visiting an anti-drug web site as those visiting pro-drug sites. Approximately 10 percent of adolescents across the four waves reported visiting a web site with anti-drug information in the previous 6 months. A smaller percentage of adolescents, 5.3 percent, reported visiting a pro-drug Internet site (Detail Tables 3-38 and 3-39).

- High sensation-seeking adolescents and high risk adolescents are more likely to visit pro-drug Internet sites. Approximately 10 percent of high sensation-seeking youth reportedly visited pro-drug sites in the past 6 months, whereas only roughly 3 percent of their low sensation-seeking counterparts did so. Likewise, high sensation-seeking and high risk youth reported visiting anti-drug sites more than other youth; the difference was significant in 2001 (Detail Tables 3-38 and 3-39).

- **The rate of Internet use for accessing drug-related information has not changed over time.** There were no significant overall or subgroup changes in the percentage of youth visiting anti-drug or pro-drug Internet sites from Wave 1 to Wave 4 (Detail Tables 3-38 and 3-39).

Parent Internet Use

Parents are less engaged with the Internet than are youth. Only 67 percent of parents report any Internet use in the previous 6 months across the four waves, compared with approximately 87 percent of youth. However from 2000 to 2001, there was a significant increase in the number of parents reporting Internet use, and in parents reporting visiting anti-drug and parenting skill Internet sites.

- Among parents, wide disparities in Internet use by education and race-ethnicity persist. Across all waves, 90 percent of parents who are college graduates reported use of the Internet in the past 6 months, whereas only 28 percent of those parents with less than a high school education and 53 percent with a high school diploma claimed such recent use. In addition,

African American and Hispanic parents reported a substantially lower likelihood of some contact with the Internet than did White parents. (Detail Table 3-40).

- **Parental Internet use increased between 2000 and 2001 (Table 3-S).** There was an overall statistically significant increase in Internet use among parents of 5.5 percentage points, from 2000 to 2001, and a 10 percentage point increase from Wave 1 to Wave 4 (Detail Table 3-40).

Table 3-S. Parent Internet use and encounters with drug information on line (November 1999 through December 2001)

	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)	2000-2001 Change (%)	95% Confidence Interval on Change (%)
Percent using the Internet at least a few times	**60.8**	**67.8**	**69.4**	**70.2**	**5.51***	**+1.9 to+9.1**
Percent visiting anti-drug Internet site among all youth	**5.8**	**7.7**	**9.3**	**8.0**	**1.91***	**+0.3 to+3.5**
Percent visiting parenting skill Internet sites	**6.7**	**8.7**	**9.8**	**9.0**	**1.71***	**0.0 to+3.4**

* Between year change significant at p<0.05.

Patterns among parents are similar to patterns among youth in terms of accessing information about drugs on-line. About 8 percent of Wave 4 parents reported visiting an Internet site with anti-drug information in the past 6 months and 9 percent reported visiting an Internet site that included information about parenting skills during the previous 6 months (Detail Tables 3-41 and 3-42).

  - Parental education is a telling variable with regard to visiting anti-drug sites and parenting skill Internet sites. A higher percentage of parents with at least some college education visited anti-drug Internet sites than did parents with less education, and more of them visited parenting skill Internet sites (Detail Table 3-41). This is in proportion to their overall heavier use of the Internet.

- **Visits to anti-drug sites and parenting skill sites increased among parents from 2000 to 2001.** There was a 2 percentage point increase in reports of visiting anti-drug sites and parenting skill sites (Detail Tables 3-41 and 3-42) (Table 3-S).

The material in this chapter has thus far focused on exposure to Campaign-generated messages, through mass media or through the Internet. The next section shifts the focus from exposure to messages directly attributable to the Campaign to anti-drug messages that come from other institutions. One of the Campaign's methods of influence is to persuade other community institutions to increase their anti-drug efforts. A separate analysis of the environmental context effects of the Campaign on organizations at the national level and on state prevention coordinators is available (Berkowitz et al., 2002). Evidence that youth and parents are exposed to anti-drug messages from these organizations, and particularly that exposure to those messages is increasing over time, may be seen as evidence supportive of indirect Campaign exposure. However, one cannot definitively attribute any observed changes to the Campaign, since many forces may influence the actions of these organizations. Still, this analysis provides some information about whether there is broad community change and thus whether indirect effects might have occurred.

3.3 Anti-Drug Related Education

The Media Campaign is not the only source of drug information reaching the population. This section describes the nature of, and change in, other sources of drug education and information for youth and parents. Young people were asked whether they received drug education in school and outside of school, how frequently they engaged in drug-related conversations with parents and friends, and about the content of those conversations. Youth were also asked whether and how frequently they were exposed to anti-drug stories through a variety of media. Parents were asked about exposure to drug prevention efforts in their communities, including proposed drug laws and enforcement of existing laws, speeches by public officials, and existence of anti-drug programs. They were also asked about how often they recalled seeing drug-related stories in the media and about their involvement in anti-drug or parental effectiveness programs.

3.3.1 Youth In-School and Out-of-School Anti-Drug Education

Most youth reported receiving anti-drug education in school during the past year and in previous years. Across the four waves, approximately 77 percent of 12- to 18-year-olds responded that they had ever attended a drug education class or program in school and more than 65 percent reported attending such an event within the past year. Out-of-school drug education class or program attendance was much lower; 11 percent reported attending in past years and only 7 percent reported attending in the previous 12 months (Table 3-T and Detail Tables 3-43 through 3-46).

- Ethnicity, age, and a youth's risk propensity have some effect on anti-drug class and program exposure. African American youth reported greater exposure than other youth to in-school drug education and more exposure to out-of-school education. Among age groups, 12- to 13-year-olds reported significantly more attendance at both lifetime and past year in-school drug education classes or programs than did 16- to 18-year-olds. High-risk youth reported significantly less exposure than low-risk youth to in-school drug education classes or programs in the past 12 months and less lifetime exposure to drug education programs outside of school (Detail Tables 3-43 through 3-46).

Table 3-T. In-school and out-of-school drug education across waves (12- to 18-year-olds)

	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)	2000-2001 Change (%)	95% Confidence Interval on Change (%)
In-school drug education ever	**78.6**	**80.0**	**75.7**	**75.1**	**-4.0***	**-6.1 to –1.8**
Past year in-school drug education	66.6	65.6	64.6	65.3	-1.2	-4.4 to +2.1
Out-of-school drug education ever	12.5	10.9	10.0	10.7	-1.4	-3.1 to +0.4
Past year out-of-school drug education	**7.9**	**6.8**	**5.6**	**6.0**	**-1.5***	**-2.8 to -0.02**

* Between year change significant at p<0.05.

3.3.2 Changes in Youth Anti-Drug Education

There is evidence of a decrease in reported drug education from 2000 to 2001 among youth. All types of education show decreases; significant decreases are seen in youth ever attending drug education classes or programs in school, and youth attending out-of-school drug education classes in the past year (Detail Tables 3-43 through 3-46). Given that there is no reported decline in past year in-school

drug education, the small decline in "ever" attending in-school programs is hard to interpret. The Campaign has not dedicated much of its resources to in-school drug education efforts except through the advertising buy on the Channel One network included in the paid advertising already presented. An on-line initiative to provide teachers with additional anti-drug classroom activities was introduced in late 2001, and thus the current results would not be sensitive to that effort, even were it to have wide reach.

- **Overall, there was a statistically significant 4 percentage point decrease in youth reporting ever having attended an in-school drug education class. However reports of past year attendance did not show a significant decline (Table 3-T).**

  Most subgroups showed declines in ever having attended that were not signficantly different from the overall pattern. The only exception was for Hispanic youth. Their decline of 12.4 percentage points (from 79.7% in 2000 to 67.3% in 2001) was significantly more than the 4 percentage point decline for White youth. While in 2000, lifetime drug education among the racial-ethnic groups was similar, in 2001, Hispanic adolescents' attendance was 8 percentage points behind White adolescents' attendance and 16 percentage points behind African American adolescents' attendance. Hispanic youth reports of past year in-school drug education were also lower than reports from Whites in 2001, although they had not been signficantly lower in 2000 (Detail Table 3-43).

- **From 2000 to 2001, 12-to 18-year-old youth reported a statistically significant decrease of 1.5 percentage points for attendance at out-of-school drug education classes or programs in the past year.** Since the starting (2000) level of 7.3 percent was already quite low, this represented a substantial attendance decline (Table 3-T). Complementary local activities in support of the anti-drug message do not seem to be penetrating into out-of-school programs, at least as perceived by the youth.

3.3.3 Parenting Skills and Anti-Drug Education

About a third of parents report having attended drug prevention or parent effectiveness programs. On average across the waves, 30 percent reported attendance at a drug abuse prevention activity and 29 percent said they attended a parent effectiveness program in the previous year (Detail Tables 3-76 and 3-77).

Ethnicity is associated with attendance at both drug abuse prevention programs and parent effectiveness programs. African American parents reported significantly higher attendance at both types of programs than either White or Hispanic parents. White parents reported the second highest levels of attendance (Detail Tables 3-76 and 3-77).

- **There was little change in parents' reported attendance at drug prevention or parenting skills programs.** There were no overall change and only one subgroup reported significant attendance increases or decreases among parents for either of these programs from 2000 to 2001(Detail Tables 3-76 and 3-77).

  Hispanic parents reported an 8 percentage point decrease in attending drug abuse prevention programs over the 2 years. In 2000, Hispanic parent reported attendance was around 30 percent, but this declined to 22 percent in 2001(Detail Table 3-76).

3.4 Discussions about Drugs

In this section, evidence is presented about discussions among youth and parents and youth and friends concerning drug use, and about the drug advertisements. There is some discussion about the contents of talk about drugs and some focus on changes in conversations across time. Differences between youth and parent reports of their conversations are striking.

3.4.1 Youth Discussions with Friends and Parents about Drugs

Most youth have conversations about drugs, and many of them have such conversations frequently. About 73 percent of youth aged 12 to 18 reported having had at least one conversation about drugs with friends in the previous 6 months. Approximately 72 percent reported having had at least one conversation with parents about drugs in the previous 6 months, and 48 percent reported having had four or more conversations with parents or friends about drugs in the past 6 months (Detail Tables 3-47 and 3-48, 3-52 through 3-54). The analyses that follow present evidence about the association of respondent characteristics and year of interview with youth and parent reports of discussions about drugs. They use the percentage of youth or parents who report two or more conversations in the previous 6 months as the criterion measure. Overall, 60 percent of youth report this number of conversations with friends and 50 percent with parents. Over 80 percent of parents reported two or more conversations with their children (Detail Table 6-10). It is worth noting, however, that the Wave 4 data collection included the period surrounding the tragic events of September 11, 2001. Many youth-parent conversations in the days and months following September 11 may have been focused on topics related to the terrorist acts.

- **Age, gender, and ethnicity played a role in conversations about drugs.** Older adolescents aged 16 to 18 were more likely than younger adolescents to report having had two or more such conversations with friends than younger adolescents, while younger adolescents were more likely than 16-to 18-year-olds to report having had these conversations with their parents. Females were more likely than males and White adolescents were more likely than African American adolescents to have had two or more conversations about drugs with friends (Detail Tables 3-48 and 3-53).

- **Sensation seeking and risk score were associated with conversations with friends about drug use.** High sensation-seeking youth and high-risk youth reported higher levels of drug conversations than their low sensation-seeking and lower risk counterparts. For instance, 77 percent of high-risk youth reported having had two or more conversations with friends about drugs in the past 6 months, compared to only 49 percent of low-risk youth. Similarly, 71 percent of high sensation-seeking youth reported having had two or more conversations with friends about drugs in the past 6 months, while only 46 percent of low sensation-seeking youth reported having had two or more such conversations (Detail Table 3-48).

- **In contrast, youth reports of two or more conversations with parents varied only a little by age and in the opposite direction as their reports of conversations with friends.** Only about 6 percent more 12- to 13-year-olds than 16- to 18-year-olds reported drug conversations with their parents (Detail Table 3-53). As for conversations with friends, 31 percentage points fewer of the 12- to 13-year-olds reported two or more conversations than did 16- to 18-year-olds (Detail Table 3-48). There was no statistically significant variation in frequency of conversations with parents, either by gender or race-ethnicity of the child.

- **Parents reported much higher levels of conversation with their children at all ages, and the level remained consistent across waves.** In contrast to the moderately lower youth reports of conversations with parents among older children, parent reports showed essentially no variation across ages of children, or any other characteristics of children (Detail Table 6-10). This inconsistency with the child reports is addressed further in Chapter 6, where effects of the Campaign on parent–child talking are discussed.

3.4.2 Changes in Drug Conversations Across Years

Youth reports of drug conversations with friends were relatively stable from 2000 to 2001, except among 12- to 13-year-olds, where a significant decrease was seen. Youth reports of drug conversations with parents, however, decreased significantly from 2000 to 2001, both overall and among several subgroups.

- **All youth reported a decline in drug conversations with parents between 2000 and 2001.** In 2000, 54 percent of youth reported two or more such conversations. That declined by four percentage points in 2001. This decline was shared by all subgroups of youth. Even so, the decline among males (-6.8%) was more negative than for females (-1.4%) (Detail Table 3-53 and Table 3-U).

- **Only younger adolescents' (12- to 13-year-olds) drug conversations with friends decreased from 2000 to 2001** (Table 3-U and Detail Table 3-48). Approximately 5 percent fewer 12- to 13-year olds reported having had two or more conversations with friends in the past 6 months. All other age subgroups and other subgroups showed no statistically significant change (Detail Tables 3-48 through 3-51).

Table 3-U. Change in drug-related conversations across waves

Percent with two or more conversations in the past 6 months	Age Groups	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)	2000-2001 Change (%)	95% Confidence Interval on Change (%)
With friends, reported by youth of ages:	**12 to 13**	**44.4**	**43.8**	**39.1**	**39.5**	**-4.8***	**-8.6 to -1.0**
	14 to 15	69.4	51.9	65.1	65.1	4.7	-0.7 to +10.1
	16 to 18	67.6	71.1	70.1	71.3	1.4	-2.5 to +5.2
With parents, reported by youth of ages:	**12 to 13**	**59.2**	**56.2**	**53.0**	**51.1**	**-5.7***	**-9.8 to -1.7**
	14 to 15	58.4	52.1	53.1	50.2	-3.5	-8.6 to +1.7
	16 to 18	48.4	51.7	44.7	47.8	-3.7	-8.6 to +1.2
By parents with children of ages:	12 to 13	80.3	78.2	81.3	81.3	2.0	-0.9 to +5.0
	14 to 15	81.7	79.3	82.1	86.3	3.6	-1.7 to +8.9
	16 to 18	78.2	79.9	83.3	81.9	3.5	-0.6 to +7.6

* Between year change significant at $p<0.05$.

Content of Drug Conversations

In the course of conversations about drug use, young people of all ages discussed the negative consequences that happen because of drugs, but some also spoke positively about drugs. Around 51 percent of young people aged 12 to 18 reported talking with their friends about "bad things that happen if you use drugs" within the past 6 months. Approximately 30 percent said they talked about "specific things I could do to stay away from drugs," and around 22 percent had conversations about how "marijuana use isn't so bad" (Detail Tables 3-49 to 3-51). From 2000 to 2001, there were no overall statistically significant changes in the proportion of youth having specific types of drug conversations.

Saying positive things about drugs appears to be partly a function of age, and age also somewhat affected conversations about the consequences of drug use. While few 12- to 13-year-olds reported engaging in conversation about how "marijuana use isn't so bad," 21 percent of 14- to 15-year-olds and 34 percent of 16- to 18-year-olds have been involved in such conversations. Older youth, those 16- to 18 years old, also have significantly more conversations about the "bad things that happen if you use drugs" than do 12- to 13-year-olds (Table 3-V).

Table 3-V. Topics of conversation with friends by age group across all waves

Age group	Specific things I could do to stay away from drugs (%)	Bad things that happen if you use drugs (%)	Marijuana use isn't so bad (%)
12 to 13	30.9	44.0	8.7
14 to 15	30.4	51.4	20.5
16 to 18	27.5	55.4	33.9

Sensation seeking and risk score are strongly associated with a youth's likelihood of having conversations about how "marijuana use isn't so bad." While 33 percent of high sensation-seeking youth had such conversations in the past 6 months, only 10 percent of low sensation-seeking youth had them. And compared to the relatively small 9 percent of low-risk youth who had conversations about how "marijuana use isn't so bad," 43 percent of high-risk youth had similar talks with friends. Sensation seeking and risk also appear to be associated with other types of drug conversations. Fewer high sensation-seeking youth and high-risk youth had conversations in the past 6 months about "specific things they could do to stay away from drugs" than their low sensation-seeking and low-risk counterparts. But they had more conversations in the past 6 months about "bad things that happen if you use drugs" (Detail Tables 3-49 through 3-51).

Ethnicity and gender were also associated with the types of conversations that adolescents had about drugs. White adolescents were significantly less likely than youth of other ethnicities to have had conversations with friends about "specific things they could do to stay away from drugs" (Detail Tables 3-49 through 3-51).

- **Overall from 2000 to 2001, there were no significant changes in the proportion of all youth who reported conversations about either positive or negative consequences of drug use** (Detail Tables 3-49 to 3-51).

- **The only subgroup to show significant changes were 12- to 13-year-olds.** Among this age group there was a statistically significant 3 percentage point decrease in conversations about how "marijuana use isn't so bad," a significant 44 percentage point decrease about the "bad things that happen if you use drugs," and a decrease of 3 percentage points in discussions about "specific things that I could do to stay away from drugs." These changes are possibly due to this age group's overall decrease in the number of drug conversations as reported in Section 3.5.2 (Detail Tables 3-49 through 3-51).

3.4.3 Discussions about Anti-Drug Ads

Youth reported having conversations about the Campaign anti-drug ads (Table 3-W). Twenty-eight percent of 12- to 18-year-olds reported having a conversation about the anti-drug ads with their parents and 39 percent recalled having such a conversation with friends or others in the previous 6 months (Detail Table 3-55 and 3-56). There were no overall statistically significant changes in

discussions about anti-drug ads from 2000 to 2001; however, several subgroups did show significant changes.

Table 3-W. Changes in conversations about anti-drug ads from Wave 1 to Wave 4

Age group and discussion partner	Percent with at least one conversation about anti-drug ads in past 6 months				2000-2001 Change (%)	95% Confidence Interval on Change (%)
	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)		
Discussions with parents:						
Youth aged 12 to 13	40.1	37.4	36.8	35.1	-2.8	-6.6 to +1.0
Youth aged 14 to 15	30.8	30.0	28.5	27.4	-2.4	-7.4 to +2.5
Youth aged 16 to 18	21.2	16.3	20.0	22.4	2.5	-2.0 to +7.0
Discussions with others (friends, other adults):						
Youth aged 12 to 13	39.7	44.5	39.4	37.5	-3.7	-8.0 to +0.6
Youth aged 14 to 15	45.0	39.9	41.7	41.9	-0.7	-6.0 to +4.7
Youth aged 16 to 18	45.6	34.5	39.1	36.6	-2.3	-7.4 to +2.8

- **Age, sensation seeking, and risk score were related to conversations with parents about the anti-drug ads.** Younger adolescents aged 12 to 13 reported more conversations with their parents about anti-drug ads than did older adolescents. Similarly, low sensation-seeking and low-risk adolescents reported more anti-drug ad conversations with their parents than did high sensation-seeking adolescents and high-risk youth (Detail Table 3-55).

- **Gender was strongly associated with anti-drug ad conversations with people other than the youth's parents.** Females were significantly more likely than males to have talked with friends or other adults about the ads (Detail Table 3-56).

- **Overall, conversations with parents remained stable across 2000 to 2001.** The only exception was a decline in such conversations reported by Hispanic youth, from 35 percent to 26 percent. In 2001, Hispanic youth were no different than White youth, although they had reported 9 percent more conversations in 2000.

  There was also no detectable overall change in drug-related conversations with friends and other adults between 2000 and 2001. Still, two subgroups showed statistically significant declines over time. There was a significant decline of 4 percentage points among males in 2001. Also, high-risk youth reported a decrease in conversations with others, down from 44 percent to 37 percent (Detail Table 3-56).

3.5 Perceptions of Media and Community Attention to Drug Use

This section focuses attention on youth and parent perceptions of the amount of public attention in their environments on youth and drugs. It bears on two issues: whether the onset of the Campaign was associated with an increase in public attention to drugs, and the extent to which there was already a great deal of background noise about drugs and youth which created a context for the Campaign's efforts.

3.5.1 Youth's Perceived Media Coverage of Youth and Drugs

Youth see and hear a good deal about drug use among young people in the mass media. More than 95 percent of all youth reported at least monthly exposure to media stories about young people and drug use.[13] The media channels that respondents were asked about included television and radio news; television movies, sitcoms, and dramas; television talk shows; rental and theater movies; and magazines. There was a statistically significant decrease in the reported overall exposure to drug-related coverage from 2000 to 2001, as well as significant decreases in exposure to certain media and among certain subgroups. The huge shift in media coverage in the latter part of 2001 toward stories related to the September 11th events and terrorism in general probably eclipsed many drug-related media reports.

- **More than 40 percent of youth noticed media coverage about drug use among young people at least once a week on at least one of these media channels.** About 30 percent noticed such stories weekly on television or radio news, and more than 15 percent recalled such stories appearing weekly in television movies, sitcoms, or dramas, and on television talk shows. Fewer young people noticed such stories appearing weekly in movies or in magazines (Detail Tables 3-57 through 3-61).

  Recall of drug stories on various media is related to gender, age, and ethnicity. Younger adolescents, aged 12 to 13, reported less exposure to stories about drugs and youth than did older youth across all types of media, and significantly less on three types: TV movies, sitcoms, and dramas; TV talk shows; and movies (theater/rental). African American youth were more likely than White and Hispanic youth to recall stories about youth and drugs in all media and were significantly more likely than White youth to recall such stories in movies. Females reported more exposure than males to stories about drugs among youth on all media types except movies, and significantly more on four of the five media (Detail Tables 3-57 through 3-61).

- **From 2000 to 2001, there was an overall statistically significant decrease of 3 percentage points in youth recalling stories about drug use in at least one medium in recent months.** Declines were also significant for TV or radio news and for magazines (Detail Table 3-62). The decline was particularly sharp between Wave 3 and Wave 4 for television and radio news as a source (from 33% to 25% recalling weekly stories in recent months) very likely reflecting the turn toward September 11th news.

3.5.2 Parents' Exposure to Non-Campaign Anti-Drug or Parenting Messages

Across waves, parents reported often seeing drug themes presented in the media. Nearly 65 percent of parents reported weekly exposure to at least one media source dealing with the issues of youth and drugs (Table 3-X). Slightly less than half of all parents reported having seen or heard stories about drug use on television or radio news programs at least weekly in recent months. Approximately 30 percent of parents noticed such stories appearing weekly in newspapers and in television entertainment programs; and more than 20 percent saw drug-related stories on television talk shows or television news magazines. Fewer parents reported weekly exposure to drug stories from non-news radio, movies, and magazines (Detail Tables 3-63 through 3-69). Statistically significant changes in recall of exposure to stories about youth and drugs that were heard or seen in particular media sources are discussed below.

[13] See question D9 in the Teen questionnaire.

- **Ethnicity and education were associated with recall of exposure to stories about youth and drugs in the media.** White parents were less likely than both African American and Hispanic parents to report having noticed stories dealing with drug use among young people in all media except newspapers. Hispanic parents reported the greatest recall in all media, except on TV talk shows or TV news magazine programs and stories in magazine and newspaper articles, where African American parents recalled slightly higher exposure. College graduates were less likely to report having noticed stories on all media except magazine and newspaper articles (Detail Tables 3-63 through 3-69).

- **There was little overall change from 2000 to 2001 in parents' recall of having seen media stories about young people and drug use at least weekly.** However, statistically significant changes were seen in two media sources. Parents' reports of having noticed such stories in TV movies, sitcoms, or dramas increased by 4 percentage points. In contrast, there was a significant overall decrease of 3 percentage points in parents reporting having noticed such stories on TV or radio news programs at least weekly (Table 3-X and Detail Table 3-64). This latter change again might be explained by the major shift in news coverage to the events of September 11.

Table 3-X. Parents exposure to weekly media stories about drugs across waves

	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)	2000-2001 Change (%)	95% Confidence Interval on Change (%)
TV or radio news	**52.5**	**48.3**	**49.8**	**45.4**	**-2.9***	**–5.7 to –0.1**
Newspapers	34.8	30.7	33.8	28.9	-1.5	–4.7 to +1.7
TV dramas, sitcoms, movies	**30.9**	**26.2**	**33.7**	**31.4**	**3.9***	**1.2 to +6.6**
TV talk, magazine shows	24.6	20.8	23.0	19.9	–1.3	–3.8 to +1.1
Radio (not news)	14.3	12.0	14.5	14.7	1.5	–0.7 to +3.6
Movies	10.1	8.6	10.4	8.8	0.2	–1.7 to +2.0
Magazines	8.1	8.3	8.1	7.2	-0.6	–2.4 to +1.2
At least one source	65.6	62.4	64.8	61.5	-0.9	–3.6 to +1.8

* Between year change significant at $p<0.05$.

- **Significant subgroup differences were also reported in several types of media from 2000 to 2001.** Female parents' recall of having seen stories on TV talk shows or TV news magazine programs decreased by 4 percentage points. A 2 percentage point increase was found among parents of youth aged 12 to 13 having noticed such stories in movies. And college graduates reported a 4 percentage point decrease in having noticed such stories in magazine articles and an 8 percentage decrease in having noticed such stories in the newspaper (Detail Table 3–65, 3-67 through 3-69).

Parent Reports of Local Anti-Drug Activity

Most parents reported some awareness of anti-drug activity in their localities. About 44 percent of all parents reported having heard a lot about police crackdowns on drug use or drug sales in their community within the past year and over 30 percent had "heard a lot" about anti-drug programs in schools or community centers. Reports of a political focus on drugs was less prominent than legal enforcement or prevention programs. Only 16 percent of all parents had heard a lot about drug-related laws proposed by state or local governments within the past year. Thirteen percent reported hearing public officials speak about drugs, and 8 percent had heard a lot about drug-related propositions or referenda on the ballot for public voting (Detail Tables 3-71 through 3-75).

There was only one statistically significant change from 2000 to 2001 in parents' awareness of drug activities, a 4 percentage point decrease in parents saying they had heard a lot about anti-drug programs in schools or community centers (Table 3-Y).

Table 3-Y. Change in parent exposure to drug-related communication across waves[1]

Measure	Wave 1 2000 (%)	Wave 2 2000 (%)	Wave 3 2001 (%)	Wave 4 2001 (%)	2000-2001 Change (%)	95% Confidence Interval on Change (%)
Percentage hearing a lot about anti-drug programs in community in past year	**31.1**	**37.7**	**31.0**	**29.4**	**-4.2***	**-7.3 to –1.2**
Percentage hearing a lot about speeches about drugs by public officials in past year	14.8	15.5	13.2	13.7	-1.7	-4.5 to +1.1
Percentage hearing a lot about anti-drug laws in past year	15.7	19.9	16.2	16.6	-1.4	-3.5 to +0.8
Percentage hearing a lot about drug-related referenda in past year	5.8	10.0	8.9	7.1	0.1	-1.8 to +2.0
Percentage hearing a lot about police crackdowns on drug use or sales in past year	45.6	45.7	41.7	45.8	-1.8	-5.0 to +1.3

[1] For parents with children 12 to 18.

* Between year change significant at p<0.05.

- Ethnicity and education are associated with knowledge of various types of drug related activities. White parents were less likely to have heard a lot about political and legal activities compared to Hispanic and African American parents; African American parents were the most likely to have heard a lot about these activities (Detail Tables 3-71 through 3-75).

- Parents with some college or with college degrees were much more aware of anti-drug programs in schools and community centers than were parents with less education (Detail Table 3-71). But parents with less than a high school education were more likely to have heard a lot about drug related propositions/referenda (Detail Table 3-75).

3.6 Summary and Conclusions

The data provided to the evaluators by the Media Campaign describes what media time and space have been purchased over the 28-month period from September 1999 to December 2001. On average, the Campaign purchased enough media time to expect the average youth to be exposed to 2.5 directly targeted messages per week, and the average parent to be exposed to about 2.2 messages per week. For both parents and youth, there was some instability in the amount of GRPs bought over each measurement wave (roughly 6 months). For youth, exposures in Waves 1 and 2 per week were quite similar at 2.6 and 2.5, respectively. They increased to 2.8 exposures per week in Wave 3, and then decreased to 2.1 per week in Wave 4. For parents, there was more exposure instability across waves. During Wave 1, media time purchased for parents was enough to expect 2.8 exposures per week. During Wave 2 it fell to 1.5 exposures per week, then climbed back to 2.3 exposures per week in Wave 3. In Wave 4, parent exposures fell again to 1.9 per week.

The Campaign also varied the emphasis on the behavioral ad platforms in each wave. The available data allowed classification of the Campaign TV and radio ads, which made up approximately 80 percent of all GRPs for youth and about 60 percent for all GRPs for parents. For youth, an early focus on Negative Consequences of drug use had almost disappeared by Wave 3, but was revitalized

in Wave 4. A focus on Normative Education/Positive Alternatives was strong across all four waves, while Resistance Skills were emphasized in Waves 1 and 3, but not included in Waves 2 or 4. For parents, the Parenting Skills/Personal Efficacy platform was maintained through all four waves, and was especially strong in Wave 4. But "Your Child at Risk" received heavy weight only in Wave 3, while "Perceptions of Harm" was included only at Wave 1. Some of the "Your Child at Risk" platform advertising in Waves 3 and 4 focused on the risks of inhalants and Ecstasy.

The evaluation used two types of measures of exposure to Campaign messages. The first, a general exposure measure, combined recall of exposure to anti-drug messages on four media (TV and radio, print, outdoor media, and movies/videotapes). Both parents and youth reported high exposure on those measures. The median response was 10 exposures per month for parents and 13 exposures per month for youth. This was probably equivalent to between 2 to 3 exposures per week. There was no overall detectable exposure change from 2000 to 2001, suggesting this general exposure measure was insensitive to the changes in media purchases.

The second exposure measure asked for recalled frequency of viewing specific ads on television and radio that were on the air in the 60 days prior to the interview. These produced lower estimates of exposure to the Campaign, with parents reporting a median of 3 exposures and youth reporting a median of 6.0 exposures to the TV ads "in recent months." This was probably equivalent to 0.35 to 0.7 exposures per week respectively.

On these specific exposure measures, parents and youth diverged sharply over time. Consistent with the sharp drop in television GRPs during Wave 2, parent recall of TV ads declined from Wave 1 through Wave 3, presumably reflecting the carryover effects of very low TV GRPs at the end of Wave 2. Using the percent of parents recalling weekly exposure as an estimator, there was a small decline in parent recall of TV ads from 26 percent to 20 percent between Waves 1 and 3. In Wave 4, the percentage climbed to 39 percent, although TV GRP purchases had dropped. This high recall level probably reflected the large number of TV GRPs purchased for parents during Wave 3. In contrast, youth reported a substantially higher level of recall of specific TV ads over time, with the percent of youth claiming at least weekly exposure climbing from 35 percent at Wave 1 to 53 percent at Wave 4, even though youth TV GRPs in Wave 4 were lower than in previous waves.

Recall of specific radio ads was assessed for youth during Waves 2, 3, and 4, and for parents across all four waves. The absolute level of recall of radio ads remained much lower than for television ads in both groups. Among youth at Wave 2, 4 percent of youth said they had heard radio ads weekly; this had increased to 12 percent at Wave 3, but then decreased to 3 percent in Wave 4. For parents, weekly recall increased from 10 percent at Wave 1 to 17 percent at Wave 3 and then decreased to 15 percent at Wave 4. The pattern of youth recall of radio ads tracks GRP radio purchases reasonably well. For parents the match is less clear.

All youth and parents were asked to provide their assessments of the ads they had been shown. Both groups remained generally positive. Youth evaluations of the ads were unchanged from 2000 to 2001, while parent evaluations became markedly more positive.

Overall use of the Internet continued to grow for youth and for parents. However, the level of visits to anti- (or pro-) drug sites was below 10 percent and unchanging for youth. Parent claims that they had visited either anti-drug sites or parenting skills sites both grew from 2000 to 2001, although their absolute levels remained less than 10 percent.

In addition to distributing messages directly, the Campaign hopes also to reach its audiences indirectly, through other institutions and routes. While for many of these channels there was a substantial level of exposure to anti-drug messages, there was little evidence that this was increasing over the course of the Campaign. Thus it is difficult to attribute these complementary exposures as indirect exposures produced by the Campaign.

The Campaign's efforts with respect to youth organizations has focused on integrating drug prevention messages and strategies into existing organizations' educational programs and extra-curricular activities. Most youth reported recent in-school drug education and that was unchanged between 2000 and 2001. Potential Campaign influence through out-of-school activities was also examined. Youth reported that these activities were rare and even reported a significant decrease in attendance at out-of-school anti-drug activities in the past year.

Parents reported lots of drug-related discussions with their children, but no more during 2001 than in 2000. Youth reported a substantial level of such conversations, even if less than their parents claimed. From 2000 to 2001, youth reported significantly fewer conversations with their parents, and 12- to 13-year-olds also reported fewer drug conversations with nonparents as well. No changes were reported in the content of drug-related conversations.

Both youth and parents were asked about exposure to drug and youth stories across a variety of mass media. Parents were asked about their awareness of any local anti-drug activity. While there were reasonably high levels of recall of mass media stories, and sometimes of local anti-drug activities, there was no change for most of them across waves. Around 30 percent of parents reported attending drug abuse prevention programs and parenting effectiveness programs in the past year, but this did not change significantly over time.

Overall, the Campaign has provided a heavy dose of media messages, and youth and parents do recall seeing and hearing them. Notable changes from 2000 to 2001 include increases in recall of specific TV ads for youth and parents, and in radio ads for parents. Youth are still not reporting much contact with anti-drug information on the Internet; parents also report low levels of such contact, with some small but significant increase over time. There was little evidence that anti-drug messages from other institutions were increasing over the course of the Campaign, and in some cases there were slight declines (children's reports of talking with parents and attendance at anti-drug programs).

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4. Trends in Youth Marijuana and Inhalant Use

This chapter focuses on trends in youth marijuana and inhalant use as reported by three sources: the Monitoring the Future (MTF), the Media Campaign's Evaluation Survey—National Survey of Parents and Youth (NSPY), and the National Household Survey of Drug Abuse (NHSDA). Data are also presented regarding trends in youth reports of marijuana offers. As mentioned in Chapter 2, youth were stratified by their risk probability of marijuana use in order to reduce the number of subgroup analyses performed in previous reports. Section 4.6 explains the development of this risk score model. Along with cross-sectional analyses based on the four waves of NSPY data collection, this chapter also presents results from longitudinal analyses of reported marijuana use among Wave 1 respondents who were reinterviewed at Wave 4.

Before turning to the analysis presented in this chapter on youth behavior with respect to marijuana and inhalant use, as well as the analyses regarding the Campaign influence to date on behavior and attitudes in the two following chapters, it should be remembered that the NSPY Wave 4 data collection time period included the tragic events of Sept. 11 and its aftermath. The nature and magnitude of these events was unprecedented in the Nation's history. While the impact on potential Campaign exposure is known (i.e., GRPs were reduced), the impact on the behaviors and attitudes of the NSPY respondents is impossible to gauge. Clearly, the period was not representative of a typical semiannual interviewing cycle, and the possibility that this affected respondent answers in unknown ways, which in turn may have affected findings, cannot be ruled out.

4.1 MTF Trends in Marijuana Use

The MTF study is sponsored by the National Institute on Drug Abuse (NIDA). It is conducted every spring using nationally representative samples of 8th, 10th, and 12th graders in their classrooms. Students in both public and private schools are represented. Data collection is via a self-administered paper-and-pencil questionnaire. The number of schools sampled has been about 420 in recent years, and the number of responding students approximately 50,000. From 1991 to 2000, the MTF has maintained an overall student response rate between 88 and 91 percent in participating schools. The main reason for student nonresponse is student absence from class at the time of data collection. The study uses a standard set of three questions to determine usage levels for the various drugs. For instance, the questions about marijuana use are as follows: "On how many occasions (if any), have you used marijuana… (a) in your lifetime? (b) during the past 12 months? (c) during the last 30 days?" Each of the three questions is answered on the same scale: 0 occasions, 1-2 occasions, 3-5, 6-9, 10-19, 20-39, and 40 or more occasions. Because of its longevity, the MTF study serves as an important benchmark for comparing results and judging the nation's success in combating drug use by youth.

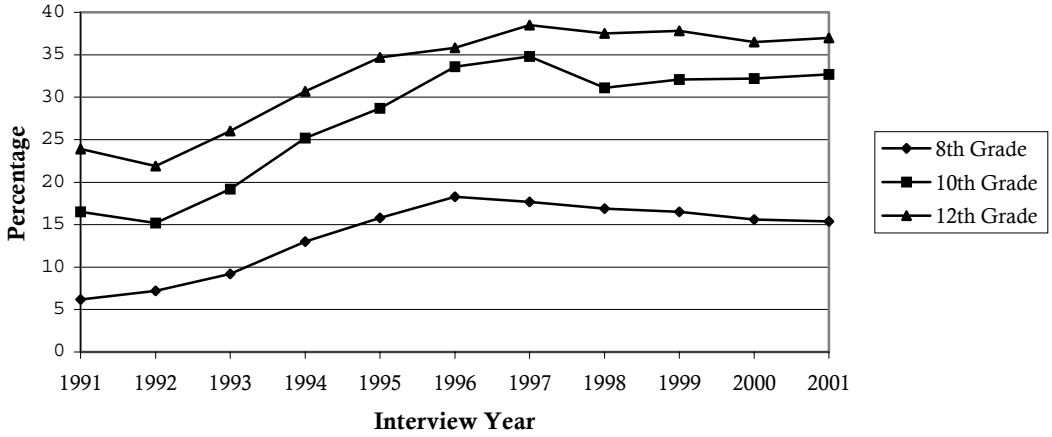
According to the 2001 MTF study, there are no significant changes in lifetime, annual, or past month marijuana use. For eighth, tenth, and twelfth graders, 2001 levels are essentially the same as they were in 2000, which had not changed significantly from 1999 levels (Table 4-A).

Table 4-A. MTF lifetime, annual, and past-month marijuana use in 1999, 2000, and 2001

	Marijuana use								
	Ever (%)			Past year (%)			Past month (%)		
Grade	1999	2000	2001	1999	2000	2001	1999	2000	2001
8th	22.0	20.3	20.4	16.5	15.6	15.4	9.7	9.1	9.2
10th	40.9	40.3	40.1	32.1	32.2	32.7	19.4	19.7	19.8
12th	49.7	48.8	49.0	37.8	36.5	37.0	23.1	21.6	22.4

MTF researchers conclude that after reaching a peak in 1996 among eighth graders and in 1997 among tenth and twelfth graders, annual marijuana use has declined only very modestly, with no significant changes in more recent years (Johnston, O'Malley, and Bachman, 2002). This long-term trend is evident in Figure 4-A.

Figure 4-A. Percentage of 8th, 10th, and 12th graders reporting annual marijuana use: MTF 1991-2001



The 11-year trends for lifetime and past month use were similar, with sharp increases in the early 1990s followed by stabilization and some declines starting in 1996. MTF researchers note that the two directional changes registered in the past decade for many illicit drugs, among them marijuana, were first evident among eighth graders. They interpret this as a suggestion that "eighth graders may be the most immediately responsive to changing influences in the larger social environment" (Johnston, O'Malley, and Bachman, 2001).

4.2 NSPY Trends in Marijuana Use

This section focuses on marijuana use as reported by youth during the four NSPY waves of data collection completed to date. Rates for 9- to 11- year olds, presented in the first three semiannual reports, will not be available for this or subsequent reports because many of the youth in this age group have aged into the next group (12- and 13-year-olds) by the time of this first followup wave of data collection. However, those rates were quite low in the previous reports, less than 0.5 percent in the Wave 3 report. This analysis concentrates on youth between the ages of 12 and 18.

The previous report found that overall for the Wave 3 data collected in the first half of 2001, most marijuana use was not significantly different from use estimates during Wave 1 or Wave 2. At the

time, two exceptions were noted: a pattern of decline among 12- to 13-year-olds, and a pattern of increased use among 14- to 15-year-olds. These patterns in Wave 3 data were consistent, though for each age group only one of the four use measures registered a significant change. Among the younger group, there was a significant decline in "past month" use; among 14- to 15-year-olds, there was a significant increase in regular use (defined as use every month or almost every month).

For trends analyses, this report focuses on yearly changes based on average estimates from Waves 1 and 2 for 2000 and Waves 3 and 4 for 2001. Overall, as in the previous report, there are no significant changes in lifetime, past year, past month, or regular use. Detail Tables 4-1 through 4-4 present this information for a variety of subgroups. Table 4-B also presents overall estimates (for all youth aged 12 to 18), along with estimates of the proportion of youth within each age group that reported marijuana use across the four measures.

There is no longer a significant decline in marijuana use among 12- to 13-year-olds. No changes for 2000-2001 are significant. However, the pattern of increased use among 14- to 15-year-olds receives stronger confirmation, with significant changes in past month and regular use of marijuana. While the absolute levels of past month and regular use among this group were low, both doubled over the year: from 3.6 to 7.2 for past month use, and from 2.2 to 5.4 for regular marijuana use. Levels of past year and lifetime marijuana use for this group also rose by similar magnitudes, but these changes were not statistically significant.

Table 4-B. NSPY trends in marijuana use across measures by age group

		Percent reporting use			
Use measure	Age group	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	Year 2000 to 2001 % Change	95% CI on 2000-2001 Change
Lifetime					
	12 to 13	4.9	4.1	-0.8	-2.4 to 0.8
	14 to 15	15.1	18.9	3.8	-0.3 to 7.8
	16 to 18	40.3	39.9	-0.4	-5.4 to 4.6
	12 to 18	21.9	22.6	0.8	-1.7 to 3.2
Past year					
	12 to 13	3.3	2.6	-0.6	-2.1 to 0.8
	14 to 15	11.3	13.8	2.5	-1.0 to 5.9
	16 to 18	29.1	26.8	-2.3	-6.9 to 2.3
	12 to 18	15.8	15.5	-0.3	-2.5 to 1.9
Past month					
	12 to 13	1.4	1.1	-0.3	-1.2 to 0.7
	14 to 15	**3.6**	**7.2**	**3.6***	**0.9 to 6.3**
	16 to 18	14.6	14.0	-0.6	-4.3 to 3.0
	12 to 18	7.2	8.0	0.8	-0.9 to 2.5
Regular					
	12 to 13	0.5	0.3	-0.3	-0.7 to 0.2
	14 to 15	**2.2**	**5.4**	**3.3***	**1.1 to 5.4**
	16 to 18	12.4	11.7	-0.7	-4.1 to 2.7
	12 to 18	5.6	6.3	0.7	-0.8 to 2.1

*Between-year change significant at $p<.05$.

The absolute size of the changes among 14- to 15-year olds is small, but the relative change is more meaningful. Reports of regular use of marijuana among 14- to 15-year-olds have increased. These data are inconsistent with the results reported for the MTF 2000 versus 2001 comparisons, which showed no increase in past 30-day use for any of the three groups: 8th, 10th, or 12th graders. There are three credible explanations for this inconsistency: first, the MTF 2001 data are collected only during the early spring of the year, while the NSPY data covers the entire year. Second, the 14- to 15-year-olds in the NSPY sample fall between the eighth grade and tenth grade groups of MTF; because there were no effects for 12- to 13-year-olds or 16- to 18-year-olds in the NSPY sample, the inconsistency may reflect this age mismatch. Finally, in general, while the trends for MTF overall have been quite similar to those for NSPY for almost all groups and measures, the absolute levels have not been identical. Of immediate relevance to this apparent result, MTF reports higher past 30-day use of marijuana than does NSPY overall (see Table 4-D, below). It is possible that the two surveys are differentially sensitive to changes in regular use of marijuana. The next section deals with the comparisons across surveys.

4.3 NSPY Comparison with MTF and NHSDA Data

Hornik et al., (2000) reported marked differences in estimates of marijuana use throughout the 1990s among the MTF, NHSDA,[1] and the Partnership Attitude Tracking Study (PATS),[2] which is sponsored by the Partnership for a Drug-Free America (PDFA). In general, the estimates provided by PATS were the highest, followed by MTF, and those provided by NHSDA were the lowest. Given the variation in these estimates across surveys, the estimates from the NSPY were expected to vary somewhat from those presented in these three surveys. However, because both PATS and MTF are school-based surveys, and NHSDA and NSPY are home-based surveys, one would expect that the estimates from NSPY would be closer to those from NHSDA. In fact, that was the case.

NSPY 2000 estimates of use of marijuana are within sampling error limits of NHSDA estimates from the 2000 data (Table 4-C). The NHSDA also reported no statistically significant change in marijuana use among 12- to 17-year-old youth between 1999 and 2000 with regard to lifetime use, past year use, or use in the past month. NSPY data does not cover 1999.

Table 4-C. Comparison of published NHSDA 2000 data with NSPY 2000 (Waves 1 and 2) data on use of marijuana among youth aged 12 to 17 (percentages and confidence intervals)

	Marijuana use		
All 12- to 17-year-olds	Lifetime (%)	Past year (%)	Past month (%)
NHSDA 2000	18.3	13.4	7.2
	(17.7 to 18.9)	(12.86 to 13.94)	(6.78 to 7.62)
NSPY 2000 (Waves 1 and 2)	19.2	14.0	6.0
	(17.4 to 21.1)	(12.5 to 15.7)	(5.0 to 7.3)

* NHSDA results from http://www.samhsa.gov/hhsurvey/hhsurvey.html accessed on 02/14/02

[1] The National Household Survey of Drug Abuse (NHSDA) is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). This survey system can be used to measure change from the 70s and 80s until 1998 and from 1999 forward but cannot be easily used to measure change from 1998 and earlier, to 1999 and later, because of a major redesign in 1999 that substantially disrupted the time series.

[2] The Partnership Attitude Tracking Study (PATS) is sponsored by the Partnership for a Drug-Free America (PDFA).

MTF 2000 and 2001 estimates of marijuana use are higher than the NSPY 2000 and 2001 estimates (Table 4-D). As noted earlier, the MTF estimates were also higher than the NHSDA estimates throughout the 1990s. The reasons for these differences are not entirely clear. They may stem from the wording of the questionnaire, the setting for the interviews (school versus home), response rates, coverage rates, some combination thereof, or other factors such as edit/imputation rules. It is also possible that the discrepancy may be accounted for in part by the fact that MTF is conducted during the spring of each year, while NSPY data is collected throughout the year. On average, respondents to NSPY in a given grade may be 4 months younger, based on date of interview, than are respondents to the MTF survey.[3] To the extent that changes in behavior took place during this period, they are likely to be reflected in differential estimates of marijuana use.

Table 4-D. Comparison of MTF and NSPY 2000 and 2001 data on marijuana use

Survey and grade	Marijuana use					
	Lifetime (%)		Past year (%)		Past month (%)	
	2000	2001	2000	2001	2000	2001
MTF 8th	20.3	20.4	15.6	15.4	9.1	9.2
NSPY 8th	9.5	10.3	6.4	7.1	2.4	3.5
MTF 10th	40.3	40.1	32.2	32.7	19.7	19.8
NSPY 10th	27.2	23.13	19.3	17.0	9.1	9.7
MTF 12th	48.8	49.0	36.5	37.0	21.6	22.4
NSPY12th	40.0	47.2	30.8	32.1	16.5	19.0

4.4 Marijuana Offers

This section reviews the evidence about trends in youth reports of receiving offers of marijuana. This is an important behavioral outcome, both because the Campaign has aired some messages that encourage resistance to offers of marijuana and because offers are closely related to marijuana use. The association between offers and use is also discussed.

No age group shows a statistically significant change in receiving offers at all or in the past 30 days. Detail Tables 4-6 and 4-7 present this information. Table 4-E focuses on the proportion of youth within each age group that reported receiving offers in the previous 30 days. The table shows the strong age gradient of offers and the lack of any significant yearly changes across four waves. In addition, as shown in Detail Tables 4-6 and 4-7, there are no subpopulations that show consistent significant changes in offers between years 2000 and 2001.

Table 4-E. NSPY trends in youth reports of marijuana offers received in prior month

Age group	Percent reporting having received marijuana offers one or more times in past 30 days			
	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	Year 2000 to 2001 % Change	95% Confidence Interval on 2000-2001 Change
12 to 13	9.8	9.0	-0.8	-2.9 to 1.3
14 to 15	26.6	27.8	1.2	-4.2 to 6.7
16 to 18	46.7	46.6	-0.1	-5.2 to 4.9

[3] This difference reflects two factors: NSPY respondents are interviewed throughout the year, and all respondents interviewed after the end of an academic year are assigned to the grade they are entering.

While previous reports described the association between offers and marijuana use but made no claims as to causality, longitudinal data allow one to clarify whether receiving offers precedes use or is only a correlate of it. Wave 4 interviewees were the same youth who had been interviewed at Wave 1, which permitted a new set of analyses that had not been possible previously. Table 4-F presents this information. It includes only youth who indicated that they had not used marijuana at Wave 1. Then for each age group, initiation of marijuana use by Wave 4 is compared for those who had indicated at Wave 1 that they had received an offer with those who said they had not received an offer.

Table 4-F. Lifetime marijuana use at Wave 4 by marijuana offers received at Wave 1 among nonusers by age group

	Age group at Wave 4					
	12 to 13		14 to 15		16 to 18	
Used marijuana	Ever received offer (%, CI)		Ever received offer (%, CI)		Ever received offer (%, CI)	
by Wave 4	No	Yes	No	Yes	No	Yes
No	96.7	s[1]	90.1	71.2	83.9	66.1
	94.6 to 98.0		86.4 to 92.9	62.3 to 78.8	77.9 to 88.5	57.8 to 73.5
Yes	3.3	s[1]	9.9	28.8	16.1	33.9
	2.0 to 5.4		7.1 to 13.6	21.2 to 37.7	11.5 to 22.1	26.5 to 42.2

[1] Estimate is suppressed due to the small number of cases in cell.

Nonusers who reported receiving marijuana offers were much more likely to have initiated marijuana use by Wave 4 than were nonusers who reported never having received an offer. As can be seen in Table 4-F, among 14- to 15-year-olds who had never used marijuana at Wave 1, 29 percent of those who reported having received offer(s) had used marijuana by Wave 4, while only 10 percent of those who reported never receiving an offer had used marijuana by Wave 4. For 16- to 18- year-olds, the comparable percentages were 34 percent and 16 percent. (There were not enough Wave 4 12- to 13-year-olds who had received an offer at Wave 1 to calculate a comparison.) It is important to note, however, that while receiving offers is closely related to use, most of those who received offers did not report use. Sixty-eight percent of nonusers who reported ever receiving marijuana offers at Wave 1 had still not used marijuana by Wave 4.

4.5 NSPY, MTF, and NHSDA Trends in Inhalant Use

As reported in Chapter 3, there has been very little inhalant-focused advertising for youth through Phase III. Only in Wave 4 were any youth inhalant ads broadcast, and they were only 4 percent of the broadcast media GRPs even in that wave. This was estimated to be enough to reach only 7 in 100 youths in the average week. It would seem unlikely that this would be enough exposure to produce a detectable inhalant-specific effect on youth. If there were Campaign effects on inhalant use, it would reflect the effects of the generalized anti-drug message of the Campaign, which the youth had then applied to inhalants.

The MTF results for inhalants are presented in Table 4-G. MTF provides significance tests only for changes between adjacent years. Only two results are significant against that criterion: lifetime use for 8th graders between 1999 and 2000, and past year use for 12th graders However, if tests were provided for the 1999 to 2001 period, it is likely that additional declines would have been significant.

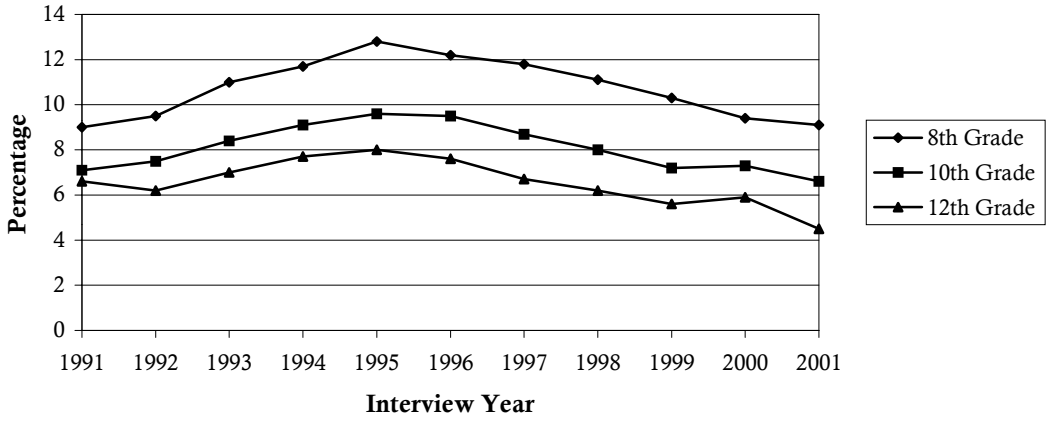
Table 4-G. MTF lifetime, annual and past month inhalant use 1999, 2000, and 2001

	Inhalant use								
	Lifetime (%)			Past year (%)			Past month (%)		
	1999	2000	2001	1999	2000	2001	1999	2000	2001
8th	19.7	**17.9***	17.1	10.3	9.4	9.1	5.0	4.5	4.0
10th	17.0	16.6	15.2	7.2	7.3	6.6	2.6	2.6	2.4
12th	15.4	14.2	13.0	5.6	5.9	**4.5***	2.0	2.2	1.7

*Difference with regard to previous year is significant at p<.05.

Indeed (Figure 4-B), MTF researchers note that inhalant use among youth increased in the early 1990s through 1995, with all grades exhibiting a steady decline since then (Johnston, O'Malley, and Bachman, 2002). Given those long-term trends initiated in 1995, the observed recent declines, which seem mostly to continue the secular trend, cannot be easily attributed to the Campaign. NHSDA reported no statistically significant change on these three measures of inhalant use among 12- to 17-year-olds between 1999 and 2000.

Figure 4-B. Percentage of 8th, 10th, and 12th graders reporting annual inhalant use: MTF 1991-2001



According to NSPY, levels of lifetime use decreased significantly by 1.3 percentage points among all youth aged 12 to 18 from 2000 to 2001 (Table 4-H). Though this decrease might seem small, absolute levels of lifetime inhalant use, as measured by NSPY, are fairly low already (5.2 percent in 2000 and 3.9 percent in 2001). Other measures of use do not show any significant changes, nor are there any for specific age groups. As can be seen in Detail Table 4-8, there are also some differences in trends for lifetime inhalant use by subgroups, but these are not consistent across other measures of inhalant use.

The levels of use reported in the MTF and NSPY are quite different, with MTF providing much higher estimates of use. The NHSDA 2000 reported levels of use for 12- to 17-year-olds suggest that its estimates lie between the MTF and NSPY estimates (lifetime: 8.9%; past year: 3.5%; and last month: 1.0%). The reasons for these differences are not known. They may be caused by question wording, the school versus home setting for the interviews, response or coverage rates, the data collection methods implemented, or some combination of these possible causes. The issue of question wording deserves particular attention. The questionnaire wording used by NSPY and MTF are presented in Figure 4-C. NSPY used more abstract language than did MTF. MTF asked specifically about having "sniffed glue" instead of the more abstract wording of having "used inhalants." The NHSDA asked a still more detailed series of questions

Table 4-H. NSPY trends in inhalant use

Use measure	Age group	Percent reporting use: Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	2000 to 2001 % Change	95% CI on 2000-2001 Change
Lifetime					
	12 to 13	1.3	1.7	0.4	-0.4 to 1.2
	14 to 15	5.7	3.6	-2.1	-4.7 to 0.4
	16 to 18	7.8	5.8	-1.9	-4.3 to 0.4
	12 to 18	**5.2**	**3.9**	**-1.3**	**-2.5 to –0.2**
Past year					
	12 to 13	0.8	1.1	0.3	-0.4 to 1.0
	14 to 15	2.6	1.9	-0.7	-2.4 to 0.9
	16 to 18	3.1	2.3	-0.8	-2.7 to 1.1
	12 to 18	2.3	1.8	-0.5	-1.4 to 0.4
Past month					
	12 to 13	0.2	0.4	0.2	-0.2 to 0.6
	14 to 15	0.3	0.8	0.5	-0.2 to 1.2
	16 to 18	0.9	0.4	-0.4	-1.2 to 0.3
	12 to 18	0.5	0.5	0.1	-0.3 to 0.4
Regular					
	12 to 13	0.1	0.0	-0.1	-0.3 to 0.1
	14 to 15	0.2	0.2	0.0	-0.5 to 0.5
	16 to 18	0.4	0.4	-0.1	-0.4 to 0.2
	12 to 18	0.3	0.2	-0.1	-0.2 to 0.1

Figure 4-C. NSPY and MTF inhalant question sequences

The NSPY sequence asks:
"The next questions are about inhalants. Inhalants are liquids, sprays, and gases that people sniff, huff, or inhale to get high or make them feel good. Have you ever, even once, used an inhalant for kicks or to get high? [if yes] During the ***last 12 months***, on how many occasions have you used an inhalant for kicks or to get high?"

The MTF question asks:
"On how many occasions (if any) have you sniffed glue, or breathed the contents of aerosol spray cans, or inhaled any other gases or sprays in order to get high during the last 12 months?"

covering specific types of inhalants, in order to determine whether a respondent ever used inhalants (the NHSDA questionnaire can be found at http://www.samhsa.gov/hhsurvey/hhsurvey.html). The choice to use the more abstract language in NSPY was a response to a concern that more direct language might teach youth how to inhale, particularly since the questions were to be asked of children as young as nine, while MTF questions were asked of youth who were already in 8th grade. However, the use of

abstraction may have had a cost if respondents did not always know what was to be considered inhalants. Also, the NSPY begins with a "gate" question that asks whether inhalants have ever been used. Only respondents who report ever having used inhalants are asked about use in the past year. In contrast, the MTF questionnaire has no "gate" question on ever having used a substance. Rather, it asks of everyone the frequency of usage over different time intervals.

A particular anomaly in the two tables is the different age gradient for the two studies. The MTF shows a negative age gradient: older youth report less use across measures than do younger respondents. In contrast, the NSPY results show the opposite pattern with older respondents reporting more rather than less recent inhalant use. There is no ready explanation for this difference in pattern. However, it may be worth noting that the third major study of drug use among adolescents, the NHSDA, reports estimates between MTF and NSPY overall and does not find any age gradient at all in inhalant use.

4.6 Predictors of Marijuana Use and the Development of a Risk Model

This report incorporates a new subgroup category defined by a youth's risk of marijuana use. Youth were stratified into lower and higher risk subgroups. This reflects the expectations of the Campaign implementers who have argued from the start of the Campaign that their target audience were those youth who were at risk of marijuana use. In the past, the risk has been represented by sensation-seeking; however, for this report the idea of risk has been extended to include other characteristics that put a child at risk.

Stratification into risk subgroups was made on the basis of cross-predicted risk probabilities for marijuana use in the past year. This section briefly presents its underlying logic and the measures used. The sample for the development of the "risk score" (the predicted probability of the undesired event) was aggregated across the first three NSPY waves of data collection. Only youth who were 12 to 18 years old were included, a total of 4,804 cases.

The outcome variable was defined as marijuana use that began or continued in the last 12 months. Youth who had used in previous years but not in the past year were excluded from the analysis. The list of youth and parental covariates was gleaned from existing literature on risk factors for adolescent problem behavior in general and for substance use in particular. However, the consideration of what variables were to be included was subject to an additional limitation. No variable that might have been affected by the Campaign directly or indirectly or that could be a consequence as well as a cause of marijuana use was eligible for inclusion. For example, a well known predictor of risk is the number of friends an individual has who use marijuana. However, there is some risk that the friend's use may be an effect of the individual's use as well as a cause. Including such variables in the risk model would have created ambiguity in the interpretation of the risk variable, in its relationship to possible Campaign effects. Where it was possible, some variables that could have held such ambiguous relationships were constructed so that they would not. Thus, child cigarette and alcohol use as antecedent covariates are well established in the literature; the measures used here were constructed so as to avoid capturing reciprocal effects between them and marijuana use. Only cigarette or alcohol use that had occurred more than 1 year prior to the interview was included. That was temporally precedent to current use. Given the cross-sectional nature of the data, other promising risk covariates

were excluded in order to avoid such causal ambiguity, for example, marijuana offers, association with deviant peers, child-parent conflict, among others.

Table 4-I presents the results for the final model[4]. The strongest predictors are: having started smoking prior to the past 12 months, sensation seeking, age, and having started drinking prior to the past 12 months, all of which are youth characteristics and behaviors. To ease interpretation, the last column presents the adjusted odds ratio estimates. Children who had started using cigarettes prior to the past year were nearly four and a half times more likely (i.e., the odds ratio) to use marijuana in the past year than were children who had not started smoking prior to the last 12 months. Each 1-point increase in the child's sensation-seeking tendencies was associated with an increase of 116 percent in the odds of marijuana use in the past 12 months. Each 1-year increase in age was associated with a 42 percent increase in the odds of marijuana use in the past 12 months. Children who had started drinking prior to the past year had twice the odds of using marijuana in the past year, than did children who had not started alcohol use before that period. Children living in large urban areas had 31 percent greater odds of having used marijuana in the past year than children living in towns and rural areas.

Table 4-I. Youth and parent covariates for youth past year marijuana use

	Estimate	Standard error	Waldχ^2	Significance level	Odds ratio [1]
Intercept	-9.9651	.5842	290.9522	<.0001	
Youth covariates					
Age (12-18)	.3530	.0323	119.2926	<.0001	1.4233
Sensation seeking (high versus low)	.7730	.0692	124.8318	<.0001	2.1663
Started smoking 12+ months ago	1.4890	.1250	141.9463	<.0001	4.4327
Started drinking 12+ months ago	.7655	.1216	39.6234	<.0001	2.1501
Urbanicity 1 (urban vs. rural)	.2704	.0815	11.0169	.0009	1.3105
Urbanicity 2 (suburban versus rural)	-.0036	.0852	.0018	.9661	.9964
Parent covariates					
Marijuana use in past 5 years	.3361	.1678	4.0142	.0451	1.3995
Cigarette use in past month	.4127	.1233	11.1949	.0008	1.5109
Had no drink in past month	-.1727	.1180	2.1418	.1433	.8414
Attendance at religious services	-.0943	.0656	2.0703	.1502	.9100
Rating of importance of religion	-.0768	.0713	1.1595	.2816	.9261
Shares parenting with other adult in household	-.4396	.1186	13.7378	.0002	.6443

[1] Likelihood of a youth using marijuana in the past year.

The strength of parental factors included in the model was, overall, of lower magnitude and some variables did not achieve statistical significance at the conventional level ($p<.05$) in the final model. Children from households in which parenting is shared have only 0.64 times the odds of using

[4] With regard to the analytical procedure, the data set was split into 10 random groups; one of these was randomly dropped, and a logistic regression model was fitted to the remaining 9 groups. The fitted model was then used to assign the risk scores of persons in the omitted group. The logistic regression model was run so that each of the 10 groups was dropped in turn, resulting in a cross-predicted risk score for every person in the sample. In a second step, all 10 models were rerun using only variables that had been found to be significant in any of the previous analyses. Coefficients were averaged across these latter 10 models, and they were the basis for the cross-predicted probability.

marijuana in the past year as children living in single parent households. Children whose parent reported tobacco use in the past month had 1.5 times greater odds of using marijuana in the past year than children whose parent had not smoked cigarettes in the preceding month. Likewise, parental marijuana use was associated with a 39 percent increase in the odds of child past-year marijuana use.[5]

Across the first three NSPY waves of data collection, the sample used to develop the risk model, only about 11.5 percent of youth reported marijuana use during the preceding year. Given such a low base rate, the risk probabilities for nonusers tend to be fairly low. The average 12- to 18-year-old had about a 12 percent predicted probability of annual marijuana use, with half of the youth having less than a 4 percent risk of use.

About a third of the sample across four waves were classified as at higher risk (set at having a risk of use equal to or greater than 8 percent). While an 8 percent cutoff seems low, this measure represents a relative risk and not an absolute risk, hence the use of the terms "higher" and "lower." There are, nevertheless, considerable differences in youth reports of marijuana and inhalant use by risk group. Because child's age is an important covariate in the risk model, it is important to determine whether the differences by risk group do not disappear when controlling for age. Table 4-J presents the results for different measures of marijuana use by age and risk subgroups.

Table 4-J. Percent of youth reporting marijuana use by age and risk subgroup

	Youth characteristics		Percent of youth reporting use			
Use measure	Age group	Risk group	Year 2000 Average Waves1 & 2	Year 2001 Average Waves 3 & 4	Year 2000 to 2001 % change	95% CI on 2000-2001 change
Lifetime						
	12 to 13	Higher	34.1	22.4	-11.7	-24.7 to 1.3
		Lower	2.1	2.1	-0.1	-1.3 to 1.2
	14 to 18	Higher	49.3	52.0	2.7	-2.3 to 7.7
		Lower	5.3	6.9	1.6	-0.9 to 4.1
Past year						
	12 to 13	Higher	23.0	18.4	-4.6	-16.0 to 6.7
		Lower	1.5	1.3	-0.2	-1.3 to 0.8
	14 to 18	Higher	37.2	36.0	-1.2	-6.2 to 3.8
		Lower	3.4	4.9	1.5	-0.6 to 3.6
Past month						
	12 to 13	Higher	11.3	6.2	-5.1	-13.8 to 3.6
		Lower	0.4	0.6	0.2	-0.3 to 0.8
	14 to 18	Higher	17.8	18.9	1.1	-3.7 to 5.9
		Lower	1.0	2.4	1.4	-0.1 to 2.9
Regular						
	12 to 13[1]	Higher	**5.2**	**2.3**	**-2.9**	**S[1]**
		Lower	**0.0**	**0.1**	**0.1**	**S[1]**
	14 to 18	Higher	14.7	14.9	0.2	-3.6 to 4.0
		Lower	0.4	1.8	1.5*	0.2 to 2.8

[1] Confidence interval suppressed because of small sample sizes.

* Between year difference is significant at p<.05.

[5] Covariates that did not make it into the risk measure are wave, youth gender, youth race/ethnicity, parent binge drinking in past 30 days, age of parent, parental education, and annual household income.

4.7 The Effects of Risk Group on Change in Marijuana Use

With only one significant change for regular marijuana use among older youth at lower risk, there do not seem to be important differences in trends by risk group. There are, however, important differences in levels of use. Marijuana use reported by children at higher risk tends to be about 10-fold that reported by children at lower risk. This is true for lifetime, past year, and past month marijuana use, and across age groups. For example, among 12- to 13-year-olds, 0.6 percent of children at lower risk and 6 percent of children at higher risk reported past month marijuana use in 2001. Among the older group, a little more than 2 percent of children at lower risk and nearly 19 percent of children at higher risk reported past month use in the same period.

In addition to examining cross-sectional trends, subgroup analyses by risk probabilities can be useful for studying changes in marijuana use over time. Excluding those who reported use at the first time point, children at higher risk do progress into use at greater rates than children at lower risk, as can be seen in Table 4-K. While 34 percent of nonusing children at higher risk had initiated marijuana use by Wave 4, only 7.5 percent of lower risk children had done so.

Table 4-K. Marijuana use at Wave 4 among nonusers at Wave 1 by risk

Had used marijuana at Wave 4	Risk Group	
	Lower % (CI)	Higher % (CI)
No	92.5	65.9
	90.6 to 94.0	58.7 to 72.4
Yes	7.5	34.1
	6.0 to 9.4	27.6 to 41.3

Due to the small number of cases in some cells, further breaking up the analysis by age groups was not possible. Thus, a logistic regression model was run to test whether the difference in initiation rates between higher and lower risk children holds up even when controlling for age. The predictive power of risk is only slightly diminished when age is included in the model.

Summary

Through the first 2 years of NSPY data collection, there are no significant reductions in marijuana use for any of the target age groups. There were, instead, small but significant increases in past month and regular marijuana use among 14- to 15-year-olds. With regard to inhalant use, there was a small but significant decrease in lifetime use for all youth aged 12 to 18 years.

The NSPY data collection covers the period from November 1999 through December 2001, substantially parallel to Phase III of the National Youth Anti-Drug Media Campaign. This analysis could not detect changes if they had already occurred before the initiation of Phase III, for example, with the initiation of the national broadcasts in Phase II at the beginning of 1998. However, MTF data do cover that earlier period. MTF reports indicate that marijuana use had been stable from 1998 through April 2001, the end point for currently available data. The NSPY results for lifetime inhalant use were consistent with the pattern of declines in MTF inhalant use reports. However, the MTF results make it clear that a downward trend began several years before the initiation of the Campaign.

Youth reports of receiving offers of marijuana were stable. There was no statistically reliable evidence that the rate of offer refusal was changing during Phase III. Also, temporal order of the association between offers of marijuana and use was further clarified in analyses of the differences in marijuana use by Wave 4 among nonusing children who reported receiving offers at Wave 1.

Previous reports in this series have noted the strong association of marijuana use with age and with sensation seeking. In the current report, these factors are incorporated into a measure of risk that is even more strongly associated with marijuana use across measures and age groups. There are substantial differences in levels of use of both marijuana and inhalants by youth stratification into higher and lower risk subgroups. Moreover, longitudinal analyses show a strong association between predicted risk among nonusers at Wave 1 and progression into marijuana use by Wave 4.

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5. Campaign Effects on Youth

The primary audience for the Campaign is young people, with some focus on youth in the early teen years who are seen as particularly vulnerable to initiation of drug use. The objectives of the Campaign include reducing the number of young people who try marijuana at all, and reducing the number of trial users who go on to regular use. Current regular users are not a primary target audience for the Campaign. Although the Campaign has at times focused on a variety of drugs (methamphetamines, Ecstasy, inhalants, and others), the major focus has been on drugs overall and marijuana specifically. Aside from alcohol and nicotine, marijuana is the illicit drug by far the most likely to be used by youth. Marijuana is thus the focus of the analyses presented here, and some attention is also paid to inhalants.

In part, the Campaign has aimed to affect youth drug use through influencing the behavior of parents and other adults important in youths' lives. Increased adult engagement in youths' lives is accepted as an important intervention in preventing drug use. The success of the Campaign in reaching and affecting adults is discussed in Chapter 6. However, the Campaign also expects to influence youth directly through its heavy promotion of anti-drug messages with advertising and other efforts. This chapter focuses on the assessment of this direct path of effect. Chapter 4 presented evidence for changes in drug use over Phase III of the Campaign. There was inadequate evidence to support a claim of overall change in marijuana use thus far. However, there was a statistically significant increase in regular and in past 30-day use among 14- to 15-year-olds. This chapter focuses back one step in the process of change, to the cognitive precursors of behavior outlined in the Campaign model laid out in Chapter 2. Is there evidence that the Campaign is influencing intentions to use marijuana, beliefs, and attitudes about the outcomes of marijuana use, perceived social norms about marijuana use, or self-efficacy to turn down marijuana?

5.1 The Logic of Inferences About Effects

It would be desirable to show that target outcomes, including improved cognitions about marijuana use, are trending in a direction consistent with Campaign objectives. However, any observed positive trend, that is, a trend favorable to the campaign, may reflect only external forces other than the Campaign. There are many forces in society that potentially affect adolescent drug use (e.g., drug prices, drug availability, content of popular media), and a trend alone won't permit unambiguous attribution to the Campaign. An observed lack of a favorable trend might also miss real Campaign effects. The Campaign might be successfully keeping the level of drug use and its cognitive precursors from getting worse as the result of other negative forces, or it might be that this study lacked the statistical sensitivity to detect a small change. Still, despite these ambiguities, it will be easier to accept Campaign effects in the context of favorable trends than to have to explain why the lack of such a trends is still consistent with a Campaign effect. Given that the trend between 1992 and 1998 toward increased drug use justified the Campaign, finding a reversal of that trend is desirable.

For a favorable trend to be more firmly linked to the Campaign, the presence of a second class of evidence is required: that youth who were more exposed to the Campaign do "better" on the desired

outcomes (i.e., that youth who reported seeing Campaign ads two or three times a week are more likely to believe, for instance, that there were negative outcomes of marijuana use than those who reported ad exposure less than once a week). However, even were such associations to be found, the results would be subject to three concerns. First, there is the risk that the observed association between exposure and outcomes is the result of other variables that affect them both; for example, youth who do less well in school are more likely to turn to drugs and also may spend more time watching television and thus seeing ads. The threat to an inference of Campaign effects from these other variables is addressed directly through the implementation of statistical controls for potential confounding variables. The procedure used for that purpose, propensity scoring, is described in detail in Appendix C.

Second, the absence of an association between exposure and outcome does not permit definitive rejection of all Campaign effects. Chapter 2 recognized the possibility of effects not detectable through comparisons between more and less well-exposed individuals. To the extent that effects are shared in social networks, or diffused through changes in institutional practices, they are sometimes not detectable through individual level comparisons.

The third concern in making inferences from cross-sectional associations is that the association might be the result of the influence of outcomes on exposure rather than exposure on outcomes. For example, is it possible that youth with a negative view of drugs are more likely to remember anti-drug advertising? This could explain the association just as well as the idea that exposure to that advertising affected their view of drugs. This concern, called the threat of reverse causation, cannot be eliminated under most circumstances with cross-sectional data. Therefore, in the face of significant associational results, it will be necessary to have data that will give evidence of causal order.

With the Wave 4 data collection, the Campaign now has access to over-time, cohort data, with youth interviewed at Wave 1 having been re-interviewed at Wave 4. As previously described in Chapter 2, the primary longitudinal analysis is lagged analysis. This examined the association between exposure at Wave 1 and outcomes measured at Wave 4. A causal inference from the lagged association is at risk of possible effects of confounders, as are the cross-sectional analyses. The same statistical procedure, propensity scoring, was used to address those concerns. It is described in Appendix C.[1] With these lagged associations, we are able to establish that any observed association between exposure and the later outcome cannot be the result of the outcome affecting exposure. Any lagged association would either reflect delayed effects of exposure at Wave 1 directly on outcomes after Wave 1, or that the effects of exposure at Wave 1 would reflect continuing levels of subsequent exposure through Wave 4 which, in turn, affects outcome at Wave 4. Both of these routes are consistent with a claim of influence of exposure on outcome.

The additional explanatory power gained by the longitudinal associations is critical. This followup data can serve to sort out with some confidence the causal order between variables. Thus, the

[1] The lagged association would ordinarily be controlled for the Wave 1 value of the outcome measures. This could not be done for the whole sample, in this case, because the youth who were aged 9 to 11 at Wave 1 but older than 12 at Wave 4 did not receive the full battery of outcome questions at Wave 1. Insofar as we know this should not bias the results, since as we have shown previously and show again in this report, there is no association between simultaneously measured exposure and outcome. Thus the Wave 1 outcome could not account for the Wave 1 exposure–Wave 4 outcome association. However, since we do not have most such measures for the 9- to 11-year-olds, we cannot be absolutely sure that the lack of simultaneous association would hold for them as well. However, for the Intention to Use Marijuana measure we do have data from the 9- to 11-year-olds in Waves 2 and 3, and there is no simultaneous association between exposure and intention for those youth. In addition, analyses were run including only those who were 12 to 18 at Wave 1 and thus who had all of the outcome measures at baseline. Those results are presented as well, although they cannot be informative for the younger children.

longitudinal analyses for the first time included in this chapter address one major concern raised above about making causal claims from cross-sectional associations. The remaining challenge to a claim of causal influence of exposure on outcome is that there was some additional confounder, not measured at Wave 1, which influenced exposure at Wave 1 and outcome at Wave 4, but not outcome at Wave 1.

The best cross-sectional evidence consistent with a Campaign effect is an association of reported exposure to the Campaign with the target outcomes statistically controlled for likely confounders. If this is accompanied by evidence of a favorable trend in the outcome, the argument that there was a Campaign effect is strengthened. This report adds longitudinal analyses to these methods. Evidence for a lagged effect would allow a clearer understanding of the causal order between exposure and outcomes.

The overall analysis focuses on effects among current nonusers of marijuana who are 12- to 18-year-olds. Also, baseline current users do not receive a great deal of attention in the presentation. The Campaign would like to increase the resistance of these youth to use of marijuana. However, there are not enough of them in the samples, particularly at younger ages, to provide very much statistical sensitivity to their changes. Although 40 percent of 16- to 18-year-olds report prior use, fewer 12- to 13-year-olds and 14- to 15-year-olds report use. Therefore, analyses with those samples will only be able to detect very large changes in outcomes.

In addition to the overall analysis, this chapter presents trend and cross-sectional associational results for subgroups of youth. The subgroup analyses are used for two purposes. If there is an overall effect for all 12- to 18-year-olds, there is a search for evidence that the trends or the association is significantly larger or smaller for particular groups. If there is no overall effect, the subgroups are examined to see if there is evidence of effect for only a subpopulation. By contrast with previous reports, this chapter will include subgroup analyses by youth's risk for marijuana use with youth classified as "higher" or "lower" risk. These subgroups are described later in this chapter and in further detail in Chapter 4. Subgroups' differences are noted when they show a consistent pattern. All trend and cross-sectional associational analyses are fully presented in the Detail Tables and summarized in the text. The longitudinal analyses are restricted to overall analysis and analyses for some subgroups.

The chapter contains a large number of analyses designed to examine Campaign effects, using several different analytic approaches and conducting analyses both for the full sample and for many different subgroups. Statistical tests of significance are used for each analysis to establish whether any effects observed might be simply the result of sampling error. In assessing the findings from these significance tests, it needs to be recognized that, even if there were no Campaign effects whatsoever, some of the large number of tests will produce significant results. Thus, for example, in the simplified case of 100 completely independent statistical tests with no effect present for any of them, one would expect that five of the tests would be significant if a 5 percent significance level is used. Considerable caution should therefore be exercised in assessing an isolated significant effect when many tests are conducted. For this reason, in interpreting the many analyses in this chapter we tend to downplay individual significant effects, and rather look for consistent patterns of effects.

At this writing, only data from the Wave 1 to 4 longitudinal sample are available, approximately 40 percent of the eventual full sample. The sample is not large enough for overly detailed subgroup analysis, although analyses by gender, age, and risk subgroups are presented, when appropriate. In addition, the longitudinal results are presented only in the text and in text tables. For the next semi-

annual report, when longitudinal data will be available for the entire youth and parent sample, the full range of subgroup analyses, including those for race–ethnicity will be presented.

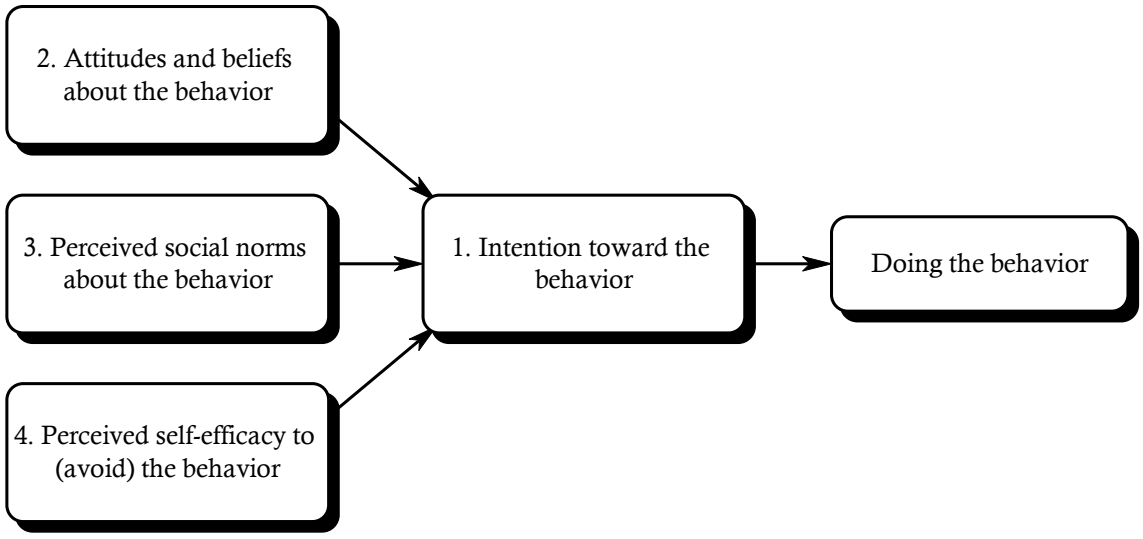
5.2 Development of Overall Scales, Combining Trial and Regular Use, and Summarizing Multiple Related Items

The Detailed Tables provide information about trends in a total of 34 cognitive outcomes related to use of marijuana and 6 outcomes related to use of inhalants. In order to present that information efficiently, and to maximize the power of the analyses, this chapter presents that information largely through the use of a small number of summed indices. The indices reflect the expected theoretical model of Campaign effects. The use of these scales provides several advantages:

- Summed indices are, in general, more reliable than single measures, thus allowing easier detection of meaningful trends and associations;
- Using a small number of indices reduces the risk of chance findings of statistical significance when a very large number of tests are examined—a risk compounded when subgroups are to be examined for possible differential effects;
- Given the particular structure of the youth questionnaire, in which not all respondents are asked identical sets of questions, the use of summed indices permits a sharp increase in the numbers of respondents eligible for particular analyses, again increasing sensitivity to any true effects; and
- A theory-driven analysis featuring a small number of indices allows for a focused presentation of results.

In Chapter 2, the basic theoretical model underpinning the evaluation was presented. The model argues that if the Campaign were to be successful, it would affect behavior through one or more of the paths depicted in Figure 5-A.

Figure 5-A. The expected relationships among cognitive outcomes



The analysis of marijuana cognitive outcomes focuses on four measures that correspond to the expected four predictors of behavior:

- **Intentions to use marijuana at all in the next year.** The question asked how likely it was that the respondent would use marijuana even once or twice in the next year, and permitted answers of definitely not, probably not, probably yes, and definitely yes. A substantial majority, 82 percent, of current nonusers 12 to 18, said, "definitely not." In the analyses below, this group is compared to the 18 percent of nonusers who were not definite in their intended rejection of use. It is worth noting that this measure is highly predictive of future use. Nonusers at Wave 1 were divided into two groups; those who said they definitely would not use and the rest. Of those who said definitely not, about 14 percent said they had used by Wave 4; of those who gave any other answer (most often probably not) 46 percent said they had initiated use by Wave 4. (Only youth 12 and over at Wave 1 were included in this analysis.)

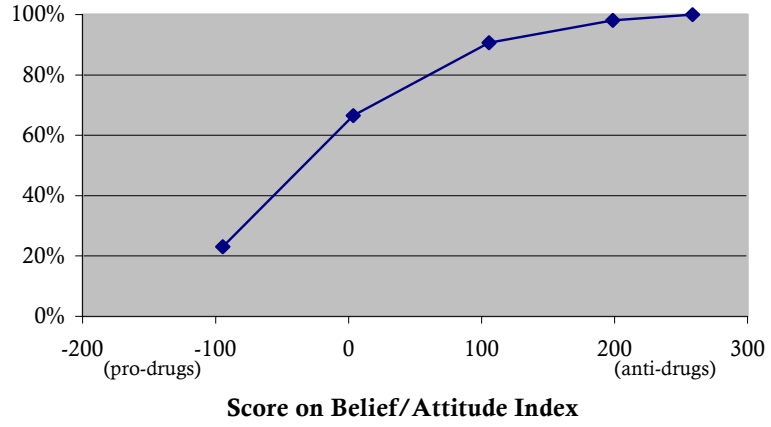
- **Attitudes and beliefs about marijuana.** All youth respondents were asked questions about how likely it was that a series of specific consequences would result if "you" use marijuana, either regularly (every month or almost every month) or once or twice over the next year. The eight consequences asked about for "once or twice" use included "Upset my parents," "Get in trouble with the law," "Lose control of myself," " Start using stronger drugs," "Be more relaxed," "Have a good time with friends," "Feel better," and "Be like the coolest kids." The eight consequences asked about for regular use included "Damage my brain," "Mess up my life," "Do worse in school," "Be acting against my moral beliefs," "Lose my ambition," "Lose my friends' respect," "Have a good time with friends," and "Be more creative and imaginative." Each nonusing respondent was randomly asked one of the eight belief sequences. They were also each asked two questions that assessed overall attitude toward either "once or twice" use or regular use. All of the youth with prior use experience were asked about the consequences of and attitudes toward regular use.

  It is useful to look at the attitudes and beliefs about the two behaviors—using once or twice, and using regularly—as distinct. In the previous reports, analysis focused on distinguishing between the two sets of outcomes. However, beginning with the Third Semi-Annual Report, it was decided to sacrifice the distinctions to allow the creation of a single index to capture beliefs and attitudes about marijuana. Since youth who have never used marijuana, referred to in this report as "nonusers," were randomly assigned to answer questions about "once or twice" or regular use, it was possible to equilibrate the two sets of responses on a single scale. This permitted the maximization of the number of youth who could be studied in a particular analysis and thus the power to detect an effect if any were present.

  The following steps were used to create the index. All nonusers were divided into two groups: those who had been randomly assigned to answer the questions about "once or twice" use, and the rest who were assigned to answer the questions about regular use. Each subgroup was then used in separate analyses in which intention to use was predicted from the eight consequence beliefs and two attitudes in a logistic regression equation. The regression coefficients from the prediction equation were then used to weight each of the items for a summed index. The weights derived from the nonusers' equations were also used to construct index scores for the population of prior users to ease interpretation. Each of the summed indices was then calibrated so that its mean and standard deviation were equal to 100 for the 12- to 18-year-old nonusers at Wave 1. Then the two indices were treated as equivalent to a single index with higher scores corresponding to more anti-drug attitudes and beliefs. This index could be used for all respondents, regardless of which sequence of questions they answered. The development of this and each of the following indices is described in more detail in Appendix E.

The summed Attitudes/Beliefs Index, as expected, was substantially associated with the intention to use marijuana in the next year. Figure 5-B presents that relationship graphically. Only 23 percent of those with the lowest scores on that index said "definitely not" to marijuana use in the next year, while almost 100 percent of those who were at the highest levels rejected such use.

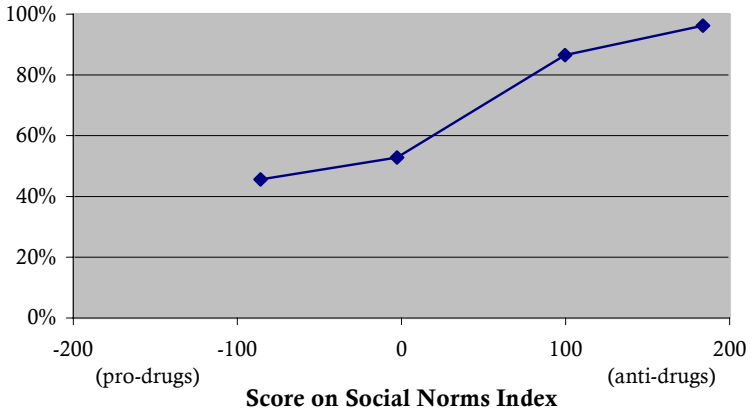
Figure 5-B. Marijuana nonuse intention by Attitudes/Beliefs Index



- **Perceived social norms.** The perceived Social Norms Index was formed in a parallel way to the Attitudes/Beliefs Index. There were five parallel questions that assessed social normative pressure with regard to each of "once or twice" and regular use of marijuana. They asked about the perception of friends' use of marijuana, other peers' use of marijuana, parents' disapproval of "your" marijuana use, friends disapproval of "your" marijuana use, and disapproval of "your" marijuana use by most people important to you, in each case in the context of "once or twice" use or regular use over the next year. Using a regression model, the questions were then weighted according to their ability to predict the intention to use marijuana once or twice in the next year. The indices for nonusing youth randomly assigned to answer the "once or twice" or regular use questions were both set to a mean of 100 and a standard deviation of 100 for 12- to 18-year-old nonusers at Wave 1. The youth who had previously used marijuana and who had been asked the social norm questions about regular use were assigned index scores using the weights developed for the nonusers. Once again, all respondents were then assigned their score on the overall index based on their scores on the separate indices.

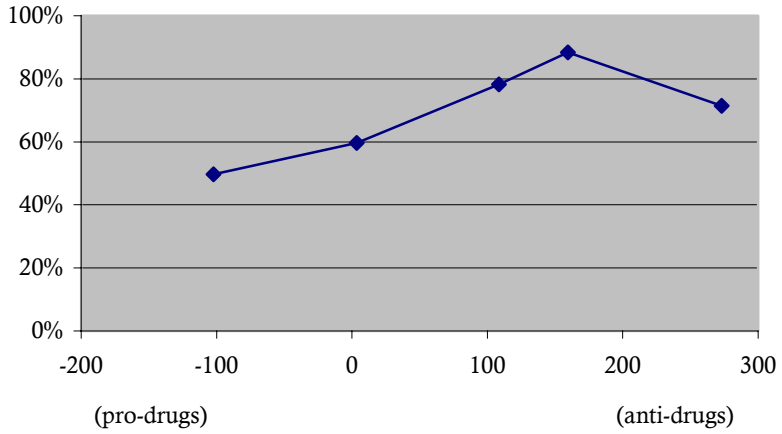
  The perceived Social Norms Index was substantially correlated with intentions, although the relationship was not quite so strong as that between the Attitudes/Beliefs Index and intention (Figure 5-C).

Figure 5-C. Marijuana nonuse intention by Social Norms Index



- **Self-efficacy to refuse marijuana.** All respondents were asked the same five questions about their confidence that they could turn down the use of marijuana under various circumstances ("How sure are you that you can say no to marijuana, if you really wanted to, if: You are at a party where most people are using it; A very close friend suggests you use it; You are home alone and feeling sad or bored; You are on school property and someone offers it; You are hanging out at a friend's house whose parents aren't home"). Using a regression model, the five questions were used to predict the intention to use marijuana once or twice in the next year. Each question was then weighted in the overall index reflecting the coefficient of the item in the predictive equation. Once again, to ease interpretation, responses were standardized to a mean of 100 and a standard deviation of 100 for Wave 1 12- to 18-year-old nonusers. The new index predicted intentions similarly, but less powerfully, than the other two indices (Figure 5-D).

Figure 5-D. Marijuana nonuse intention by Self-Efficacy Index



5.3 Trends in Drug Attitudes and Beliefs and Intentions about Use of Marijuana among Nonusing 12- to 18-Year-Olds

This section covers trends in intentions about trial use, attitudes, and beliefs, perceived social norms and self-efficacy about use across NSPY waves. The trends are broken out by age. It also discusses the evidence for diversity in trends across various subgroups.

All indices are scaled so that a higher score indicates stronger anti-drug attitudes, beliefs, and intentions.

5.3.1 Intentions About Marijuana Trial Use by Age and by Wave

There are no statistically significant changes in intentions to use marijuana once or twice over the four waves of measurement among prior nonusers. Table 5-A presents these data. (See also Detail Table 5-1.) All of the Wave 1 to Wave 4 changes are small and their confidence intervals include zero. Interestingly, there had been statistically significant change between Waves 1 and 2 in intentions for the 12- to 18-year-olds (the change from 85.9% to 89.1% that appears in the table), but that favorable change was completely counterbalanced by a reversal between Waves 2 and 3. This pattern of reversal in change is repeated in the tables presented below. While percentages rose again slightly in Wave 4, the overall trend is statistically flat in the percent of youth reporting they definitely will not use

marijuana in the next year. The possible explanations for this pattern are considered in the discussion section of this chapter.

Table 5-A. Trends in intentions to use marijuana once or twice for nonusers, by child age

	Percent of nonusers saying "definitely not"							
Age group	Wave 1 11/99 – 6/00 (%)	Wave 2 7/00 – 12/00 (%)	Wave 3 1/01 – 6/01 (%)	Wave 4 7/01 – 12/01 (%)	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	Year 2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	91.7	92.9	90.1	91.6	92.3	90.9	-1.4	-3.8, 0.9
14 to 15	83.3	86.8	85.4	82.2	85.1	83.8	-1.3	-5.2, 2.7
16 to 18	82.1	87.3	80.8	86.0	84.7	83.5	-1.2	-5.7, 3.4
12 to 18	85.9	89.1	85.8	86.8	87.5	86.3	-1.2	-3.3, 0.8

" How likely is it that you will use ***marijuana***, even once or twice, over the ***next 12 months***? When we say marijuana, we mean marijuana or hashish."

The table provides two other pieces of information. Most nonusing youth, regardless of age, do not intend to use marijuana even once or twice in the next year. These reported intentions are consistent with the reported behavior of the population; ever use rates start at 2 percent among 12-year-olds and rise to 48 percent among 18-year-olds.

Also, there is some age association in these responses with 16- to 18-year-olds less likely to say definitely not than 14- to 15-year-olds who, in turn, are less likely to reject use than 12- to 13-year-olds. However, the age effects are understated in this table, particularly with regard to the responses of 16- to 18-year-olds because the table presents only the responses of nonusers. Since 40 percent of 16- to 18-year-olds were prior users, the numbers presented here are not reflective of the intentions of all youth in the age group. Overall, among nonusers, 92 percent of all 12- to 13-year-olds, 85 percent of all 14- to 15-year-olds, and 84 percent of all 16- to 18-year-olds say "definitely not" to this question. Overall, among both prior and nonusers, 89 percent of all 12- to 13-year-olds, 75 percent of all 14- to 15-year-olds, and 61 percent of all 16- to 18-year-olds say "definitely not" to this question.

5.3.2 Attitudes/Beliefs by Age and by Wave

The results for the Attitudes/Beliefs Index show no overall effects, but they do show an effect for one age subgroup, and that is toward a less anti-drug view. Table 5-B presents the results for each age subgroup and the entire sample of 12- to 18-year-olds. (See also Detail Table 5-2.) Statistically significant findings are presented in bold typeface.

Table 5-B. Trends in Attitudes/Beliefs Index about marijuana use among nonusers by child age

	Score on Index							
Age group	Wave 1 11/99 – 6/00	Wave 2 7/00 – 12/00	Wave 3 1/01 – 6/01	Wave 4 7/01 – 12/01	Year 2000 Average Waves 1 and 2	Year 2001 Average Waves 3 and 4	Year 2000 to 2001 Change	95% CI on 2000-2001 Change
12 to 13	**122.0**	**136.3**	**117.4**	**125.6**	**129.2**	**121.5**	**-7.8***	**-14.8, -0.8**
14 to 15	89.9	113.8	105.5	96.1	102.3	100.9	-1.5	-11.7, 8.7
16 to 18	85.9	97.4	78.3	91.5	91.5	85.1	-6.4	-20.2, 7.4
12 to 18	100.0	117.1	101.9	105.1	108.7	103.5	-5.1	-11.4, 1.1

Note: The index was standardized so 12- to 18-year-old nonusers had a mean and standard deviation of 100 at Wave 1.

* Between-year difference significant at $p<0.05$.

Table 5-B shows no statistically significant trend for the full sample comparing 2000 with 2001. However, the 12- to 13-year-old subgroup shows a decline in anti-drug beliefs (i.e., an unfavorable trend). This should be understood in the context of changes over each of the Waves. The change from Wave 1 to Wave 2 was favorable and statistically significant, as had been reported in the Wave 2 semiannual report. Indeed the Wave 1 to Wave 2 shift was favorable for every age group. However, every age group went in the opposite direction between Wave 2 and Wave 3. The shifts from Wave 3 to Wave 4 were not significant. Overall this complex pattern produced the summary year-to-year decline for the 12- to 13-year-olds.

Table 5-B shows a clear age gradient, despite the omission of marijuana users from the analysis, with older nonusers expressing weaker anti-drug sentiments than younger nonusers. On average across Waves 3 and 4, 12- to 13-year-olds had an index score of 121, while 16- to 18-year-olds had an index score of 85 (Detail Table 5-2).

5.3.3 Perceived Social Norms about Marijuana Use by Age and by Wave

With statistically significant overall effects as well as significant effects for two out of three age groups, the trends in perceived social norms follows the general pattern observed for both previous indices, only more strongly. Table 5-C presents the essential results with additional detail presented in Detail Table 5-3. The early, statistically significant positive change between Waves 1 and 2 was largely reversed by Wave 3, with only a nonsignificant and negligible positive trend for 14- to 15-year-olds remaining.

Table 5-C. Trends in Social Norms Index about marijuana use among nonusers by child age

	Score on Index							
Age group	Wave 1 11/99 – 6/00	Wave 2 7/00 – 12/00	Wave 3 1/01 – 6/01	Wave 4 7/01 – 12/01	Year 2000 Average Waves 1 and 2	Year 2001 Average Waves 3 and 4	Year 2000 to 2001 Change	95% CI on 2000-2001 Change
12 to 13	**131.5**	**142.3**	**131.5**	**127.5**	**137.0**	**129.5**	**-7.5***	**-14.6, -0.4**
14 to 15	87.9	106.4	106.0	90.3	97.5	98.2	0.7	-10.6, 12.0
16 to 18	**76.9**	**91.6**	**68.0**	**73.1**	**84.1**	**70.7**	**-13.5***	**-25.8, -1.2**
12 to 18	**100.0**	**114.9**	**104.2**	**98.1**	**107.5**	**101.1**	**-6.4***	**-12.2, -0.5**

Note: The index was standardized so 12- to 18-year-old nonusers had a mean and standard deviation of 100 at Wave 1.

* Between-year difference significant at $p<0.05$.

There is a significant overall trend of declining anti-marijuana social norms from Year 2000 to 2001 for all 12- to 18-year-olds. There is also a significant downward trend for 12-to 13-year-olds and 16-to 18-year-olds.

Once again, the age gradient is clear, with older nonusers exhibiting more pro-drug norms than younger nonusers. The 16- to 18-year-olds scored an average of 77 across the four waves; the 12- to 13-year-olds scored 56 points higher. This difference is even larger if both users and nonusers are considered together. All 12- to 13-year-olds had a social norm score of 127. All 16- to 18-year-olds had a social norm score of only 29.

5.3.4 Perceived Self-efficacy about Marijuana Use by Age and by Wave

The final index was the summed scale of five questions that dealt with the youths' confidence that they could turn down marijuana in a variety of circumstances. The overall results for the 12- to 18-year-olds as a group do not show significant change between Years 2000 and 2001. However, the age groups show different trends. The 14- to 15-year-olds display a significant improvement over the time of the Campaign while the 16- to 18-year-olds and 12-to 13-year-olds do not show any significant change. (Table 5-D and Detail Table 5-4).

Table 5-D. Trends in Self-Efficacy Index about marijuana use among nonusers by child age

	Score on Index							
Age group	Wave 1 11/99 – 6/00	Wave 2 7/00 – 12/00	Wave 3 1/01 – 6/01	Wave 4 7/01 – 12/01	Year 2000 Average Waves 1 and 2	Year 2001 Average Waves 3 and 4	Year 2000 to 2001 Change	95% CI on 2000-2001 Change
12 to 13	99.8	102.6	94.9	107.1	101.3	100.9	-0.3	-7.1, 6.45
14 to 15	**89.2**	**103.3**	**113.8**	**110.0**	**96.6**	**112.0**	**15.4***	**3.1, 27.7**
16 to 18	112.2	109.6	92.1	124.3	110.9	108.7	-2.2	-15.5, 11.2
12 to 18	100.0	104.9	100.6	113.4	102.5	107.0	4.6	-1.7, 10.8

Note: The index was standardized so 12- to 18-year-old nonusers had a mean and standard deviation of 100 at Wave 1.

* Between-year difference significant at p<0.05.

It is interesting to note the differences between self-efficacy and the other outcome measures. Nonuser anti-marijuana attitudes and beliefs significantly declined for the 12- to 13-year-old youth from 2000 to 2001. Similarly, social norms decreased significantly for all youth ages 12 to 18 years and for 12- to 13-year-olds and 16- to 18-year-olds. By contrast, self-efficacy trends appear to go in the opposite, more desirable direction for 14- to 15-year-olds.

5.3.5 Evidence for Diversity in Trends in Cognitions about Marijuana Use

Table 5-E summarizes the results separately for 12- to 18-year-old females and males across the four outcome measures. Clearly, the trends are most notable among females for whom three of four are statistically significant. Except for the Self-Efficacy Index, each shows a significant negative change from 2000 to 2001.

Table 5-E. Cognitions about marijuana use among 12- to 18-year-old nonusers by gender

Measure	Wave 1 11/99 – 6/00	Wave 2 7/00 – 12/00	Wave 3 1/01 – 6/01	Wave 4 7/01 – 12/01	Year 2000 Average Waves 1 and 2	Year 2001 Average Waves 3 and 4	Year 2000 to 2001 Change	95% CI on 2000-2001 Change
Female								
No intentions (%)	**87.0**	**89.7**	**84.4**	**86.5**	**88.4**	**85.5**	**-2.9***	**-5.5,-0.3**
Attitudes and Beliefs	**104.5**	**123.8**	**99.8**	**109.5**	**114.3**	**104.6**	**-9.8***	**-18.5, -1.0**
Social norms	**108.4**	**124.0**	**111.2**	**103.2**	**116.3**	**107.3**	**-9.0***	**-16.9, -1.2**
Self-efficacy	108.5	106.6	96.3	117.7	107.5	106.9	-0.7	-9.1, 7.7
Males								
No intentions (%)	84.8	88.6	87.2	87.1	86.7	87.1	0.4	-2.6, 3.5
Attitudes and Beliefs	95.5	110.3	104.0	101.0	103.0	102.5	-0.5	-7.98, 6.94
Social norms	91.6	105.7	97.0	93.3	98.7	95.1	-3.6	-12.87, 5.60
Self-efficacy	**91.5**	**103.2**	**104.9**	**109.4**	**97.4**	**107.2**	**9.8***	**1.95,17.57**

* Between-year difference significant at p<0.05.

The findings for boys are quite different. Over the 2 years, they showed no statistically significant change for intentions, for attitudes and beliefs, or for social norms. However, male youth did show statistically significant improvement on self-efficacy. While the gap between girls and boys appears to have narrowed between 2000 and 2001, girls still perceive themselves as better able to reject the use of marijuana.

Altogether, there are seven subgroups of three grouping variables (two sexes; three race/ethnicity groups; two risk groups[2]). These groups are examined across four measures, making a total of 28 trend comparisons. Six of them were significant (probably more than would be expected by chance), two in a favorable direction and four in an unfavorable direction.

5.4 Cross-Sectional (Concurrent) Associations of Anti-Drug Advertising Exposure with Attitudes, Beliefs, and Intentions about Marijuana Use among 12- to 18-Year-Old Nonusers

The data show no trends overall, and within subgroups show only scattered evidence of favorable trends matched by more frequent evidence of unfavorable trends. The next step in the analysis turns to the examination of associations of recalled exposure and the four major outcomes. In contrast to the trend data, the associational evidence speaks directly to the influence of individual exposure to the Campaign. The analyses below show only rare evidence of association, and the observed associations are more often unfavorable than favorable.

Chapter 3 describes the two types of exposure measures available for analysis. One, called general exposure, represents the sum of recalled exposure in recent months to anti-drug advertising in four different types of sources (television and radio, movies and videos, print media including newspapers and magazines, and outdoor media). Some of that exposure could have represented recall of ads directed to parents, and some recall of ads presented by other institutions. The specific exposure measure sums the recalled exposure to the youth-targeted individual Campaign television ads that had been on the air in the 2 months before the interview.

Table 5-F presents the exposure levels for the 12- to 18-year-old population overall (i.e., across Waves 1 through 4). The distribution of exposures among nonusers, who are the focus of the analyses reported below, are very close to these overall estimates.

Table 5-F. Exposure per month reported by 12- to 18-year-olds

	<1 exposure (%)	1 – 3 exposures (%)	4 – 11 exposures (%)	12+ exposures (%)
General exposure	26.3		23.7	50.0
Specific exposure	23.3	34.8	33.1	8.8

The general exposure measures display substantially higher levels than do the specific exposure levels. For example, 50 percent of youth reported general exposure 12 or more times per month, but less than 9 percent reported specific exposure at that level. There are three factors that may contribute to that difference: the general exposure measure included more sources than the specific exposure measure;

[2] The Detail Tables present trend information for high and low risk groups and sensation-seeking groups. The risk group variable incorporates the sensation-seeking variable as well as other predictors of drug use. To avoid substantial redundancy of reporting, the text includes analysis of only the risk subgroups.

the general exposure measure allows recall of advertising that was directed to other audiences, while the specific exposure measure focuses only on television[3] ads directed to the youth; and finally, the general exposure measure may be less demanding since it does not require the respondent to claim that he or she has seen a specific ad. One might speculate, therefore, that it is at greater risk of inflated reporting. Since the two measures may capture different aspects of exposure, the evidence of association is presented for both of them, with the interpretation strengthened when both show the same pattern of effects.

The general exposure association tables compare youth who reported exposure less than 4 times per month, 4 to 11 times per month, and 12 or more times per month. There were very few youth who reported no exposure so they could not be considered separately. The specific exposure tables include four categories, since it was feasible to break out the lowest exposure group into those who recalled exposure less than 1 time per month and those who recalled ad exposure 1 to 3 times per month. However, the highest exposure group for the specific exposure measure is quite small, so in many of the tables the estimates for outcomes for this group have very wide confidence intervals. Usually the specific exposure claims must rely on the differences among the other three exposure groups.

In the exposure analyses that follow, the effects are corrected for the influence of confounder variables using the propensity scoring procedures described in Appendix C. They are the estimates of what people at each level of exposure would have been like had they all been similar on variables that were associated with exposure.

All cross-sectional analyses of exposure include data from all four waves, but are restricted to 12- to 18-year-olds who reported never using marijuana. Each of the detail tables that present these associational results (Detailed Tables 5-33 through 5-40) also provides estimates for subgroups of that population defined by youth characteristics (age, gender, race/ethnicity, risk of marijuana use, and sensation-seeking).

Each table presents four different measures of Campaign effect. The first, called the direct campaign effect, compares the score on the outcome variable (e.g., intention to use marijuana even once or twice in the next year) for the entire sample with the score achieved by the lowest exposure group. It asks whether the average person was different from those who had minimal exposure. It is the best estimate of the average effect of the Campaign across the population. The second measure is a significance test that indicates whether there is an overall pattern for those who have higher exposure to be higher on the outcome variable. Each table provides the probability statistic in this column where the test for monotonic association (Jonckheere-Terpstra) is significant at the $p<0.05$ level. This is the test used to determine whether there is an overall association between exposure and the outcome. The decision to focus on this test reflects an assumption that if the Campaign is having an effect, it would reflect a dose

[3] The measures of specific exposure include only reports of exposure to television advertising. During Wave 1, the measure of exposure to radio advertising excluded ads that were only audio versions of television ads, which were the great majority of the ads. It was not meaningful to include specific radio exposure with the television exposure in the specific exposure index for that wave. Although all radio ads were asked about in Waves 2, 3, and 4, and the exposure to them is reported in Chapter 3, they were not included in the exposure index for the analyses reported in this chapter so that comparability across waves could be maintained. However, recall of television advertising was, in any case, much greater than recall of radio ads, so it is unlikely that this exclusion is substantially affecting the associations reported here (Detail Tables 3-2 and 3-17).

response relationship, that is, at every higher level of exposure the effect should be as large or larger.[4] In addition, in order to have an estimate of the magnitude of association, the Spearman rank correlation coefficient (rho) is presented. Like the Pearson correlation coefficient, rho varies from –1 to +1, with 0 being no relationship.[5] The final measure, called the maximum campaign effect, compares youth with the highest and lowest levels of exposure. De facto it answers the question: If the Campaign had been able to give everyone 12 or more exposures per month, how much of an effect would there have been?

5.4.1 Overall Analyses of Four Cognitive Measures by Exposure

After controlling for confounders by propensity scores, there is no detectable cross-sectional association between either exposure measure and intentions to use marijuana for the entire Wave 1 through Wave 4 population of 12- to 18-year-old youth on any of the indicators of Campaign effect. (See Table 5-G and Detail Tables 5-33 and 5-34.)

Table 5-G. Exposure per month and intentions to use marijuana reported by nonuser 12- to 18-year-olds

Percent saying "definitely not" to likelihood of using marijuana even once or twice- overall average=86.8%								
	<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	rho	Maximum effect
General exposure	88.8		85.6	86.5	-1.9 -4.3 to 0.4	NO	-.03	-2.2 -5.4 to 0.9
Specific exposure	86.8	87.2	86.1	86.5	0.0 -2.6 to 2.7	NO	-.01	-0.3 -7.3 to 6.7

Similarly, there is no statistically detectable cross-sectional association of exposure and the Attitudes/Beliefs Index. This is shown in Table 5-H as well as in Detail Tables 5-35 and 5-36.

Table 5-H. Exposure per month and Attitudes/Beliefs Index among nonuser 12- to 18-year-olds

Score on Attitudes/Beliefs Index: average for the sample=106.1								
	<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	rho	Maximum effect
General exposure	107.7		104.9	106.7	-1.6 -9.6 to 6.4	NO	.00	-1.2 -11.5 to 9.1
Specific exposure	109.1	107.5	101.3	105.3	-3.0 -10.2 to 4.3	NO	-.02	-3.8 -18.9 to 11.3

The results for the cross-sectional association of Campaign ad exposure and the Social Norms Index are presented in Table 5-I. The overall results are consistent with the findings for the Attitudes/Beliefs Index: no detectable overall effect for youth aged 12 to 18 years. (See also Detail Tables 5-37 and 5-38.)

[4] It is possible that the effect of the Campaign could be curvilinear, that is, that a moderate level of exposure produces an effect but with much higher doses of exposure the effect is reversed, in a boomerang phenomenon. The detail tables do provide estimates for outcomes at each level of exposure, and an informal search for curvilinear effects is possible. However, the authors made the a priori judgment that the expectation of the Campaign was that at each higher level of exposure the outcome would be at least as high as at the previous level, so the use of the overall test for monotonicity was the appropriate criterion for success.

[5] Unlike the Pearson correlation, rho does not assume that both exposure and the outcome are measured on interval level variables.

Table 5-I. Exposure per month and Social Norms Index among 12- to 18-year-olds

Score on Social Norms Index: average for the sample=104.1								
	<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	rho	Maximum effect
General exposure	104.1		101.4	104.8	-0.3 -6.2 to 6.2	NO	.00	0.7 -7.1 to 8.5
Specific exposure	105.9	106.4	101.8	101.1	-1.8 -10.0 to 6.4	NO	-.03	-4.8 -17.9 to 8.3

The cross-sectional results for the self-efficacy scale are essentially consistent with the other three outcome measures. There is no monotonic trend, rho is close to zero, and there is no maximum effect. The only exception is for the direct effect estimate for the specific exposure analysis. Although this apparently favorable effect is marginally significant, it does not appear readily interpretable. The lowest and highest exposure groups are similar and the rho is zero. Table 5-J summarizes the self-efficacy results. (See also Detail Tables 5-39 and 5-40.)

Table 5-J Exposure per month and Self-Efficacy to Refuse Marijuana Index among 12- to 18-year-olds

Score on Self-Efficacy Index: average for the sample=105.4								
	<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	rho	Maximum effect
General exposure	104.4		100.1	108.4	1.1 -5.5 to 7.6	NO	.00	4.1 -4.3 to 12.4
Specific exposure	111.8	102.4	105.0	112.5	**-6.4*** -12.7 to 0.0	NO	.00	0.8 -11.7 to 13.2

* Significant at p<0.05.

In conclusion then, there is no supportive evidence that cross-sectional or concurrent campaign exposure is associated either favorably or unfavorably with any of the four cognitive outcomes for the full sample of 12- to 18-year-olds. The next sections ask whether, in the absence of overall effects, there is any evidence of association for subgroups of the population.

5.4.2 Evidence of Diversity of Associations by Age of Youth, Risk Group, Gender, and Race–Ethnicity

The Campaign has been particularly focused on younger teens as its primary audience. Thus, there is a particular interest in showing that there are effects among that group, represented here by the youth aged 12 to 13. They are, in general, not at high immediate risk of drug use; 96 percent of them report having never used marijuana, and more than 90 percent of the current nonusers say they definitely won't use marijuana in the next year. However, they are maturing into the age when more of them will try marijuana and other drugs. Thus they are of primary importance as an audience for the Campaign, and separating the results of younger (12 to 13) and older (14 to 18) teens is, therefore, appropriate.

Detail Tables 5-33 through 5-40 present data for two age subgroups: youth aged 12 to 13 and youth aged 14 to 18. There are a total of 16 analyses presented: two age groups by two exposure measures by four cognitive measures. In that entire set there are two significant effects. One result, for 14- to 18-year-olds, illustrates the specific exposure effect seen in Table 5-K for 12- to 18-year-olds, where self-efficacy is highest for the lowest and highest exposure groups, suggesting that whatever that effect may have meant, it was primarily driven by the older youth. This nonmonotonic result does not permit

easy interpretation. The second result is an apparent unfavorable effect for general exposure on intentions to use marijuana for 12- to 13-year-olds. The results for both the general and specific exposure variables are presented in Table 5-K.

Table 5-K Exposure per month and intentions to use marijuana reported by 12- to 13-year-olds

Percent saying "definitely not" to likelihood of using marijuana even once or twice- overall average=91.6%								
	<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	rho	Maximum effect
General exposure	94.4		90.5	91.0	**-2.8*** -4.7 to –0.9	**YES***	-.05	**-3.4*** -5.9 to –1.0
Specific exposure	90.5	91.6	91.2	91.6	1.1 -2.3 to 4.4	NO	.01	1.0 -3.8 to 5.8

*Association significant at p<0.05.

- All three of the effect estimators and the rho for general exposure are consistent with a small unfavorable Campaign effect for this subpopulation for this measure. However, the specific exposure measure shows no evidence of any effect whatsoever. There were no other significant exposure outcome associations for any of the other outcomes for either age group.

- The Campaign has also had a particular interest in reaching higher risk individuals. Accordingly, the Campaign has been designed with a recognition that youth vary in their risk of drug use and has identified a subgroup category of youth defined by their level of risk for marijuana use, as described in detail in Chapter 4. There was only one overall significant association for either of the risk subgroups. There were also significant "direct effects" for specific exposure with social norms and with self-efficacy, but absent any monotonic association, these are not easily interpreted (Detail tables 5-33 to 5-40).

In addition to the subgroup analyses by age and risk, for which the Campaign had clear expectations of subgroup effects, separate analyses were also performed for subgroups defined by gender and race/ethnicity. There were a total of 40 such subgroup analyses examined: five groups (defined by two genders and three race/ethnicities) by four outcomes by two exposure measures. Since there were no a priori hypotheses about which of these groups were more or less likely to show effects, the possibility of chance effects needs particular attention. With 40 tests, it might be expected that a few tests would be significant at the conventional level by chance. In fact, only one result was significant on one test. White youth showed an unfavorable direct effect for specific exposure and self-efficacy, but in the context of an overall nonmonotonic association, essentially repeating the odd result already shown above in Table 5-K (Detail Table 5-40). In sum, the analyses of subgroups, in tandem with the overall analyses, provide little support for cross-sectional or current effects of Campaign exposure, either favorable or unfavorable.

5.5 Summary and Discussion of Trend and Cross-sectional Results for Marijuana Cognitions

This section summarizes the trend and cross-sectional associational results presented thus far for marijuana cognitions. As noted above, the most desirable result for a claim of Campaign effects from these data would be a favorable trend on a target outcome, and a favorable association between exposure to the Campaign and the outcome. Table 5-L summarizes the results from the earlier parts of the chapter, which describe overall effects for the two age subgroups. The trends are significant for two of the outcomes for the 12- to 13-year-olds and for one outcome for the entire sample of nonusing

12- to 18-year-olds. Attitudes/beliefs and social norm trends are statistically significant for the youngest age subgroup and norms are also significant for all youth. Each of these trends is negative, that is, represent change in a pro-drug direction, across the 2 years.

Table 5-L. Summary of trend and association results for youth

	12-13			14-18			12-18		
		Association			Association			Association	
Index	Trend	General	Specific	Trend	General	Specific	Trend	General	Specific
Intention	NO	**YES (neg.)**	NO	NO	NO	NO	NO	NO	NO
Attitudes/Beliefs	**YES (neg.)**	NO	NO	NO	NO	NO	NO	NO	NO
Social Norms	**YES (neg.)**	NO	NO	NO	NO	NO	**YES (neg.)**	NO	NO
Self-Efficacy	NO	NO	NO	NO	NO	NO	NO	NO	NO

There was no evidence for monotonic associations overall, and only one for an age subgroup: the unfavorable association for 12- to 13-year-olds between general exposure and intentions. There was no accompanying significant decline in 12- to 13-year-old intentions to use marijuana.

The overall pattern of "NOs" in the table, along with the fact that the only statistically significant association is not accompanied by a corresponding significant trend over time, is not consistent with an inference of direct Campaign effects on youth. Additionally, the three significant trends evident in the table are not coupled with significant monotonic associations. Thus, the evidence does not support attributing these trends to the impact of the Campaign. Standing alone, these results do not support an inference of Campaign effects.

The trend and cross-sectional results alone do not support an inference of Campaign effects for the entire population or for the specific age subgroups presented in this table. Is it possible that there are effects that have been missed here? Throughout this chapter, there have been a few significant effects detected for subgroups of the population. Do the subgroup results suggest effects not seen for the overall population? The results are summarized in Table 5-M.

There are a total of 11 significant results out of 108 examined results. The trend data are perhaps most notable for the difference between girls and boys. Girls trend unfavorably on three outcome indicators excluding self-efficacy. At the same time, boys trend favorably on self-efficacy **only**. Low risk and sensation-seeking youth also trend favorably on self-efficacy only. However, none of these trends can be tied to exposure. Only one monotonic association was found, an unfavorable association of general exposure with intent to use among low risk youth. Since this was an isolated finding, we do not make too much of this. In general, the cross-sectional data do not support an inference of Campaign effects among subgroups, consistent with the findings on youth overall.

Table 5-M. Summary of trends and associations for marijuana cognitions by subgroups

		Intentions			Attitudes/Beliefs			Social Norms			Efficacy		
			Association			Association			Association			Association	
		Trend	General	Specific	Trend	General	Specific	Trend	General	Specific	Trend	General	Specific
Gender	Male	NO	NO	NO	NO	NO	NO	NO	NO	NO	**YES (pos.)**	NO	NO
	Female	**YES (neg.)**	NO	NO	**YES (neg.)**	NO	NO	**YES (neg.)**	NO	NO	NO	NO	NO
Race/ Ethnicity	White	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	African American	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	Hisp.	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Risk score	High	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	Low	NO	**YES (neg.)**	NO	NO	NO	NO	NO	NO	NO	**YES (pos.)**	NO	NO
Sensation seeking	High	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	Low	NO	NO	NO	NO	NO	NO	NO	NO	NO	**YES (pos.)**	NO	NO

5.6 Campaign Effects on Inhalant Intentions and Attitudes Among Prior Nonusers

During the Wave 3 data collection, the Campaign raised the profile of its anti-inhalant advertising, particularly those ads directed at parents, which might have been accessible to youth as well. About 43 percent of all radio and television GRPs for parents in Wave 3 related to inhalants. However, no parent anti-inhalant ad time was purchased in Wave 4. For youth, no anti-inhalant ads were run during Wave 3, and only a small amount of inhalant-specific advertising was directed toward youth in Wave 4 (about 4% of all youth-directed GRPs—see Table 3-I). This pattern of buys may not be consistent with expecting changes among youth in behavior or cognitions. Nonetheless, this section of the report examines change in inhalant cognitions across time.

The analysis of trends focuses on two summary measures. The first is parallel to the marijuana intentions index used in the previous sections. The analysis is limited to 12- to 18-year-old prior nonusers of inhalants. The second index sums four questions that addressed the youths' attitudes about inhalant use: disapproval of "once or twice" and regular inhalant use by others, and perception of risk of harm from once or twice and regular inhalant use. These questions were modeled on questions asked in the Monitoring The Future survey for many years. They contrast with the more personal and specific questions that were asked about the consequences of marijuana use and which made up the indices presented above. As with the marijuana Attitudes/Beliefs Index, the responses to the four questions were summed according to weights derived from the prediction of the intentions question in a logistic regression equation, and standardized to have a mean and standard deviation of 100 for 12- to 18-year-olds at Wave 1.

5.6.1 Intentions and Attitudes about Inhalant Use by Age and by Wave

There is no statistically significant change between years for any of the age subgroups in their intention to use inhalants in the next year. Almost all youth said they would not use in Year 2000 and

almost all youth said they would not use in 2001 (Table 5-N and Detail Table 5-27). This may be the result of a "ceiling effect"; the Campaign cannot show favorable effects because the criterion outcome is already so high.

Table 5-N. Trends in intentions to use inhalants once or twice by youth age

	Percent of nonusers saying "definitely not"							
Age group	Wave 1 11/99 – 6/00 (%)	Wave 2 7/00 – 12/00 (%)	Wave 3 1/01 – 6/01 (%)	Wave 4 7/01 – 12/01 (%)	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	Year 2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	95.4	95.5	94.1	94.7	95.4	94.4	-1.0	-2.8, 0.8
14 to 15	93.5	93.2	96.3	95.0	93.3	95.7	2.4	-0.1, 4.8
16 to 18	96.5	95.9	94.8	94.7	96.2	94.8	-1.4	-3.8, 0.9
12 to 18	95.2	94.9	95.1	94.8	95.1	95.0	-0.1	-1.3, 1.1

"How likely is it that you will use inhalants to get high, even once or twice over the next 12 months?"

Table 5-O shows only one statistically significant trend, that being a favorable change in the Attitudes/ Beliefs Index between 2000 and 2001 for 16- to 18-year-old youth (see also Detail Table 5-28). The index's pattern also shows a little more variation by age: older youth tend to be slightly more accepting of inhalant use than younger ones though, in general, the age gradient is less clear cut than for marijuana. (On average, 12- to 13-year-olds had a score of 118, while 16- to 18-year-olds had a score of 97.) In fact, the age gradient "flips" in 2001, with 16- to 18-year-olds scoring nominally higher on the Attitudes/Beliefs Index than 14- to 15-year-olds.

Table 5-O. Trends in Attitudes/Beliefs Index about inhalant use by youth age

	Score on Index among nonusers							
Age group	Wave 1 11/99 – 6/00	Wave 2 7/00 – 12/00	Wave 3 1/01 – 6/01	Wave 4 7/01 – 12/01	Year 2000 Average Waves 1 and 2	Year 2001 Average Waves 3 and 4	Year 2000 to 2001 Change	95% CI on 2000-2001 Change
12 to 13	116.2	118.8	117.2	118.5	117.5	117.9	0.4	-6.0, 6.7
14 to 15	96.7	103.4	85.2	98.5	100.1	91.6	-8.5	-20.4, 3.4
16 to 18	**90.3**	**91.1**	**105.6**	**100.3**	**90.7**	**102.9**	**12.2***	**1.6, 22.8**
12 to 18	100.1	103.5	102.2	105.1	101.8	103.7	1.9	-3.62, 7.4

Note: The index was standardized so 12- to 18-year-old nonusers had mean and standard deviation of 100 at Wave 1.

* Significant at $p < .05$

The overall trend for all nonusing 12- to 18-year-olds shows no statistically significant change across the four waves. However, the 16- to 18-year-olds show a significant favorable trend over the years of the Campaign, 2000 and 2001.

5.6.2 Evidence of Diversity in Trends

Aside from the age subgroup effects just described, there are no other detectable trend effects for any of the subgroups of interest (males vs. females, Whites versus African American vs. Hispanics, or among risk subgroups).

Although there are no differences in trends, there are sharp differences between high and low sensation seekers in both their intentions to use inhalants and their attitudes about inhalants. Among sensation seekers, 98 percent say they definitely won't use in the next year; among high sensation seekers 92 percent, significantly less, reject such future use. Similarly low sensation seekers score 132 on the

Attitudes/Beliefs Index, in contrast to the high sensation seekers' score of 79. The identification of high sensation seekers as at greater risk of drug use is clearly reinforced by these results.

5.7 Longitudinal Associations of Anti-Drug Advertising Exposure with Attitudes, Beliefs, and Intentions about Marijuana Use among 12- to 18-Year-Old Nonusers

This section presents an analysis of cohort data: the youth who were interviewed at Wave 1 and again at Wave 4. With these youth, who were followed for an average of 1½ years, it is possible to examine whether level of exposure to advertising at Wave 1 predicts subsequent changes on the important outcomes. Given the lack of evidence of Campaign effects shown in the previous sections, finding evidence for a lagged effect on the cognitive outcomes and on reported marijuana use was unexpected. Initial analysis appears to indicate that the observed effect goes in an unfavorable direction: those who were more exposed to the Campaign at Wave 1 tended to move more markedly in a "pro-drug" direction as they aged than those who were less exposed.. Because these results are inconsistent with hypothesized Campaign influences and are hard to explain, they have been analyzed through a variety of procedures.[6]

The lagged exposure analysis commences with a display of the fully adjusted results for the 12- to 18-year-olds and then for two age subgroups, 12- to 13-year-olds and 14- to 18-year-olds. These analyses are adjusted for the complex sample design and the full set of potential confounders. The confounder adjustments follow the same procedures used for the cross-sectional association analyses, above, although the propensity scores used for adjusting were based on the specific Wave 1 exposure scores for this sample (see Appendix C). Only youth who were nonusers at Wave 1 and were reinterviewed at Wave 4 were available for this analysis. The number of youth from that wave who were in the highest exposure category on the specific exposure measure was small, particularly when analyses were done within age groups. As a result, in order to provide more stable estimates of outcomes within categories, the tables in this section use a three-category rather than the four-category specific exposure measure used elsewhere in this chapter. The basic pattern of results reported here was largely matched when the analyses were done with the four category measure.

Table 5-P presents the results of the lagged analysis for the sample of 12- to 18-year-old youth who have never used marijuana. The table shows one significant result, for the association of Wave 1 specific exposure with Wave 4 social norms. The youth who were higher on exposure at Wave 1 have less favorable social norms at Wave 4. The association has a negative rho of -.10, and it is roughly the same as the rhos for the 12- to 13-year-olds (-.08) and the 14- to 18-year-olds (-.09), presented in the subsequent tables. Because of smaller sample sizes those associations are not statistically significant.

[6] An additional set of longitudinal analyses, not further reported, were also undertaken. In the previous reports it was found, as is also the case in the previous section of this report, that there was no cross-sectional association between exposure and outcomes. One possible explanation for that result was that the measures of exposure were not sufficiently strong to show such effects. It was then proposed that the measurement quality of the exposure measure be strengthened by taking an average exposure level across two Waves (in this case across Wave 1 and Wave 4.). The goal of this "stable exposure" analysis (in contrast to the "lagged exposure" analysis discussed in this section) was to make sure that the lack of association between exposure and outcome was not an artifact of inadequate measurement. However this concern largely disappears with the evidence from the lagged analysis presented in this section, where associations using the single Wave 1 measure of exposure are found. In that context it was no longer thought necessary to report fully the results of the association of the averaged measure of exposure with the Wave 4 outcome as had been planned. In fact, those analyses showed results essentially consistent with the cross-sectional results presented in the previous sections. There was no pattern of significant associations between the average of Wave 1 and Wave 4 exposure and the Wave 4 outcomes.

The results for respondents who were 12 to 13 years old and had never used marijuana at Wave 4 are displayed in Table 5-Q. The rhos are all negative, again, varying from -.01 to -.11. In every case, youth with each higher level of specific exposure report less positive cognitions. The tests for association of intention to use marijuana with both general exposure and specific exposure are statistically significant and negative as well.

Table 5-P. Exposure per month at Wave 1 and outcomes at Wave 4 among 12- to 18-year-olds who were nonusers of marijuana at Wave 1

		Wave 1 Exposure					
Wave 4 Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho	Signif.
% (Not) intending to use	General exposure	78.8		81.2	76.2	-.03	NS
	Specific exposure	82.4	78.6	74.1		-.08	NS
Attitudes/Beliefs Index	General exposure	86.3		88.6	86.2	-.01	NS
	Specific exposure	89.1	90.0	77.3		-.03	NS
Social Norms Index	General exposure	81.6		88.3	76.7	-.03	NS
	Specific exposure	98.3	80.0	69.8		-.10	P=.01
Self-Efficacy Index	General exposure	96.8		112.9	105.1	.00	NS
	Specific exposure	114.5	104.4	99.2		-.04	NS

Table 5-Q. Exposure per month at Wave 1 and outcomes at Wave 4 among 12- to 13-year-olds who were nonusers of marijuana at Wave 1

		Exposure at Wave 1					
Wave 4 Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho*	Signif.**
% Not intending to use	General exposure	**92.7**		**91.8**	**85.4**	**-.10**	**P=.02**
	Specific exposure	**94.2**	**90.1**	**85.7**		**-.11**	**P=.02**
Belief/Attitude Index	General exposure	126.1		129.8	111.1	-.07	NS
	Specific exposure	126.1	120.3	106.1		-.05	NS
Social Norms Index	General exposure	122.8		143.1	115.9	-.01	NS
	Specific exposure	137.1	120.2	112.4		-.08	NS
Self-Efficacy Index	General exposure	101.8		118.9	98.2	-.05	NS
	Specific exposure	112.6	104.2	96.2		-.05	NS

[1] Estimate is suppressed due to the small number of cases in cell.

* Spearman rho is an estimate of the association of two ordered variables and varies between –1 and +1.

** The significance is based on the Jonkheere-Terpstra test for monotonic association. NS denotes not significant at the 5 percent significance level.

The results for the 14- to 18-year-olds are displayed in Table 5-R. None of those results are statistically significant. The general exposure measures are not related to any of the outcomes. As noted above the social norms outcome, with a rho of -.09, is consistent with the effects for the entire sample, and thus is appropriately seen as a reliable effect.

Table 5-R. Exposure per month at Wave 1 and outcomes at Wave 4 among 14- to 18-year-olds who were nonusers of marijuana at Wave 1

		Exposure at Wave 1					
Wave 4 Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho	Signif.
% Not intending to use	General exposure	71.3		76.9	71.5	.00	NS
	Specific exposure	75.4	74.4	68.3		-.06	NS
Belief/Attitude Index	General exposure	65.6		72.3	74.0	.02	NS
	Specific exposure	68.3	76.8	63.6		.00	NS
Social Norms Index	General exposure	60.2		66.7	57.4	-.02	NS
	Specific exposure	76.4	62.5	49.5		-.09	NS
Self-Efficacy Index	General exposure	94.2		110.6	108.5	.01	NS
	Specific exposure	115.7	104.4	100.6		-.03	NS

The negative results for the social norm measure across all of the youth, and for the intentions measure for the 12-13 year olds , after controlling for a wide variety of possibly confounding variables, are surprising and clearly undesirable from the perspective of the Campaign.. These results merited further careful examination. Therefore, three additional analysis paths were undertaken:

1. To make sure that the observed results did not appear only with the complex adjustment procedures that were implemented, the data were weighted to adjust for NSPY's sample design but not for confounder control (i.e., the CFP weights) and then re-analyzed. While the adjustments for confounders were based in statistical theory, it would provide additional strength if the apparent results did not only appear at the end of that process.

2. The association of Wave 1 exposure with the change in outcomes between Wave 1 and Wave 4 was also examined. The analyses presented in the previous tables were structured to examine the association of Wave 1 exposure with Wave 4 outcomes, controlling for Wave 1 confounders. However, the confounders did not include the Wave 1 measures of the outcomes. This was because the youngest children in the sample, those who were 9 to 11 at Wave 1, had been given a different questionnaire at Wave 1, which did not include all of the outcome measures. Nonetheless, to provide an additional perspective on the effects, an analysis was added of the association of Wave 1 exposure and the change scores on the outcomes for the older children.

3. The analysis then turned to the evidence about use of marijuana. Were the youth who were more exposed to the Campaign not only more likely to report pro-drug cognitions but also more likely to have initiated marijuana use?

The results for the first analysis path outlined above, undertaken to further examine the unfavorable lagged association of Wave 1 exposure with Wave 4 outcome, are presented in Table 5-S. This table presents the NSPY data unadjusted for confounder control.[7]

Table 5-S. Exposure per month at Wave 1 and outcomes at Wave 4 among 12- to 18-year-olds who were nonusers of marijuana at Wave 1- (data not corrected for confounders)

Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho	Signif.
% (Not) intending to use	General exposure	81.2		81.8	74.7	-.07	NS
	Specific exposure	84.3	79.0	74.1		-.09	P < .01
Attitudes/Beliefs Index	General exposure	94.2		90.9	81.2	-.06	NS
	Specific exposure	96.3	91.5	78.1		-.06	NS
Social Norms Index	General exposure	91.6		91.4	71.3	-.10	P=.019
	Specific exposure	101.5	81.7	66.0		-.13	P < .01
Self-Efficacy Index	General exposure	102.7		114.8	103.4	-.05	NS
	Specific exposure	117.0	105.1	98.3		-.05	NS
N	General exposure	441-443		397-399	922-932	1760-1774	
N	Specific exposure	456-461	695-697	547-556		1798-1814	

For both measures of exposure, and for each of the four cognitive outcomes, the relationship is unfavorable. This consistency is not surprising since three of the cognitive variables are highly correlated: intentions is correlated .55 with attitudes, .47 with norms, and norms and attitudes are correlated at .58. All three are correlated with efficacy but at somewhat lower levels (.36 for intentions, .36 for attitudes, and .27 for norms). Three of the relationships are statistically significant at the p<.05 level: specific exposure with intentions, and both specific and general exposure with social norms. The pattern in Table 5-S is consistent with that found for the fully adjusted data. The negative associations are not merely a byproduct of the procedures used to adjust for confounders. The next table examines whether the trajectories of change in the outcomes are actually predicted by the exposure levels at Wave 1. Table 5-T, presents the same analyses as in the previous table but instead of using Wave 4 outcomes, the change between Wave 1 and Wave 4 on the outcomes is used. Once again these are corrected for sampling weights but not for the possible influence of confounders. For this analysis, youth who were not yet 12 at Wave 1 were excluded, since they were given a different questionnaire. Hence, most youth aged 12- to 13 at Wave 4 are not included in Table 5-T. No youth who were over 17 at Wave 1 were eligible for interview at Wave 4.

[7] The data presented in all tables in this report were adjusted for NSPY's complex sample design.

Table 5-T. Exposure per month at Wave 1 and change in outcomes between Wave 1 and Wave 4 among 12- to 17-year-olds who were nonusers of marijuana at Wave 1- (data not corrected for confounders)

Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho	Signif.
% (Not) intending to use	General exposure	-12.3%		-9.9%	-14.5%	-.03	NS
	Specific exposure	-10.8%	-9.8%	-16.8%		-.06	NS
Attitudes/Beliefs Index	General exposure	-28.8		-32.4	-31.1	.03	NS
	Specific exposure	-27.9	-23.8	-39.0		-.03	NS
Social Norms Index	General exposure	-28.4		-35.3	-51.5	-.09	**P<=.01**
	Specific exposure	-20.0	-42.2	-55.3		-.12	**P<.001**
Self-Efficacy Index	General exposure	7.5		13.5	7.4	.00	NS
	Specific exposure	18.2	9.5	6.7		-.03	NS

With the exception of the self-efficacy measure, each of the other outcomes shows a downward trend for all groups. This was to be expected, since these youth are, on average, 1.5 years older, and age is highly associated with holding less anti-drug views.

This analysis shows a pattern of results very similar to that presented in Table 5-S for the simple association. There continue to be unfavorable associations of both the specific and general exposure measures with social norms. This table is different from the previous one both because it leaves out the youngest sample members who did not have the baseline measures on the outcomes, and it looks at change scores as the outcome. Those differences matter. It was previously shown that the strongest negative effects were on the youngest respondents, a group underrepresented in the youth who had change scores. However, even with those limitations, the basic result from the fully elaborated analysis is largely maintained.

Finally, these same procedures were used to examine whether there were parallel lagged effects on actual initiation of marijuana. These analyses, which were adjusted for confounder effects, were restricted to youth who reported no use of marijuana at Wave 1. The outcome criterion was whether they reported that they had used marijuana ever at Wave 4, indicating that they had initiated use between the two waves. Table 5-U presents these analyses for the entire sample of 12- to 18-year-olds at Wave 4, for 12- to 13-year-olds, and for 14- to 18-year-olds. Table 5-V continues this analysis for three major subgroups of 12- to 18-year-olds, Whites, males and females and low and high risk youth.

Table 5-U. Exposure per month at Wave 1 and Initiation of marijuana use by Wave 4 among nonusers of marijuana at Wave 1

Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho	Signif.
All 12- to 18-year-olds	General exposure	y17.1%		12.4%	13.7%	-.04	NS
	Specific exposure	10.4%	14.4%	16.3%		.07	NS
12- to 13-year-olds	General exposure	4.4%		2.7%	4.6%	.00	NS
	Specific exposure	1.2%	5.8%	5.2%		.09	P=.04
14- to 18-year-olds	General exposure	23.7%		16.3%	18.4%	-.05	NS
	Specific exposure	15.7%	18.2%	21.9%		.07	NS

Similar to most of the earlier tables, for all 12- to 18-year-old youth there are no statistically significant associations of behavior with the general measure of exposure controlling for Wave 1 confounders. The effects seen in the previous tables do extend to effects of specific exposure on behavior. The 12- to 13-year-olds show a significant association between exposure and initiation, although the absolute levels of use are quite low. Only about 4 percent of all of these children had begun using by that age. The effects for the 14- to 18-year-old subset and the entire 12- to 18-year-old sample are not statistically significant, though the nominal monotonic trend remains. However, for two major subgroups of the full population of 12- to 18-year-olds the unfavorable association becomes significant: for females and for low risk youth (Table 5-V).

Table 5-V. Exposure per month at Wave 1 and initiation of marijuana use by Wave 4 among nonusers of marijuana at Wave 1

Outcome (average)		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho	Signif.
12- to 18-year-old males	General exposure	18.4%		12.9%	12.3%	-.07	NS
	Specific exposure	15.9%	16.0%	11.4%		-.05	NS
12- to 18-year-old females	General exposure	15.5%		11.9%	15.2%	.00	NS
	Specific exposure	**3.7%**	**12.9%**	**21.6%**		**.22**	**P < .01**
12- to 18-year-old Whites	General exposure	19.3%		12.9%	15.4%	-.04	NS
	Specific exposure	11.0%	16.4%	18.8%		.09	NS
12-18 year old Higher risk youth	General exposure	29.5		33.6	32.9	.03	NS
	Specific exposure	35.8	39.4	37.0		-.00	NS
12-18 year old Lower risk youth	General exposure	10.1		5.8	8.3	-.03	NS
	Specific exposure	**5.4**	**9.6**	**11.8**		**.09**	**P=.02**

Most subgroups of the population were too small for further analysis. However, Whites, males, and females and low risk youth had sufficient sample sizes for further examination. Males showed no evidence of effects, and none of the three groups showed an association with general exposure, but both females and low risk youth showed significant associations for specific exposure and initiation of marijuana use. While the high risk youth are displayed in the table, and they make up a small proportion of the sample, so their results are unstable. However, while there overall level of initiation is much higher than for low risk youth there is no hint of an association with either exposure measure.

5.8 Summary and Discussion

In this chapter, a number of results were presented pertinent to direct Campaign effects on youth.[8] For each of the four cognitive indices plus reported use of marijuana, we examined: 1) trends/changes from 2000 to 2001, 2) cross-sectional associations with both general and specific exposure, and 3) longitudinal associations for the Wave 1 cohort only focused on lagged analysis. Table 5-W summarizes all of the major results, by age group. Following the convention adopted for these semi-annual reports, the statistically significant findings are presented in bold typeface.

Table 5-W. Summary of trend, cross-sectional associations, and longitudinal associations

Age	Outcome	Trend (year 2000 to 2001)	Cross-sectional association (rhos)		Longitudinal association (rhos)	
			General	Specific	General	Specific
12-13	(Non-)Intentions	-1.4%	**-.05**	.01	**-.10**	**-.11**
	Attitudes and Beliefs	**-7.8**	.02	.02	-.07	-.05
	Social Norms	**-7.5**	.02	-.03	-.01	-.08
	Self-Efficacy	-0.3	-.03	.05	-.05	-.05
	Initiation of use*	-0.6%	NA	NA	.00	**.09**
14-18	(Non-)Intentions	-1.2%	-.02	-.02	.00	-.06
	Attitudes and Beliefs	-4.0	-.01	-.05	+.02	-.02
	Social Norms	-6.2	-.01	-.04	-.02	-.09
	Self-Efficacy	+7.3	.02	-.03	+.01	-.03
	Initiation of use*	0.0%	NA	NA	-.05	+.07
12-18	(Non-)Intentions	-1.2%	-.03	-.01	-.03	-.08
	Attitudes and Beliefs	-5.1	.00	-.02	-.01	-.03
	Social Norms	**-6.4**	.00	-.03	-.03	**-.10**
	Self-Efficacy	+4.6	.00	.00	-.00	-.04
	Initiation of use*	-.3%	NA	NA	-.04	+.07

The non-intentions measure and the three indexes are coded so that a higher score is an anti-drug position. This means that a negative rho represents an unfavorable result. The final variable is initiation of use. In that case a positive rho is unfavorable to the Campaign – those with more exposure were more likely to initiate use. NA: Not examined, since only nonusers included in cross-sectional analyses.

[8] Indirect effects mediated through parent exposure are presented in Chapter 6.

5.8.1 Trends

In chapter 4, we presented the trends for marijuana use. There was no overall trend in use, nor for any marijuana use behavior for the 12- to 13- or 16- to 18-year-olds, although there was some evidence for increasing regular use among the 14- to 15-year-olds. From this chapter, there were no statistically significant trends in intentions to use marijuana over the 2 years of measurement among prior nonusers. This is true for the overall sample and for each age group. Similarly, there is no overall trend on attitudes and beliefs. The 12- to 13-year-old subgroup did show a 2000-2001 decline in anti-drug beliefs, although in a complex cross wave pattern. There is an unfavorable trend in perceived social norms, with significant overall effects as well as significant effects for the 12- to 13-year-old group. Finally, there is no overall trend on self-efficacy; however, 14- to 15-year-olds display a significant improvement over the time of the Campaign.

5.8.2 Cross-Sectional Associations

Regarding exposure-outcome associational effects, Wave 4 continues a pattern that was observed in the earlier reports from Waves 2-3: very few cross-sectional concurrent effects. There was no evidence for monotonic associations overall, and for only one subgroup out of 72 examined: the unfavorable association for 12- to 13-year-olds between general exposure and intentions. This pattern was not changed when the exposure measure was replaced by an average of the exposure responses across Wave 1 and Wave 4 and the association of that "stable" exposure measure and Wave 4 outcomes was assessed. There continued to be no pattern of favorable or unfavorable association between amount of either general or specific exposure and outcomes.

5.8.3 Lagged Associations

.For some outcomes, and for some subgroups of respondents, analysis raises the possibility that those with more exposure to the specific Campaign ads at the start of Phase III of the Campaign had less favorable outcomes over the following 18 months. This was true for the youth respondents who were nonusers and aged 10 to 12 at the start of this phase, with regard to their intentions to use marijuana in the future and for all youth 12 to 18 for their perceived social norms about marijuana use. Girls with the highest exposure to Campaign ads at the start were more likely than less exposed girls to initiate marijuana use. This effect on initiation was not seen for boys. This unfavorable association with initiation was also significant for the youngest respondents and for the low risk respondents.. If this association is real and if it reflects Campaign influences, it is clearly a disturbing and unwelcome one for the Campaign. Consequently, the findings were subjected to further scrutiny before drawing any conclusions. There were two basic lines of inquiry: 1) Can the results be due to a statistical artifact? and 2) Could the Campaign have indeed produced a true negative effect?

Can the results from the lagged analysis be due to a statistical artifact? There are two logical threats to a casual claim that the Campaign produced an unfavorable effect. The first is that in the sheer complexity of the statistical analysis, with its adjustment for confounder effects, some error crept in and that the observed results are merely an artifact of that process. Several points argue against this theory. First, the fully weighted and controlled model provides very similar results to a simple analysis of the uncontrolled data. The basic effects are all in the same direction, particularly for the specific exposure effects. Second, an examination of association between Wave 1 exposure with changes in

Wave 1 to Wave 4 outcome scores also yields similar results. Third, the complex analysis has been undertaken with extended checks and quality control oversight.

There are two specific risks to causal inference associated with the analysis approach undertaken. First, is it possible that the potential covariates that were included in the analysis were not adequately controlled in the process? Second, is it possible that some unmeasured covariates could account for the observed negative association?

Propensity scoring is designed to remove the effects of confounding variables from the association between outcomes and exposures. It is possible to detect the success of that process by showing that the potential covariates do not vary across the adjusted exposure categories. This property is referred to as balance. If a confounder has been successfully balanced, it will have the same counterfactual projection across all exposure levels. If confounders are not balanced, results can still be biased. The ability to assess balance is an important advance of propensity scoring over traditional analysis of covariance (Rosenbaum and Rubin, 1984). A number of tests of balance were conducted for the overall data as well as for subgroups divided by age. Overall the number of covariates out of balance for the full sample and for the age subgroups were probably no more than would have been expected by chance. However there was some evidence of lack of balance for some covariates including a few that were associated with the outcome measures. Additional post hoc analyses were performed controlling statistically for the variables that were out of balance as well as the full set of confounders and accounting for the complex sample design. Preliminary models that included out-of-balance covariates revealed the effect on perceived social norms and probably intentions to be quite robust, and in all cases the nominal direction of the effect was unchanged. The pattern of relationships in which some of the covariates are both out of balance in the propensity models, as well as significantly related to outcomes at Wave 4 does call for more elaborated examination of the inference of a negative association between Wave 1 exposure and Wave 4 outcomes. More rigorous models to control for unbalanced covariates will be examined and, if appropriate, implemented prior to the next semi-annual report.

The second threat is more substantive in character. Is it possible that there is some unmeasured covariate? Is there some variable not included in the propensity model, which could have influenced recall of exposure to the television advertising at Wave 1 and the Outcomes at Wave 4? An unmeasured covariate can bias the effect estimates even if all the measured covariates are perfectly balanced. One can never be sure, of course. That is the difference between a randomized experiment and an observational study. It is always possible that some unmeasured characteristic accounts for an observed result.

However, such an unmeasured variable would have to have a particular character. The obvious possibility would be that youth with more interest in marijuana, with more positive beliefs and perceived social norms, pay more attention to the advertising. However, insofar as this can be examined, that does not appear to be a viable explanation. Baseline data are lacking on many of the cognitive measures for the youth who were 9 to 11 at Wave 1, and these make up a substantial portion of the 12- to 13-year-olds at Wave 4. Therefore, control could be implemented for these baseline cognitions only for the older youth. However, when this is done, these Wave 1 cognitions do not account for the observed negative effect. Also, there is no cross-sectional association between exposure and the outcomes. Furthermore, when the effects of exposure at Wave 1 are examined, statistically controlling for Wave 1 beliefs and social norms for the youth who were 12 or older at Wave 1, the basic relationships are still present.

Thus the unmeasured variable would have to be one that suggests that youth who reported high exposure at Wave 1 would have had a different trajectory regardless of that exposure, that the exposure was only an indicator of the already present tendency to move toward a more pro-drug position. The difference in trajectories would have to be not associated with any of the other variables that were measurable at Wave 1, including projected risk of drug use, which predicted a great deal of the transition to drug use, and which was not associated with exposure levels.

This unmeasured covariate problem is related to the internal validity threat of *selection-maturation* (Cook and Campbell, 1979), which often must be confronted in quasi-experimental studies of youth. Here, such a threat occurs if the highest exposure groups have differential rates of "normal growth" between Wave 1 and Wave 4. Practically speaking, this is likely to occur if the measured variables do not fully capture the "selection" process producing the various exposure levels. Thus far there is no specific evidence that this is true, although it may be. Given the above findings, the evaluation team must proceed with caution, but with the recognition that the relationship has not been rejected by the challenges to it undertaken thus far.

How can it be that there is no detectable trend in marijuana use, and there is no detectable cross-sectional association of specific exposure and outcomes, but there is a robust unfavorable lagged association? Here are some speculations:

- Trend effects are in fact partly consistent with an unfavorable Campaign effect. There was evidence for a year-to-year downward trend among 12- to 13-year-olds on social norms and for the Attitudes/ Beliefs Index. The intentions measure trended downward as well, although not significantly. The real inconsistency focuses on the usage trend. Youth who were 12 to 13 in 2001 were not different from the same aged youth in 2000 in their rates of use. How could this be if the effect of the Campaign has been to increase use? Perhaps the effects are simply too small to be detected. Very few 12- to 13-year-olds become users. Among those who became 12 to 13 by Wave 4, fewer than 4.2 percent of Wave 1 nonusers became users over the 18-month interval and only 3 percent of all 12- to 13-year-olds report using marijuana in the past year. The higher exposed group may not be large enough to produce effects when their usage behavior is averaged with the rest of the population. It must also be remembered that all observed trends are subject to influence by non-Campaign factors that have not been measured or controlled for in this study. While unfavorable trends are consistent with an unfavorable Campaign effect, alternative explanations are plausible, and cannot be ruled out.

- A more difficult inconsistency has to do with the failure to find any cross-sectional association between exposure and outcome. How can it be that there is an unfavorable lagged effect but no cross-sectional association? Certainly, this is an odd result. One speculative explanation is consistent with some empirical results, but still not easy to sort through: there are two causal relationships operating, exposure has an unfavorable effect on outcomes, but outcomes have a favorable effect on recalled exposure. The sum of these effects produces a zero cross-sectional relationship.

There is then some difficulty, certainly, in reconciling the full set of results. The inference logic set at the outset asked for three mutually supportive results to make a claim for positive Campaign effects: a favorable trend, a favorable association, and evidence for a favorable lagged effect. Obviously these have not been found, and thus there are no grounds to make a claim that the Campaign has had a favorable effect on youth thus far. Still, if those were the criteria for claiming a positive influence for the Campaign, then perhaps it is appropriate to use the same criteria for addressing a claim for

unfavorable Campaign effects. It cannot be claimed the criteria have been met, even if some post hoc speculation can be offered as to why they might be inconsistent.

Despite the above uncertainties there is one more problem to address. How could it be that the Campaign could have produced an unfavorable effect? If, for the sake of argument, it is stipulated that the observed relationship is real, through what mechanism could the Campaign have produced such an effect on perceived norms, intention and behavior? The theory underlying the Campaign and the evaluation were all about the process of producing anti-drug beliefs and behavior. At this point in the evaluation, any explanation for the observed, surprising, result is based on speculation.

The strongest results relate to social norms. There are unfavorable trend and lagged association effects present for that outcome for the entire population. Is it possible that the Campaign, while its explicit message is anti-drug, provides a second implicit message—that drugs are a big problem and their use is widespread? The Campaign's communication plan had proposed using messages that would say that most kids don't use drugs. But, in fact, there were very few messages broadcast during Wave 1 (or subsequently) that put this idea forward. Contrarily, the messages which were broadcast—negative consequences (25%), normative positive consequences (40%), and resistance skills (33%)—all have as an implicit assumption that drugs are a problem. Is it possible that youth took from these messages that drug use is expected behavior?

A second speculation is that youth do not like being told what to do. The more they are told what to do the more resistant they are to the messages. A body of psychological theory refers to this phenomenon as "reactance." The more heavily exposed to the ads youth were, the more resistant to their ideas they became. As far as we know, there has not been prior evidence of reactance in published evaluation of campaigns. Snyder (2002) published a meta-analysis of 48 behavior change programs that made use of mass media. None of them showed an unfavorable effect. All of the evidence supporting this hypothesis has come from experimental studies. It may be possible that youth have gotten so much anti-drug information from school and elsewhere that their response to this extra exposure has been to go in the opposite direction.

There is some empirical evidence consistent with this speculation. In a straightforward analysis, Jacobsohn (2002) has found that the cross-sectional association of exposure and outcome was contingent on the youth's assessment of the ads they had seen. Based on NSPY data collected to date, there was essentially no association between exposure and any outcome among youth who were positive toward the ads (the great majority of youth). Youth who were negative in their ad evaluation showed a clear association for the attitude index and 12- to 13-year-old youth demonstrated this association for both the norms and attitude indices. Since the causal order between ad evaluation and the cognitive outcomes is uncertain, the evaluation team is reluctant to put too much emphasis on this result. Nonetheless, it provides some support for the reactance speculation: most youth may be unaffected by the ads, but those who are negatively predisposed may be reinforced in their negative response by increasing exposure. The Wave 1 and 4 samples are not large enough to test this hypothesis in order to determine whether it might explain the lagged results. However, it will be possible to do such a test when the full sample is available after Wave 5.

5.8.4 Conclusion

Overall, most of these results are consistent with no Campaign effects on youth, while one set is consistent with an unfavorable effect. The unfavorable effect has not been rejected by the additional

analyses performed to date. If valid, it is a surprising result, both because it was unexpected for the Campaign, and because it has no real precedent in the published communication campaign literature. Explanations presented for a possible unfavorable Campaign effect are speculation with only a small amount of empirical support. To be sure, the results raise concern, but they cannot be viewed as definitive. The next report will permit longitudinal analysis with the entire sample, not just those who were originally interviewed during Wave 1. The sample for that wave will include more than twice as many respondents, and will permit additional subgroup analyses. More time with the results will also permit additional statistical investigations, as well as extended exploration of possible mechanisms of effect. It is also important to remember that the unfavorable effects apply only to Campaign exposure in early 2000. It is still possible that subsequent waves of data will show a favorable Campaign effect, if later advertising was more effective than the Wave 1 exposures. Finally, some would argue that true behavior change can be a slow process, and may well take 2 or 3 years to occur. This may explain, at least in part, why favorable changes in youth have not been observed.

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6. Campaign Effects on Parents

A continuing theme of the parent Campaign has been to encourage parents to engage with their children to protect them against the risk of drug use. This idea is summarized in the slogan, Parents: The Anti-Drug. The major component has been to encourage parents to monitor their children's behavior by knowing where they are and with whom, and by making sure they have adult supervision. A second component has been to encourage talking between parents and children about drugs. Also, although largely restricted to the time period covered by Wave 1 data collection, the Campaign had a substantial level of advertising that encouraged parents to do fun things with their children as a positive part of their engagement with them.

The evaluation examined evidence for Campaign effects on those three classes of outcomes: talking with children about drugs, monitoring children's behavior, and engaging in fun activities with children. In the previous report, based on both favorable trends over time and cross-sectional associations, there was evidence supportive of Campaign effects on objectives related to talking with children, and for beliefs and attitudes regarding monitoring of children, and in the case of the cross-sectional associations for doing fun activities with them. These results are largely replicated here. However, there was some concern about whether the observed cross-sectional association reflected the influence of the Campaign on the outcomes or the influence of parents' engagement with youth on their tendency to recall the Campaign's messages. With this report it is possible to examine followup data with the parents interviewed at Wave 1. This would permit examination of the possibility that Wave 1 exposure to messages predicted change by Wave 4 in the outcomes, thus helping to address the concern about causal direction. However, as will be seen, there is no evidence yet for such lagged associations. Longitudinal analyses, at this point, do not resolve the issue of causal order in the association between exposure and parent outcomes.

This chapter first discusses the logic supporting claims of Campaign effects and presents the primary outcome variables. In Section 6.2 it turns to evidence for change in those outcome variables over the four waves of data collection. Section 6.3 and 6.4 presents the evidence for the association of exposure to Campaign advertising with the major outcome variables. The following section reviews results from the longitudinal analyses of parent outcomes. Finally, Section 6.6 brings together the trend, associational, and longitudinal analyses and discusses conclusions about Campaign effects.

6.1 The Logic of Inference and the Development of Parent Outcome Scales

As discussed in the previous chapter, it would be desirable to show that target outcomes are trending in a direction favorable[1] to Campaign objectives: more monitoring, more talking, and more fun activities. This would be desirable even though trend data, by itself, is not definitive with regard to inferences about Campaign effects, recognizing that forces external to the Campaign may be influencing trends either for better or for worse.

[1] Throughout this chapter both trends and associations consistent with Campaign objectives are called "favorable." Trends and associations that go in the opposite direction from those expected by the Campaign are called "unfavorable."

Second, it would be desirable to show that parents who were more exposed to the Campaign displayed more of the desired outcomes than parents who were less exposed. For example, were parents who reported seeing Campaign ads two or three times a week more likely to have talked with their children about drugs than were parents who report ad exposure less than once a week? These observed associations are controlled for other confounder variables that might have influenced both of them and been the true cause of the observed association. (See Appendix C for the propensity score methodology that was used.)

Given the cross-sectional nature of the data heretofore, previous reports presented a favorable association of reported exposure to the Campaign with the target outcomes statistically controlled for likely confounders as the best evidence consistent with a Campaign effect. If this was accompanied by evidence of a favorable trend in the outcome, the argument that there was a Campaign effect was strengthened. This report adds longitudinal analyses to preceding approaches, allowing a clearer understanding of the causal order between exposure and outcomes.

The threat of reverse causation, a major concern with cross-sectional analyses, is that the association might be the result of the influence of outcomes on exposure rather than exposure on outcomes. This report benefits from cohort data available over time; parents interviewed at Wave 1 were re-interviewed at Wave 4.[2] As explained in Chapter 2, the longitudinal analysis involves examining the association between exposure measured at Wave 1 and outcome measured at Wave 4, statistically controlling both for the Wave 1 levels of the outcomes and for confounders. This lagged association captures both the delayed effects of exposure at Wave 1 if that effect did not emerge until after Wave 1, as well as the effects of exposure at Wave 1 that flow through exposure at Wave 4 to outcome at Wave 4. Overall, as mentioned above, the difference between cross-sectional and longitudinal results for the association between parent exposure and outcomes does not allow a straightforward inference about campaign effects.

The overall analysis focuses on effects among all parents of 12- to 18-year-olds. The age range is restricted to match the age range of the youth at risk of drug use and the primary focus of the previous chapter. In addition to the overall analysis, the chapter presents both trend, associational, and longitudinal data for subgroups of parents. The subgroup analyses are used for two purposes. If there is an overall effect for all parents, there is a search for evidence that the trends or the association is significantly larger or smaller for particular groups. If there is no overall effect, the subgroups are examined to see if there is evidence of effect for only a subpopulation. By contrast with previous reports, this chapter will focus on subgroup analyses by youth's risk for marijuana use. (See Chapter 4 and Appendix C for further details.) However, other subgroups' differences are noted when they show a consistent pattern.

The primary analyses presented focus on five summed outcome measures: talking behavior, talking cognitions, monitoring behavior, monitoring cognitions, and fun activities undertaken. These measures summarize 21 individual measures. Trends in all the individual measures are presented in the Detail Tables, but the Campaign effects analyses focus on these five measures. The use of only five measures reflects three purposes. The combination of multiple measures into single indices may increase the sensitivity of the measure in detecting effects. Multi-item indices are ordinarily less error prone than single item measures. Also, the more results that are presented, the more likely it is that a

[2] This is only a part of the followup sample, with the rest coming in Wave 5, when Waves 2 and 3 respondents will be reinterviewed.

result will be significant at the conventional (p=.05) level by chance. By focusing on a smaller number of outcomes, particularly when it comes to subgroup analyses, the risk of making inferences on the basis of rare and misleading significant results is reduced. Finally, the presentation of five distinct outcomes is more focused, allowing writers and readers to make sense of the results more easily.

The choice of indices and the procedures for weighting the individual items in the summed indices is described next. The three behavioral indices follow the procedures that have been used in the previous semiannual reports. The talking behavior index, with a range of 0 to 3, gives a point to parents for each of the following: for talking with their son or daughter about drugs at least twice in the previous 6 months, for having discussed family rules about drug use, and for having discussed specific things that the child could do to stay away from drugs. The monitoring behavior index, which also varied from 0 to 3, gave points to parents for saying they "always or almost always" knew what their child was doing when he or she was away from home, had a pretty good idea about the child's plans for the coming day, and for saying their child never spent free time in the afternoon hanging out with friends without adult supervision. These questions were also asked of youth, so that youth and parent responses could be directly compared. The fun activities variable combined the responses of parents to questions about the frequency of in-home joint projects and activities, and going together to out-of-home activities. Parents who reported doing the sum of both activities three or more times each week were assigned one, with everyone else assigned zero.

The two cognitive indices were constructed on a different basis, and parallel to the way the indices in Chapter 5 were created. These belief and attitude variables, presented in Figure 6-A, were summed with weights reflecting their independent prediction of the behavioral scales just described. Thus the eight items that addressed beliefs and attitudes about monitoring were entered into a multinomial logistic regression equation predicting the parent score on the behavioral scale. Similarly, the seven items that addressed self-efficacy about and general attitudes toward talking with children were used to predict the parent-child talk behavior scale. Appendix E describes the procedures for developing these indices in detail.

The substantive logic for this approach reflects the underlying models of the campaign presented in Chapter 2. The beliefs and attitudes are important not for their own sake, but only insofar as they account for behavior. By weighting them according to their predictive strength, they make up an index of cognitions maximized for its ability to account for behavior. This strategy of weighting beliefs and attitudes permits an argument that if the Campaign affects these cognitive outcomes, it also forecasts effects on behavior. These weighted summed scores had no natural metric. To ease their interpretation, the two scales were standardized so that the entire population of parents had a mean of 100 and a standard deviation of 100 at Wave 1. This provides a natural metric for comparing the magnitude of change over time and between groups.

Figures 6-B and 6-C present the association between each of the cognition indices with their respective behavioral outcome. In both cases there is a substantial pattern of association. The monitoring association is almost a perfect linear relation, with the parents at the low end of the monitoring cognition scale doing 0.50 of the three monitoring behaviors while those at the high end undertake 2.2 of the three behaviors.

Figure 6-C shows a relationship between talking cognitions and behavior, but perhaps one that is less clear cut than for the monitoring variables. Also, it is clear that the talking behaviors are more

Figure 6-A. Beliefs and attitudes about monitoring

Monitoring Cognitions:

1. Closely monitoring {CHILD NAME}'s daily activities is:

a. Extremely bad	1	2	3	4	5	6	7	Extremely good
b. Extremely unpleasant	1	2	3	4	5	6	7	Extremely pleasant
c. Extremely unimportant	1	2	3	4	5	6	7	Extremely important

Please indicate how much you disagree or agree with each of the following statements. Think about the next 12 months.

2. Closely monitoring {CHILD NAME }'s daily activities will:	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
a. Make it more likely that {CHILD NAME } will do well in school	1	2	3	4	5
b. Make me feel like I am doing my job as a parent	1	2	3	4	5
d. Make it less likely that {CHILD NAME } will try any drug, even once or twice	1	2	3	4	5
e. Make it less likely that {CHILD NAME } will use any drug *nearly every month*	1	2	3	4	5
f. Make {CHILD NAME } feel I am invading {his/her} privacy	1	2	3	4	5

Talking Cognitions:

Discussing drug use in the *next 12 months* with {CHILD NAME}, would be:

a. Extremely bad	1	2	3	4	5	6	7	Extremely good
b. Extremely unpleasant	1	2	3	4	5	6	7	Extremely pleasant
c. Extremely unimportant	1	2	3	4	5	6	7	Extremely important

How sure are you that you would be able to talk about illicit drug use with {CHILD NAME}, under each of the following circumstances:	Very unsure	Unsure	Neither sure nor unsure	Sure	Very sure
a. If {CHILD NAME} asked me questions about drug use in general?	1	2	3	4	5
b. If {CHILD NAME} asked me what specific things {he/she} could do to stay away from drugs?	1	2	3	4	5
c. If {CHILD NAME} and I had been having conflicts over other things not related to drugs, and our relationship was tense?	1	2	3	4	5
d. If {CHILD NAME} asked me about my own past use of drugs?	1	2	3	4	5

Figure 6-B. Monitoring behavior by monitoring cognitions index

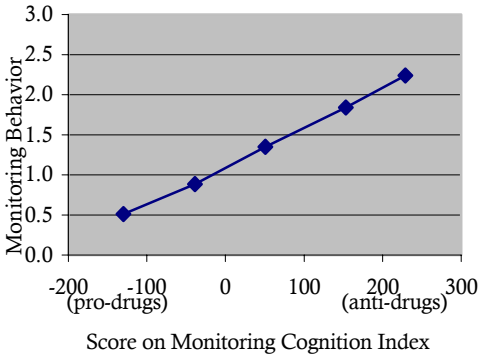
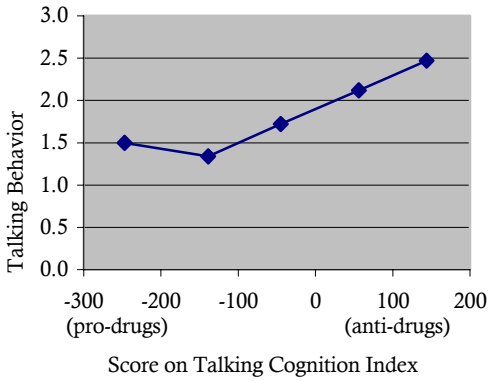


Figure 6-C. Talking behavior by talking cognitions index



common than the monitoring behaviors (with a mean of 2.3 for talking versus 1.6 for monitoring on the 0 to 3 scale) and even the parents with the least supportive cognitions are doing half of the three talking behaviors.

The next section begins with evidence for trends on the five indices.

6.2 Trends in Outcomes

This section covers monitoring behaviors and cognitions, talking behaviors and cognitions, engagement in fun activities, and evidence for diversity in observed trends.

6.2.1 Monitoring Behaviors

Table 6-A presents evidence of yearly changes in monitoring behavior over the four waves of data collection, and the test for statistical significance of the difference in yearly averages for 2000 (Waves 1 and 2) and 2001 (Waves 3 and 4). Three conclusions can be drawn from this table. (See also Detail Table 6-3.)

First, focusing on the entire population of parents of 12- to 18-year-olds, there is a just statistically significant trend toward a favorable change, with 0 as the exact lower limit of the confidence interval around change. There is also a statistically significant favorable trend for one of the age subgroups, parents of 12- to 13-year-olds. Since the recommendation for increased monitoring as an approach to prevention of drug use has often focused on middle school aged youth, the finding of a significant trend among these parents is particularly encouraging. Thus the overall conclusion is that in 2001 parents are reporting they monitor their children, particularly their younger children, more than in 2000.

Table 6-A. Parental monitoring behavior by child age (Parent reports)

	Number of Monitoring Behaviors			
Age group	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	**1.65**	**1.80**	**0.15***	**0.07 to 0.23**
14 to 15	1.47	1.46	-0.01	-0.12 to 0.09
16 to 18	1.18	1.21	0.03	-0.08 to 0.14
12 to 18	**1.41**	**1.46**	**0.05***	**0.00 to 0.11**

* Between year difference significant at p<0.05.

Second, parents monitor children of different ages to different degrees. Older children are much less monitored than younger children. Detail Tables 6-11 through 6-13 present the data for each of the three behaviors that make up the scale. On average, 70 percent of 12- to 13-year-olds' parents, but only 52 percent of 16- to 18-year-olds' parents, say they always or almost always know where their children are when they are away from home. Likewise, 67 percent of 12- to 13-year-olds' parents versus 51 percent of 16- to 18-year-olds' parents always or almost always know their child's plans for the coming day. Finally, 36 percent of 12- to 13-year-olds' parents versus 16 percent of 16- to 18-year-olds' parents claim that their child never spends time with other children without adult supervision.

Youth report that their parents engage in these behaviors less frequently than do parents, at every age. As examples, while 61 percent of parents of 12- to 18-year-olds claimed they always or almost always

knew where children were when they were away from home, only 47 percent of youth agreed; 58 percent of parents but only 31 percent of youth claimed that parents always or almost always knew the child's plans for the coming day. Finally, 25 percent of parents, but only 9 percent of youth said they never spent time alone with other children without adult supervision. Also, as can be seen in Table 6-B, there is no parallel pattern of change in youth reports that would reinforce parents' claims. For 12- to 18-year-olds, parents claim to be monitoring more, but youth do not report a similar change. (See also Detail Table 6-3.)

Table 6-B. Parental monitoring behavior by child age (Youth reports)

	Number of Monitoring Behaviors			
Age group	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	1.03	1.08	0.06	-0.01 to 0.13
14 to 15	0.87	0.88	0.02	-0.07 to 0.10
16 to 18	0.75	0.70	-0.05	-0.12 to 0.03
12 to 18	0.87	0.87	0.00	-0.04 to 0.05

6.2.2 Monitoring Cognitions

The yearly change in parents' monitoring cognitions over the four waves is parallel to the claims of behavior change. Table 6-C presents the data for each of the youth age subgroups. (See also Detail Table 6-1.) The cognitive results show an overall statistically significant favorable trend for parents of all youth 12 to 18, and for the 12- to 13-year-old subgroup.

Table 6-C. Parental monitoring cognitions by youth age

	Score on the index with 100 as the average[1]			
Age group	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	**114.85**	**123.00**	**8.15***	**1.57 to 14.73**
14 to 15	91.55	94.47	2.93	-7.86 to 13.71
16 to 18	61.94	67.43	5.49	-4.44 to 15.42
12 to 18	**87.12**	**92.68**	**5.56***	**0.00 to 11.03**

[1] The scale has a mean of 100 and a standard deviation of 100 for all parents at Wave 1.

* Between year difference significant at p<0.05.

Trends in the individual questions that make up the monitoring cognitions scale are presented in Detail Tables 6-39 through 6-51. In general, parents of 12- to 13-year-olds show consistent favorable changes in responses to the individual questions, though less than half of them are significant. It is only when the set of measures are weighted and summed that the pattern of significant effects, at least for parents of the younger children, appears.

6.2.3 Talking Behaviors

Table 6-D summarizes the information about the extent of parent – child conversations about drugs. Parents could earn up to three points if they reported talking about drugs at least twice in the past 6

Table 6-D. Parent – child talk about drugs by youth age (Parent reports)

	Number of Talking Behaviors (0 to 3)			
Age group	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	**2.29**	**2.38**	**0.09***	**0.01 to 0.17**
14 to 15	2.28	2.39	0.11	-0.05 to 0.27
16 to 18	**2.21**	**2.33**	**0.11***	**0.01 to 0.21**
12 to 18	**2.26**	**2.36**	**0.11***	**0.03 to 0.18**

* Between year difference significant at p<0.05.

months, as well as talking about family rules about drugs, and about specific things a child could do to avoid drugs.

Parents are widely claiming to do a good deal of talking about drugs with their children. The average parent claims to engage in 2.3 out of the 3 measured talking behaviors. In contrast with the monitoring results above, parents do not differentiate by age of child in their frequency of talk.

This table also shows an overall pattern of increasing talk, only the parents of 14- to 15-year-olds show a nonsignificant favorable trend. The size of the absolute change is small, from 2.26 to 2.36. Each of the individual questions showed a change of only around 3.5 percent. (See Detail Tables 6-6, 6-7, and 6-10.) Despite the small magnitude of change, the data are consistent with a claim that the Campaign is associated with a favorable trend in parent reports of talk for all parents of 12- to 18-year-olds.

The parallel data from youth about the same talk questions provide a very different picture from the parent reports (Table 6-E and Detail Table 6-4), with much lower absolute levels of reported talk. While parents report undertaking 2.3 out of 3 behaviors, their children report less than 1.5 of those behaviors. Finally, while parents showed a small but favorable change, the youth reports show an unfavorable change of the same magnitude, which is also statistically significant. Every age group of children, except for the 16- to 18-year-olds, shows a statistically significant unfavorable trend. As will be shown below, there is evidence that these good parent-reported trends among parents of all youth 12 to 18 complement a strong association between exposure and talking behavior. However, the lack of support in child reports of talking brings into question an otherwise strong inference about Campaign effects on parent and youth talk about drugs.

Table 6-E. Parent – child talk about drugs by youth age (Youth reports)

	Number of Talking Behaviors (0 to 3)			
Age group	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	**1.74**	**1.58**	**-0.15***	**-0.26 to –0.04**
14 to 15	**1.56**	**1.42**	**-0.14***	**-0.27 to –0.02**
16 to 18	1.32	1.27	-0.05	-0.15 to 0.06
12 to 18	**1.52**	**1.41**	**-0.11***	**-0.17 to –0.04**

* Between year difference significant at p<0.05.

In addition to questions about general talk with youth about drugs, all parents and youth were asked whether they had ever talked specifically about the anti-drug ads. About half of the parents of 12- to

18-year-olds and a little less than one-third of youth of those ages reported such conversations. There was no evidence that the rate of conversations was increasing or decreasing across the four waves. The only exception to this was for Hispanic parents and Hispanic youth; both groups showed declines in conversation across the four waves. For Hispanic parents, 55 percent who reported conversations in 2000 declined to 50 percent by 2001, although this change was not statistically significant; Hispanic youth started at 35 percent in 2000 and declined significantly to 26 percent by 2001 (Detail Table 6-24).

6.2.4 Talking Cognitions

Table 6-F presents the data about the summed scale for parent attitudes and beliefs about talking with their children about drugs. (See also Detail Table 6-2.) There is an overall statistically significant pattern of improvement for parents of all youth 12 to 18 years old.

Table 6-F. Parent cognitions about talk about drugs by youth age

	Score on summed scale with average =100 at Wave 1			
Age group	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	109.37	112.07	2.70	-5.67 to 11.07
14 to 15	103.15	108.63	5.48	-6.30 to 17.27
16 to 18	81.77	90.74	8.97	-1.26 to 19.19
12 to 18	**96.83**	**102.88**	**6.05***	**0.28 to 11.82**

* Between year difference significant at p<0.05.

The trends for the individual items that make up these scales are presented in Detail Tables 6-26 through 6-31. Only one of the self-efficacy items shows any trend, an unfavorable one. However, the attitude scales do show a favorable trend for all parents of 12- to 18-year-olds. The Year 2000 mean of 6.16 on the 7-point scale increased to 6.22 by 2001. The increase was particularly strong for parents of the oldest teens, 16- to 18-year-olds, who increased from 6.11 to 6.19 between years (Detail Table 6-31). In this case, the attitude measure alone corresponds to the talk behavior measure.

6.2.5 Fun Activities

During the first period of Phase III, corresponding to the Wave 1 data collection period, the Campaign encouraged parents to engage in fun activities with their children. The variable presented in Table 6-G indicates the proportion of parents who claimed to do at least three or more activities with their child each week, either at home or out-of-home. (See also Detail Table 6-5.)

Table 6-G. Parents doing fun activities with their child by youth age

	Percent saying they did three or more activities per week			
Age group	Year 2000 Average Waves 1 and 2 (%)	Year 2001 Average Waves 3 and 4 (%)	2000 to 2001 % Change	95% CI on 2000-2001 Change
12 to 13	74.8	74.7	0.1	-3.7 to 3.5
14 to 15	67.8	64.3	-3.5	-8.5 to 1.5
16 to 18	51.1	51.9	0.8	-5.0 to 6.5
12 to 18	63.5	62.7	-0.8	-4.0 to 2.3

Table 6-G offers three striking results. First, parents report doing a lot of fun activities with their children. More than three-fifths claim to be doing three or more activities from the start. Less than 10 percent of all parents said they had not done any activities. This creates something of a ceiling for the Campaign: if most parents already see themselves as doing fun activities with their children, then a message to do fun activities may not suggest a deficit in current behavior that needs improvement. Second, the level of activity is sharply associated with the age of the child. Across both years, nearly three-fourths of parents of 12- to 13-year-olds reported such activities, while only about half the parents of 16- to 18-year-olds did so. Finally, the evidence does not support a claim of increasing levels of activity. This theme was emphasized only during Wave 1 of the Campaign; if there had been any effects, they were likely to have already been present for the de facto baseline wave.

6.2.6 Evidence for Diversity in Trends

Is it possible that the overall patterns presented above might vary for subgroups of parents? There are two circumstances of interest: when there is no overall significant trend but a particular subgroup does show a significant trend, and when two subgroups show different trends. The overall presentation outlined the diversity of trends among parents with children of different ages. This section focuses on diversity among parents based on their children's gender, sensation-seeking level, and risk for marijuana use, as well as the parent's gender and educational level. Also, if a parent had two children in the 12- to 18-year-old sample (one 12 to 13 and one 14 to 18), the parent was asked separate questions about each child's behavior and cognitions referring to each one. Both sets of answers are included in the overall results.

Diversity of Trends for Monitoring Behavior and Cognitions

Tables 6-A and 6-C presented the overall subgroup results for parents' monitoring behavior and cognitions by age of child. There was a just statistically significant overall effect for parents of 12- to 18-year-olds on monitoring behavior, so the question is whether effects were different for different subgroups. The observed absolute change was larger for some groups than others (see Detail Table 6-3), and five of the subgroups showed statistical significance. However, all of the confidence intervals for yearly change overlap with the confidence interval for the overall change estimate. The appropriate conclusion is that the evidence does not permit a claim for differential effects.

While the trends are not statistically significant, it is worth noting that the actual behaviors, averaged across the four waves, are different by subgroups. Parents are more likely to monitor girls (1.68 on the 0 to 3 scale) than they are boys (1.49). Most notably, parents of children at differing levels of risk for marijuana use show consistent differences with regard to monitoring behavior and various measures of monitoring beliefs and attitudes.

Nevertheless, when examining differences by risk subgroup, it is possible the estimates could be confounded by age, with parents of older children (who are also at higher risk) reporting fewer monitoring behaviors and less favorable monitoring cognitions. Table 6-H examines these differences in parent reports by risk within age groups for different measures to do with monitoring. Only parents of youth 12 to 18 who had never used marijuana are used for these analyses of differences by risk so as to avoid making inferences where reverse causation might be a greater concern.

Table 6-H. Differences* in parent monitoring behaviors and cognitions by child age and

Youth characteristics		Parent reports averaged across four waves of:		
Age	Risk	Monitoring behavior mean (CI)	Monitoring cognitions mean (CI)	Intention to monitor mean (CI)
12 to 13	Higher	**1.30**	**90.7**	**1.38**
		(1.04 to 1.56)	(71.3 to 110.1)	(1.26 to 1.49)
	Lower	**1.79**	**123.3**	**1.56**
		(1.73 to 1.86)	(118.9 to 127.8)	(1.53 to 1.59)
14 to 15	Higher	**1.36**	**70.8**	**1.41**
		(1.18 to 1.55)	(54.2 to 87.3)	(1.35 to 1.48)
	Lower	**1.64**	**110.3**	1.50
		(1.56 to 1.72)	(102.6 to 118.1)	(1.45 to 1.55)
16 to 18	Higher	**1.21**	70.3	**1.10**
		(1.05 to1.38)	(57.3 to 83.3)	(1.04 to 1.17)
	Lower	**1.52**	92.9	**1.29**
		(1.39 to 1.65)	(81.5 to 104.4)	(1.22 to 1.35)

* Significant differences between parents of higher and lower risk children within age groups are in bold type.

While not all the differences hold up when controlling for child age, seven of the nine comparisons yield statistically significant differences. Parents of children at higher risk across all age groups report fewer monitoring behaviors. Parents of the youngest and oldest youth at higher risk also report fewer intentions to monitor. The beliefs and attitudes index ("monitoring cognitions") also yields significant differences between risk subgroups. Parents of the children 12 to 15 at higher risk report less favorable beliefs and attitudes about monitoring than do parents of children at lower risk within the same age groups.

Diversity of Trends for Talking Behavior and Cognitions

Table 6-D presented the evidence about trends in talking behavior, establishing a statistically significant trend for all parents of 12- to 18-year-olds. In addition, a number of subgroups showed significant change, but the confidence intervals around their rates of change overlapped with the overall change estimate (Detail Table 6-4). The appropriate conclusion is that the observed change in talking behavior between years was widely shared.

Likewise, talking cognitions, as presented in Table 6-F, also showed a significant change from 2000 to 2001 for all parents of youth 12 to 18. As was the case for change in talking behavior, though a few subgroups showed significant change, their rates of change in talking cognitions did not differ significantly from the overall estimate. No differential effects can be inferred from this evidence.

With regard to differences in absolute levels, talking behavior and cognitions averaged across the four waves showed only one significant difference by subgroup. Mothers were more likely to report household talk than were fathers (2.38 vs. 2.17; Detail Table 6-4); mothers also reported significantly more favorable talking cognitions than did fathers (106.6 vs. 87.0; Detail Table 6-2). Otherwise, parents were equally likely to report talking to their male and female children and their high and low sensation-seeking children, and regardless of their own level of education. In sharp contrast with the consistent differences in monitoring behavior and cognitions by risk subgroup, parents of children at higher and lower risk report similar levels of talking behavior and cognitions (Table 6-I).

Table 6-I. Differences in parent talking behaviors and cognitions by child risk subgroup

Youth characteristics		Parent reports averaged across four waves of:		
		Talking behavior	Talking cognitions	Intention to talk
Age	Risk	mean (CI)	mean (CI)	mean (CI)
12 to13	Higher	2.32	106.7	1.16
		(2.13 to 2.51)	(89.9 to 123.5)	(1.0 to 1.32)
	Lower	2.32	110.9	1.15
		(2.25 to 2.40)	(104.3 to 117.5)	(1.09 to 1.22)
14 to 15	Higher	2.33	106.0	1.20
		(2.13 to 2.53)	(91.1 to 121)	(1.10 to 1.31)
	Lower	2.30	100.6	1.13
		(2.18 to 2.41)	(88.8 to 112.4)	(1.04 to 1.21)
16 to 18	Higher	2.19	85.8	0.92
		(2.06 to 2.31)	(71.8 to 99.8)	(0.83 to 1.02)
	Lower	2.18	100.6	0.99
		(2.04 to 2.33)	(88.8 to 112.4)	(0.88 to 1.10)

Given that the predicted risk probability for marijuana use did not incorporate parental monitoring or talking behaviors, finding consistent differences between parents of higher and lower risk children for the one and not the other is striking. Parents of youth at higher risk for marijuana use consistently report fewer monitoring behaviors and less favorable monitoring cognitions than parents of youth at lower risk, whereas household talking behavior and cognitions do not vary by child risk, among parents of children who were nonusers of marijuana.

Looking at the risk model more closely (see chapter 4, section 4.6), the strongest predictors of marijuana use are child cigarette use, sensation-seeking, age, and alcohol use. Parental factors that are incorporated into the risk measure and have significant effects are parental cigarette use and family structure. Perhaps parents of children who use cigarettes, have higher sensation-seeking tendencies, are older, and use alcohol find it harder to monitor them, and that is also reflected in their beliefs and attitudes about monitoring.

Interestingly, child reports of parental monitoring and talking behaviors parallel these results (Table 6-J). That is, across all age groups, children at higher risk for marijuana use report their parents are performing significantly fewer monitoring behaviors than do children at lower risk. There are no differences in child reports of parental talking behaviors by risk subgroup.

In summary, the trend data provides evidence of favorable change for both monitoring and talking behavior and cognitions, although not for fun activities. There are no patterns of consistent trend differences for particular subgroups, though child risk for marijuana use yields interesting differences in absolute levels of parental and child reports of monitoring. This chapter next turns to the complementary evidence about the association of exposure and these outcomes.

Table 6-J. Differences[1] in child reports of household monitoring and talking behaviors by age and risk among nonusers 12 to 18

Youth characteristics		Child reports averaged across four waves of:	
Age	Risk	Parental monitoring behavior mean (CI)	Parental talking behavior mean (CI)
12 to13	Higher	**0.52**	1.46
		(0.40 to 0.63)	(1.26 to 1.67)
	Lower	**1.14**	1.71
		(1.09 to 1.20)	(1.65 to 1.76)
14 to15	Higher	**0.67**	1.32
		(0.58 to 0.76)	(1.18 to 1.45)
	Lower	**1.06**	1.52
		(0.98 to 1.14)	(1.42 to 1.61)
16 to 18	Higher	**0.73**	1.31
		(0.62 to 0.85)	(1.20 to 1.42)
	Lower	**1.09**	1.28
		(0.99 to 1.19)	(1.15 to 1.41)

[1] Significant differences between higher and lower risk children within age groups are in bold type.

6.3 Cross-sectional Association of Advertising Exposure with Parent Outcomes

Chapter 3 described the two types of exposure measures available for analysis. One, called general exposure, represents the sum of recalled exposure in recent months to advertising in four different types of sources (television and radio; movies and videos; print media, including newspapers and magazines; and outdoor media). The specific exposure measure sums the recalled exposure to the individual radio and television ads that had been on the air in the 2 months before the interview. The general exposure measures display substantially higher levels than do the specific exposure levels. For example, around 43 percent of parents reported general exposure 12 or more times per month, but only 11 percent reported specific exposure at that level. There are three factors that may contribute to that difference: the general exposure measure includes more sources than the specific exposure measure; the general exposure measure allows recall of advertising that was directed to other audiences, while the specific exposure measure focuses only on ads directed to the parent; finally, the general exposure measure may be less demanding since it does not require the respondent to claim that he or she has seen a specific ad. One might speculate, therefore, that general exposure is at greater risk of inflated reporting. Because the two measures may capture different aspects of exposure, the evidence of association is presented for both of them, with the interpretation strengthened when both show the same pattern of effects.

The general exposure association tables compare parents who reported exposure fewer than 4 times per month, 4 to 11 times per month, and 12 or more times per month. There were very few parents who reported no exposure so they could not be considered separately. The specific exposure tables include four categories, since it was feasible to break out the lowest exposure group into those who recalled exposure less than 1 time per month and those who recalled ad exposure 1 to 3 times per month. However, the highest exposure group for the specific exposure measure is quite small, so in many of the tables the estimates for outcomes for this group have a very wide confidence interval. Usually the

specific exposure claims must rely on the differences among the other three exposure groups. Table 6-K presents the distributions for both general and specific exposure for all parents of 12- to 18-year-olds.

Table 6-K. Exposures per month reported by parents of 12- to 18-year-olds across four waves

	<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures
General exposure	30.1%		26.7%	42.5%
Specific exposure	26.8%	33.1%	29.2%	10.9%

In all exposure analyses, the effects are corrected for the influence of confounder variables using the propensity scoring procedures described in Appendix C. They are the estimates of what people at each level of exposure would have been like had they all been similar on variables that were associated with exposure.

All analyses are restricted to parents of 12- to 18-year-olds. Each table presents four different estimators of Campaign effect. The first (called the direct campaign effect) compares the score on the outcome variable (e.g., parental monitoring behavior) for the entire sample with the score achieved by the lowest exposure group. It asks whether the average person was different from those who had minimal exposure. It is the best estimate of the average effects of the Campaign across the population. The second estimator is a significance test that indicates whether there is an overall pattern for those who have higher exposure to be higher on the outcome variable. Where the test for monotonic association (Jonckheere-Terpstra) is significant at $p<0.05$, each table includes the exact p-value in this column. This test is best at estimating whether exposure to the Campaign affected parents at all, and it is the one used in the final summary to capture effects.

The Jonckheere-Terpstra test, however, does require a monotonic association and it gives no sense as to the magnitude of the association. To that end, as was mentioned in Chapter 5, this report includes a new measure of association, Spearman's rho. This is a rank-order correlation that assumes order only in the pairs. It varies from –1 to +1, with estimates closer to either end showing stronger associations. It is important to note, though, that Spearman's rho estimates here included have not been tested for significance. The final measure, called the maximum campaign effect, compares parents with the highest and lowest levels of exposure. De facto, it answers the question: If the Campaign had been able to give everyone 12 or more exposures per month, how much of an effect would there have been? The detail tables also provide estimates for subgroups of that population defined by youth characteristics (age, gender, race/ethnicity) and parent characteristics (gender, education).

6.3.1 Cross-ectional Association of Monitoring Behavior and Cognitions Scales with General and Specific Exposure

Neither the general nor the specific exposure measure is associated with parent reports of monitoring behavior. This is true for all the parents of 12- to 18-year-olds, and for all of the subgroups, with one exception to be discussed below. It is true for all of the measures of effects. Table 6-L presents the summary data for both exposure measures, with the full version in Detail Tables 6-61 and 6-62.

Table 6-L. Cross-sectional association of exposure per month and monitoring behavior reported by parents of 12- to 18-year-olds

Score on the monitoring behavior index, with 1.44 the overall mean across four waves								
	<1 exposure	1 – 3 exposures	4 – 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General exposure	1.43		1.43	1.47	0.00 -0.06 to 0.07	-	.013	0.03 -0.06 to 0.12
Specific exposure	1.45	1.41	1.47	1.47	-0.01 -0.06 to 0.07	-	.009	0.02 -0.14 to 0.19

In contrast to their reports of behavior, parent reports of cognitions around monitoring do show association with exposure. It is highly significant for general exposure, and in a consistent direction for the specific exposure measure. These data are presented in Table 6-M, which summarizes the information that is fully presented in Detail Tables 6-57 and 6-58.

Table 6-M. Cross-sectional association of exposure per month and monitoring cognitions reported by parents of 12- to 18-year-olds

Score on monitoring cognition index with 90.1 the overall mean across four waves								
	<1 exposure	1 – 3 exposures	4 – 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General exposure	81.6		88.9	95.1	**8.5*** 2.8 to 14.2	**.002**	.056	**13.5*** 4.8 to 22.1
Specific exposure	87.6	88.8	90.4	97.7	4.5 -2.5 to 11.5	-	.038	10.1 -5.2 to 25.5

* Significant at $p<0.05$.

Both exposure measures are correctly ordered with regard to the monitoring index, with the mean score larger at each succeeding level. For the general exposure measure, this is a significant monotonic tendency, and the difference between the lowest and highest exposure levels is 13.5 points. Though larger than for the association between the two measures of exposure and monitoring behavior, Spearman's rho estimates for association with monitoring cognitions are fairly small (.056 and .038 for general and specific exposure, respectively).

6.3.2 Cross-sectional Association of Talking Behavior and Cognitions Scales with General and Specific Exposure

If the monitoring behavior and cognitions show some inconsistency, the talking behavior and cognitions tables consistently support an inference of a Campaign effect. Table 6-N presents the evidence for the overall effect on talking behaviors. Both the general and specific exposure measures are associated with talking for all three tests: direct effects, monotonic trend, and maximum potential effect. Those who report more exposure to the Campaign's messages are clearly more likely to report talking to their children as well.

Table 6-N. Cross-sectional association of exposure per month and talking behaviors reported by parents of 12- to 18-year-olds

Score on the 0 to 3 point scale, with overall average at 2.31 across four waves								
	<1 exposure	1 – 3 exposures	4 – 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General exposure	2.19		2.31	2.43	**0.12*** (0.07 to .19)	**<.001**	.092	**0.24*** (0.15 to 0.34)
Specific exposure	2.24	2.26	2.40	2.43	**0.07*** (0.01 to 0.14)	**<.001**	.087	**0.19*** (0.05 to 0.33)

* Significant at p<0.05.

Table 6-O provides closely parallel information for cognitions about talking. Against both measures of exposure, those who report seeing many ads are substantially more likely to report that they value talking with their children about drugs. Both analyses put the difference between the highest and lowest exposure groups at over 20 points, after major potential confounding variables are controlled, a very large difference. Likewise, rank order correlations (Spearman's ρ) for the association between both talking behavior and cognitions with general and specific exposure are larger than for their association with monitoring behavior and cognition.

Table 6-O. Cross-sectional association of exposure per month and talking cognitions reported by parents of 12- to 18-year-olds

Score on the index with 99.9 the overall average across four waves								
	<1 exposure	1 – 3 exposures	4 – 11 exposures	12+ exposures	Direct effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General exposure	85.3		93.2	114.7	**14.6*** 9.3 to 19.9	**<.001**	.107	**29.4*** 20.5 to 38.3
Specific exposure	93.0	94.5	107.5	114.6	**7.0*** 0.7 to 13.3	**.002**	.076	**21.7*** 7.9 to 35.4

* Significant at p<0.05.

6.3.3 Cross-sectional Association of Fun Activities with General and Specific Exposure

Table 6-P presents a strong picture of association between reported exposure to both general and specific advertising and the proportion of parents doing three or more activities per week with their children. For both the general exposure measure and for the specific exposure measure, every test of association is statistically significant. This is a somewhat surprising result, given the lack of any upward trend whatsoever in the previously reported data (see Table 6-H, above) and the reduced emphasis on the fun activities objective after the first few months of data collection. This result is not merely the result of effects appearing during the first wave. The same pattern of association is present among respondents at each wave. The possible explanations for this result are discussed in the final section of the chapter.

Table 6-P. Cross-sectional association of exposure per month and fun activities reported by parents of 12- to 18-year-olds

Percent of parents doing three or more activities per week, with overall average at 63 percent across four waves								
Exposure measure	<1 exposure	1-3 exposures	4-11 exposures	12+ exposures	Direct Effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General	57		64	67	**6*** 4 to 9	**<.001**	.083	**10*** 6 to 13
Specific	58	63	63	71	**5*** 2 to 8	**<.001**	.091	**13*** 6 to 20

* Significant at p<0.05.

6.3.4 Evidence for Diversity in Cross-sectional Associations

There are two ways to examine questions of diverse effects among subgroups. First, in situations where there was no overall evidence of an association, is there evidence that there were effects on some important subgroups? This is the focus for this section. Second, is there evidence that the associations are significantly different among subgroups? In fact, there is no evidence of differential associations in Detail Tables 6-57 through 6-66 across subgroups.

The focus question for this subsection is: Are there effects for some subgroups where there were no effects for all parents of 12- to 18-year-olds? Each of the five outcome variables was subject to two tests for associations, using the general exposure and the specific exposure measure. Seven of the 10 overall association analyses were significant for all parents of 12- to 18-year-olds. These include the tests for association for both talking outcomes, doing fun activities, and the analysis of monitoring cognitions that used the general exposure measure. Generally, most of the subgroup analyses in each of those analyses were also significant, and none could be shown to be different in association from the overall pattern. There were 11 comparisons made for each set of associations (two child genders, three race-ethnicities, two parent genders, two parent education levels, and two child age groupings). There were 77 analyses examined for the seven sets of associations where there was an overall association. Out of a total of 77, 59 were statistically significant on the monotone dose-response test. Thus for these measures, the conclusion is that the effects were widely shared. (African-American and Hispanic parents were least likely to show statistically significant effects across the set of comparisons; however, this likely reflects the fact that they were small subgroups of the entire population.)

There were three analyses where the overall associations were not statistically significant: both general and specific exposure measures with the monitoring behavior index, and the specific exposure measure with the monitoring cognitions index. Overall, in these three cases, the lack of an overall association was matched by a lack of subgroup associations. The subgroup analysis involved a total of 33 comparisons. Only 4 of the 33 showed a statistically significant association. In two of the cases, however, the subgroup to show a significant effect was fathers. The two others were parents of male youth and parents with a college education or more. In the case of the fathers, this meant that either the overall association was significant (and the fathers' association was not different from the overall significant association) or the fathers' association was significant in all but one case. Thus in 9 out of 10 tests, the reasonable inference was that there was an association for fathers. The only exception was for the general exposure association with monitoring behavior.

In summary, where there were overall associations, most subgroups showed associations. Where there was no overall association, few subgroups showed associations. The associations were particularly consistent for fathers.

6.4 Evidence of Association of Parent Exposure with Youth Behavior

While the Campaign anticipated that it may require 2 to 3 years to change youth marijuana use behavior, given the number of significant favorable associations of parent exposure with parent outcomes in cross-sectional analyses, it is worthwhile to ask whether there is an association of parent exposure and youth behavior. That is, parent behaviors and cognitions are conceived as intermediate variables meant to influence the outcome of main interest, youth marijuana use. Therefore, is there yet evidence indicating that youth are less likely to have used marijuana in the past year if their parent were more highly exposed to the Campaign's TV and radio messages? Table 6-Q presents the results, with more extensive information provided in Detail Tables 6-67 and 6-68.

Table 6-Q. Association between youth marijuana use and parental exposure per month

Percent of youth reporting past year marijuana use by parental exposure, with overall average at 15.6 percent across four waves								
Exposure measure	<1 exposure	1-3 exposures	4-11 exposures	12+ exposures	Direct Effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General	15.5		15.2	16.1	0 -1.9 to 1.9	-	.006	0.6 -2.6 to 3.7
Specific	14.8	15.9	15.3	20.0	0.8 -1.2 to 2.7	-	.046	5.2 -1.2 to 11.6

Overall, there were no significant cross-sectional associations for either measure of parental exposure and youth past year marijuana use. There were three significant associations by subgroups: for the specific exposure measure there were significant associations for White youth and for the youth defined as at higher risk of marijuana use. For the general exposure measure there was a significant association for parents of Hispanic youth, also in an unfavorable direction. There were a total of 32 tests of significance performed on such subgroup associations. Thus three significant results must be interpreted with caution. In addition, as can be seen in Table 6-R (and Detail Table 6-67 and 6-68), the effects reflect a sharp difference in use comparing one category of exposure to all of the others rather than a consistent upward trend across exposure categories. These results do not appear to be easily interpretable.

The relationship is marginally significant. There were 32 monotonic trend tests undertaken, and only one was significant; and that one was marginal. It would be inappropriate to make an inference of an unfavorable Campaign effect from these isolated results, although it will be important to monitor this effect in future waves. However, it is also clear that these analyses do not support a hypothesis that parent exposure to the Campaign has, thus far, reduced youth marijuana use.

Table 6-R. Association between youth marijuana use and parental exposure per month for youth subgroups

Subgroup and Exposure measure (Average use %)	Percent of youth reporting past year marijuana use by parental exposure							
	<1 exposure	1-3 exposures	4-11 exposures	12+ exposures	Direct Effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
Hispanic youth General (14.3%)	9.7		16.9	14.6	4.6 0.3 to 8.9	.034	.06	4.9 -1.6, 11.5
High Risk youth Specific (35.7%)	33.7	37.0	34.0	46.8	1.8 -2.5 to 6.1	**.045**	.09	**13.1*** 1.3 to 24.9
White youth specific (16.4%)	15.1	17.0	15.1	25.7	1.4 -1.0 to 3.7	**.038**	.08	**10.7** 1.5 to 19.8

* Significant at p<0.05.

6.5 Longitudinal analyses of parent outcomes

Longitudinal analyses involve examining the association between exposure measured at Wave 1 and outcome measured at Wave 4, statistically controlling for Wave 1 values of the outcomes as well as confounders. This lagged association captures both the delayed effects of exposure at Wave 1 if that effect did not emerge until after Wave 1, as well as the effects of exposure at Wave 1 that flow through exposure at Wave 4 to outcome at Wave 4. These analyses examine the association of Wave 1 exposure and Wave 4 outcomes, over and above the association of Wave 1 exposure with Wave 1 outcomes. They will not detect any effects of exposure on outcomes that have already affected the Wave 1 measures. The focus of lagged analyses presented here is parents of youth who were 12 to 18 at Wave 4, when they were re-interviewed. Though subgroup differences are noted, longitudinal results yield fewer of these than cross-sectional analyses did.

Lagged analysis uses the same two exposure measures presented in the preceding section, general and specific exposure, both reported at Wave 1. As with cross-sectional results, parents reported general exposure at substantially higher levels than specific exposure. For example, nearly 47 percent of parents reported general exposure 12 or more times per month, but only 10 percent reported specific exposure at that level (Table 6-S). As was explained previously, because the two measures may capture different aspects of exposure, the evidence of longitudinal association is presented for both, with the interpretation strengthened when both show the same pattern of effects. In all exposure analyses, the effects are corrected for the influence of outcomes measured at Wave 1 and confounder variables using the propensity scoring procedures described in Appendix C. They are the estimates of what people at each level of exposure would have been like had they all been similar on variables that were associated with exposure. Also, the same four different estimators of Campaign effects are

presented in the associational tables: direct effect, monotonic trend test (Jonckeere-Terpstra), Spearman's rho, and maximum effect.

Table 6-S. Exposures per month reported by parents at Wave 1

	<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures
General exposure	26.2%		26.9%	46.6%
Specific exposure	29.2%	33.1%	28.0%	9.7%

6.5.1 Lagged Association of General and Specific Exposure with Monitoring Behavior and Cognitions Scales

In longitudinal analyses, neither the general nor the specific exposure measure is associated with parent reports of monitoring behavior. This is true for all the parents of 12- to 18-year-olds and for all measures of effects. Table 6-T presents the summary data for both exposure measures. These results parallel those for cross-sectional analyses reported in Table 6-L, with neither general nor specific exposure significantly associated with parent monitoring behavior measured at the same time.

Table 6-T. Lagged analysis of exposure per month and monitoring behavior reported by parents of 12- to 18-year-olds

Score on the monitoring behavior index at Wave 4 by exposure at Wave 1, with 1.43 the overall mean								
Exposure measure	<1 exposure	1-3 exposures	4-11 exposures	12+ exposures	Direct Effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General	1.48		1.39	1.50	-0.01 -0.11 to 0.09	-	0.01	0.03 -0.13 to 0.18
Specific	1.52	1.41	1.45	1.41	-0.06 -0.17 to 0.06	-	-0.03	-0.11 -0.41 to 0.20

Lagged analyses of the association between general and specific exposure with monitoring cognitions do not render any overall significant monotonic trends either (Table 6-U). The association of general exposure with monitoring cognitions, however, yields a significant unfavorable direct effect. That is, respondents who reported minimal exposure at Wave 1 later scored significantly higher on the monitoring cognition index than the average person in the sample, once the original cross-sectional association is controlled.

Table 6-U. Lagged analysis of exposure per month and monitoring cognitions reported by parents of 12- to 18-year-olds

Score on monitoring cognition index at Wave 4 with 89.51 the overall mean, by parental exposure at Wave 1								
Exposure measure	<1 exposure	1-3 exposures	4-11 exposures	12+ exposures	Direct Effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General	100.97		88.81	87.90	**-9.04*** -18.70 to –0.63	-	-0.04	-13.06 -27.77 to 1.64
Specific	98.48	88.21	86.61	93.71	-6.55 -16.74 to 3.63	-	-0.03	-4.77 -31.19 to 21.65

* Significant at p<0.05.

Thus, while the cross-sectional results yielded a significant favorable monotonic trend for the association of general exposure with monitoring cognitions (reported in Table 6-M), there is no evidence for any additional lagged effect of that exposure.

There is only one subgroup with a significant monotonic trend, an unfavorable association of general exposure with monitoring cognitions for parents of White youth 12- to 18-years-old. This subgroup also has significant unfavorable direct and maximum Campaign effects. That is, parents reporting more exposure at Wave 1 scored significantly lower on the monitoring cognitions index at Wave 4. There is no evidence of subgroup diversity in the lagged association of specific exposure and monitoring cognitions.

6.5.2 Lagged Association of General and Specific Exposure with Talking Behavior and Cognitions Scales

Neither general nor specific exposure is associated over time with parent reports of talking behavior over and above the Wave 1 associations (Table 6-V). There were no significant results in the lagged subgroup analyses. All parents of youth 12- to 18-years-old report similar levels of talk at Wave 4, regardless of their level of exposure at Wave 1.

Table 6-V. Lagged analysis of exposure per month and talking behavior reported by parents of 12- to 18-year-olds

Score on the 0 to 3 point talking behavior scale, with overall average at 2.36 across four waves								
Exposure measure	<1 exposure	1-3 exposures	4-11 exposures	12+ exposures	Direct Effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General	2.35		2.35	2.35	0.01 -0.07 to 0.09	-	0.00	0.00 -0.15 to 0.15
Specific	2.34	2.33	2.40	2.23	0.02 -0.07 to 0.11	-	-0.02	-0.11 -0.39 to 0.18

Likewise, lagged analyses show no overall significant effects for the association of either exposure measure with talking cognitions (Table 6-W). There was one significant trend for fathers, whose specific exposure was favorably related to talking cognitions. No other subgroup showed any significant effect, for either general or specific exposure. As with talking behavior, results of lagged analyses of both exposure measures and talking cognitions contrast with those reported for cross-sectional associations, which yielded significant and consistently favorable associations (see Table 6-O).

Table 6-W. Lagged analysis of exposure per month and talking cognitions reported by parents of 12- to 18-year-olds

Score on talking cognition index at Wave 4 with 100.48 the overall mean, by parental exposure at Wave 1								
Exposure measure	<1 exposure	1-3 exposures	4-11 exposures	12+ exposures	Direct Effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General	103.23		90.67	106.60	-2.74 -11.46 to 5.97	-	0.01	3.37 -11.01 to 17.74
Specific	99.83	96.56	98.13	119.88	0.66 -8.65 to 9.96	-	0.06	20.05 -0.13 to 40.22

6.5.3 Lagged Association of General and Specific Exposure with Fun Activities

Parent claims of engaging in fun activities with their children is the only outcome to show a favorable significant monotonic trend. For the specific exposure measure, parents with the highest level of exposure at Wave 1 were more likely to report high levels of fun activities with their children at Wave 4 than were parents whose exposure levels were lower. This is consistent with the results from the cross-sectional analyses, where high exposed parents were more likely to report concurrent levels of high fun activities. The lagged associations of general exposure and fun activity reports were not significant, overall of far any subgroup. (Table 6-X).

Table 6-X. Lagged analysis of exposure per month and fun activities reported by parents of 12- to 18-year-olds

Percent of parents doing three or more activities per week at Wave 4 with overall average at 65 percent by exposure at Wave 1								
Exposure measure	<1 exposure	1-3 exposures	4-11 exposures	12+ exposures	Direct Effect (CI)	Monotonic trend	Spearman's rho	Maximum effect
General	65		65	66	1 -4 to 6	-	0.01	1 -6 to 9
Specific	67	63	66	73	-1 -6 to 3	**0.05**	0.05	6 -6 to 18

This result is interesting in that the Campaign emphasized this topic precisely during the period of Wave 1 data collection, when exposure was measured for this lagged analysis. However, there does remain some difficulty in making a strong inference of Campaign effects on fun activities: there is no over time upward trend in parents claiming to engage in such activities.

6.6 Discussion of Effects Results

The inferential logic laid out at the start of the chapter suggested that, in cross-sectional analyses, support for Campaign effects would reflect two favorable results: a favorable trend on a target outcome, and a favorable association between exposure to the Campaign and the outcome. For three of the five outcomes, under this logic, there was good reason after Wave 3, and once again after analysis of Wave 4, data to claim some support for an inference of Campaign effects. Table 6-Y summarizes the evidence for the five-focus indices. In two of the cases (talking behavior and cognitions) there is both a significant trend and a pair of significant associations with exposure for the overall population of parents of 12- to 18-year-olds. There is, moreover, an overall pattern of results that is consistent with a claim that the effects are widely shared. There is a particularly consistent pattern of associations for fathers, even when there was no overall association. However, there was no cross-sectional associational evidence for the overall sample that parent exposure was associated with lower marijuana consumption, despite some inconsistent results for subgroups.

In longitudinal analyses, support for Campaign effects relies on the existence of significant associations of parental exposure at the first time point (Wave 1) with parent outcomes at the second time point (Wave 4). Table 6-Z summarizes these results.

Table 6-Y. Summary of cross-sectional trend and association results for parents

	12 to 18			If No for 12 to 18, is there a significant association for a subgroup?		
		Association			Association	
Index	Trend	General	Specific	Trend	General	Specific
Talking behavior	**Yes**	**Yes**	**Yes**	--	--	--
Talking cognitions	**Yes**	**Yes**	**Yes**	--	--	--
Monitoring behavior	**Yes**	No	No	--	No	Fathers, parents of male youth
Monitoring cognitions	**Yes**	**Yes**	No	--	--	Fathers, parents with college education
Doing fun activities	No	**Yes**	**Yes**	No	--	--
Youth marijuana use in the previous year	No	No	No	12-13 year old AA[1] youth (favorable)	Hispanic youth, (unfavorable)	Parents of higher risk and White youth (unfavorable)

Yes: Significant monotonic association at $p<0.05$.

--: Subgroup test not statistically different from result for full sample.

[1] African American

Table 6-Z. Summary of lagged association results for parents (Wave 1 exposure per month and Wave 4 outcomes)

Outcome		<1 exposure	1 to 3 exposures	4 to 11 exposures	12+ exposures	Spearman rho	Signficance
Talking behavior (0 to 3 scale)	General exposure	2.35		2.35	2.35	0.00	ns
	Specific exposure	2.34	2.33	2.40	2.23	-0.02	ns
Talking cognitions	General exposure	103.23		90.67	106.60	0.01	ns
	Specific exposure	99.83	96.56	98.13	119.88	0.06	ns
Monitoring behavior	General exposure	1.48		1.39	1.50	0.01	ns
	Specific exposure	1.52	1.41	1.45	1.41	-0.03	ns
Monitoring cognitions	General exposure	100.97		88.81	87.90	-0.04	ns
	Specific exposure	98.48	88.21	86.61	93.71	-0.03	ns
Doing fun activities	General exposure	65		65	66	0.01	ns
	Specific exposure	67	63	66	73	0.05	Yes

The goal of the longitudinal analyses was to try to better understand the source of the strong observed pattern of associations between the exposure variables and the parent outcome measures. They were meant to address the issue of whether the cross-sectional associations were due to the Campaign causing the outcomes, or the outcomes (which represent parent engagement with their children) causing recall of campaign exposure. Overall, these analyses did not provide additional support to a

casual claim. Only in one case was the lagged association significant, and that result reflected the difference between the highest level of exposure and the other three categories which were essentially the same. The interpretation of the lack of evidence is ambiguous. It is consistent with the possibility that the causal chain runs from outcomes to recalled exposure. It is consistent with the possibility that there was not enough additional influence of Wave 1 exposure over and above that already seen in the Wave 1 outcome to be detected.

The parent analyses in this semi-annual report had two innovative elements. One was the longitudinal analysis, meant to help sort through the causal order question. The second one was the incorporation of a youth behavior measure into the parent cross-sectional analysis. This also did not show support for Campaign success. The behavior variable was introduced in the context of the supportive evidence for association between exposure and the intermediary outcomes. It was natural to ask the next (and crucial question) as to whether the possible changes produced by the Campaign in the intermediary outcomes had translated into actual behavior change. There is no evidence to date supporting that claim.

How could it be that the associations of exposure and parent outcomes did not translate into an association of parent exposures and youth outcomes? The effect depends on the product of two links: the influence of parent exposure on parent cognitions and behaviors, and the influence of those cognitions and (particularly) behaviors on youth behavior. Therefore, the total effect could dissipate if either effect were missing, or the product of the effects were too small to be detected. The best explanation for the lack of statistically significant association between parent exposure and youth behavior is the combination of these two.

There was no association overall between parent exposure and monitoring behavior. Thus the overall path from parent exposure through monitoring behavior has to be zero, even though it turns out that monitoring behavior is the best predictor of youth behavior.

In contrast, exposure is related to talking cognitions and talking behavior. But, neither of those is related to youth behavior in a consistent direction. Thus, there is little possibility of an influence of parental exposure on youth behavior through talking cognitions or behavior. We have noted the lack of consistency between parent reports of talking and youth reports of talking. The lack of association of parent talk and youth behavior may reflect either that the behavior does not produce an effect, or that the parent reports of the behavior do not reflect what talk actually takes place.

There was an association of exposure and monitoring cognitions at Wave 1 and between monitoring cognitions at wave 1 and youth behavior. That would suggest that this might be a viable path for the influence of exposure on youth behavior. However, the exposure to cognitions cross-sectional association was weak (rho was .06 for general exposure and nonsignificant for specific exposure (.03)). Even with a small association between monitoring cognitions with youth behavior, the product of those two associations (which determines the overall association of exposure and outcome) is too small to expect detection. Parents' reports of engagement in fun family activities was related to exposure, but it showed no favorable trend over time. On that basis, there is some reason to be skeptical of the presence of a causal relationship, altogether. However, even if it was an intermediary variable between exposure and outcome, the strength of each of the two component relationships is too weak to expect to find statistical significance for the overall path.

In summary, there are trends and cross-sectional associations consistent with Campaign effects on parent outcomes, including talking behavior and cognitions, and monitoring cognitions. These are

most consistent for fathers. The longitudinal data do not provide the hoped for additional evidence to sort out the alternative explanations for the observed associations. Also, the evidence does not yet provide support for an effect of parent exposure on youth behavior, despite the evidence consistent with an effect on parent outcomes. This may reflect the apparent lack of relevance of some of the parent outcomes to youth behavior (talking), the weak associations of exposure and outcome (monitoring behavior), or that more time is required to influence youth behavior. With the next wave of data, the sample for the longitudinal analyses will grow by 150 percent. This may make it possible to detect longitudinal effects, particularly in subgroups, that were not apparent in these analyses. Indeed, the parent associations that are described in this chapter appeared only when the Wave 2 and Wave 3 data were joined to the Wave 1 data. A parallel effect may also occur when the full longitudinal sample is available.

Appendices

Appendix A

Sample Design, Development of Weights, Confidence Intervals and Data Suppression, and Geography

This appendix provides a more detailed discussion of the same points discussed in Chapter 2 of this report. However, it is still a condensed discussion. A more detailed report on the sampling plan is available as Chapter 2 of the overall Evaluation Plan from the National Institute on Drug Abuse (NIDA). This appendix is separated into four main sections along the lines suggested by the title.

A.1 Sample Design

The youth and their parents were found by door-to-door screening of a scientifically selected sample of about 34,700 dwelling units for Wave 1, 23,000 dwelling units for Wave 2, and 23,300 for Wave 3. These dwelling units were spread across about 1,300 neighborhoods in 90 primary sampling units (PSUs) for Wave 1 and about 800 neighborhoods each, in the same primary sampling units for Waves 2 and 3. The sample was selected in such a manner as to provide an efficient and nearly unbiased cross-section of America's youth and their parents. All types of residential housing were included in the sample. Youth living in institutions, group homes, and dormitories were excluded.

For subsequent followup waves there has been no new selection of dwelling units or of youth. However, an original sampled parent could be replaced by a newly selected parent if the original selected parent were no longer eligible.

The sampling was arranged to get adequate numbers of youth in each of three targeted age ranges: 9 to 11, 12 to 13, and 14 to 18. These age ranges were judged to be important analytically for evaluating the impact of the Media Campaign. Within households with multiple eligible youth, up to two youth were selected during the three initial recruitment waves.

Parents were defined to include natural parents, adoptive parents, and foster parents who lived in the same household as the sample youth. Stepparents were also usually treated the same as parents unless they had lived with the child for less than 6 months. When there were no parents present, an adult caregiver was usually identified and interviewed in the same manner as actual parents. No absentee parents were selected. During the three initial recruitment waves, when more than one parent or caregiver was present, one was randomly selected. No preference was given to selecting mothers over fathers. Parents or caregivers of both genders were selected at equal rates. This was done to be able to measure the impact of the Media Campaign separately on mothers and fathers. During the subsequent followup waves, the most knowledgeable parent was selected if the original sample parent was no longer eligible (e.g., no longer living with child at least two nights a week, or mentally or physically

disabled). When there were two sample youth who were not siblings living in the same household, a parent figure was selected for each.

The following discussion about sample selection is divided into two major subsections. The first describes the selection of the screening sample and the second describes the selection of youth and parents. As indicated earlier, all of the major sampling activities occurred during Waves 1 through 3, i.e., the three initial recruitment waves). The sample for Wave 4 was a subset of youth and parents selected for Wave 1 that included all Wave 1 respondents plus a small subsample of Wave 1 nonrespondents (see Section A.1.3 for details).

A.1.1 Selection of Screening Sample (Waves 1 through 3)

The screening sample was selected using a dual-frame, multistage design. One frame was of housing built by late 1991 as listed by Westat in a sample of areas using field personnel and maps. This frame was called the *area frame*. The second frame consisted of building permits issued for new housing between January 1990 and December 1998. The dual-frame approach was used to improve survey reliability. By sampling new construction from permits, it was possible to spread the sample out more evenly, which resulted in improved reliability (Judkins, Cadell, and Sczerba, 2000). Housing units built in 1990 and 1991 had two chances of selection since they appeared in both frames. To correct for this overcoverage, the screening questionnaire in Waves 1 through 3 instructed the interviewers to ask the age of the housing for a sample selected from the area frame. Any housing units in the area frame built after April 1, 1990, were ineligible for the survey. Housing units built in the first 3 months of 1990 were kept under the assumption that there was some lag between the issuance of a permit and the construction of the building. Housing units built after 1998 had no chance of selection in either frame. Also, a housing unit had no chance of selection if built during the 1990s in jurisdictions where no permit was required. Finally, modular housing built during the 1990s was inadvertently omitted from the permit sample. These three factors implied a household coverage rate of about 98 percent.

New mobile homes placed on sites between 1991 and 2000 had a chance of selection through the missed mobile home procedure. This worked as follows. In a sample of segments (as defined below), interviewers were instructed to canvas the segment on their first visit for mobile homes and to compare what they found with what was found when the segment was first listed in 1991. In this sample of segments, any new mobile homes found were added to the sample. If there were more than nine new mobile homes in a segment (as might be the case with a new mobile home park), a subsample was drawn and appropriately weighted.

A.1.1.1 Selection of the Area Screening Sample (Waves 1 through 3)

The area screening sample was selected in three stages. The first stage consisted of selecting a sample of PSUs. The PSUs were generally metropolitan areas and groups of nonmetropolitan counties. The second stage consisted of segments. Each segment was a block or group of contiguous blocks with a minimum housing unit count in 1990 of about 60. The third stage consisted of individual dwelling units.

PSU Selection

The PSUs were selected from a design stratified by region, metropolitan status, per capita income, percentage minority population, and PSU size. The National Survey of Parents and Youth (NSPY) PSUs were drawn as a subset of Westat's 1991 master sample. This master sample comprised 100 PSUs. Of these, 90 were selected for NSPY. One reason for using a subset of these 100 instead of selecting a fresh set of 90 PSUs was that Westat had experienced interviewers in these PSUs. In addition, it was possible to use area listings from a prior survey, thereby reducing the area sampling costs.

The following paragraphs describe how the 100-PSU master sample was drawn and how it was subsampled for NSPY use. The PSUs in the underlying frame were constructed using 1990 Decennial Census information based on the following general criteria:

- Each PSU consisted of a single county, a group of counties, or a metropolitan statistical area (MSA).
- The PSUs were geographically contiguous, mutually exclusive, and covered the United States.
- Nonmetropolitan PSUs did not cross state boundaries.
- Each PSU had at least 15,000 total population as of 1990.
- Each PSU was designed to be as easily traversable by an interviewer or lister as possible given population density, minimum size constraints, and natural topography.

This constructed frame included 1,404 PSUs, with no PSU having a 1990 population larger than 5,400,000 (the New York, Chicago, and Los Angeles PMSAs were divided into three, two, and two PSUs, respectively). From this constructed frame, 100 PSUs were selected in 1991 for the master sample.

The 100-PSU master sample was selected using probability-proportionate-to-size (PPS) sampling with 1990 population as a measure of size. Twenty-four PSUs with populations greater than 2,100,000 were certainty selections (selected with probability 1). The remaining 1,380 PSUs were assigned to 38 strata for PSU selection. These strata were defined to satisfy the following criteria:

- Each stratum represented a 1990 population of roughly 4 to 5 million persons.
- The 38 strata were nested within eight primary strata defined by census region (Northeast, South, Midwest, and West) and PSU metropolitan/nonmetropolitan status.
- The strata within each primary stratum were constructed to be heterogeneous in PSU population size (for metropolitan primary strata), per capita income, and percentage minority population.

Using the Durbin-Brewer method (Durbin, 1967), 76 PSUs were sampled from the 38 strata (two PSUs per stratum) with probability proportionate to their 1990 population.

The NSPY PSU sample was a random subsample of 90 PSUs from the 100-PSU master sample. The noncertainty strata were grouped into superstrata. One stratum was then selected from each superstratum. Within the selected stratum, one of the two sample PSUs was randomly deselected. In order to eliminate 10 PSUs, 10 superstrata were formed, each with the same number of strata. The

superstrata were formed from the 38 noncertainty strata and two pairs of small certainty PSUs. This yielded an even four strata per superstratum. Each superstratum contained eight sample PSUs, each of which represented a population of approximately 2.1 million people. One PSU was dropped from each superstratum for a total of 10 eliminated PSUs, as required.

In forming the superstrata, there was some grouping of strata across regions because not every region had a number of strata that was a multiple of four and higher priority was given to avoiding grouping across metropolitan status. This approach was expected to increase the variance of regional estimates. To counteract this increased variance, a special set of weights was built for regional analyses. For this special set of weights (developed solely for cross-sectional analyses of Waves 1 through 3 data), the probabilities of retention associated with the superstrata were ignored and, instead, the PSUs in each region were weighted by metropolitan status up to the total population reported in those areas in 1990. This approach reduced variance on regional analyses but increased bias and variances for other statistics. Therefore, the regional weights were used only for regional analyses in Waves 1 through 3.

Area Segment Selection

NSPY segments consisted of groups of neighboring blocks with a minimum count of 60 dwelling units in the 1990 Census. By using blocks instead of larger units of geography, such as tracts or official block groups, the size of the listing task was reduced. However, some blocks had very small and even zero populations. These were collapsed to meet the minimum requirement of 60 dwelling units. A total of 1,180 such segments were selected for Wave 1. The sample segment counts were smaller for Waves 2 and 3 with 689 segments selected for Wave 2 and 694 segments for Wave 3. For the Wave 2 and 3 segments, all dwelling units were screened for date of construction. On average, approximately 27 dwelling units per segment were sampled in Wave 1 with a slightly larger average of 29 dwelling units per segment in Waves 2 and 3. The large minimum size of 60 dwelling units was designed to avoid selecting adjacent neighbors for the sample. This had the advantage of reducing contamination of interviews by prior interviews in neighboring houses.

The segments for Wave 1 were a subset of segments originally selected and listed for another survey in late 1991. (The listing process consisted of sending field workers out to every segment. Using a map of the segment, the field worker prepared a list of dwelling units within the segment.) In addition to saving the cost of a new listing of 1,180 segments, the use of these old listings had the advantage of eliminating most housing built during the 1990s. This might have been a drawback for another survey, but the NSPY had a separate sample of building permits to cover 1990s construction. Any dwelling units built in the 1990s in area segments had to be screened out, so using an old list actually made the total data collection more efficient. The segments for Waves 2 and 3 were from the same 1991 frame but were listed in a separate process in the fall of 1999.

A fixed whole number of segments was allocated to each PSU based on the projected count of 9- to 18-year-olds in 1999 for the stratum that the PSU represented. From the earlier survey, there was a total of 2,065 segments available. These segments had been selected in a systematic PPS fashion,[1] where the measure of size counted African American and Hispanic households more heavily than other households. This approach resulted in an oversample of segments with strong concentrations of minority population. This oversample was not desired for NSPY. Since just 1,180 of the 2,065 segments were required, the segments were subsampled with probabilities such that overall probability

[1] A systematic PPS selection is one where the frame is systematically sorted and then an unequal probability sample is drawn with PPS. The systematic sorting induces a set of joint probabilities of selection that minimizes the total variance.

of selection became proportional to total households without any special emphasis on minority households. This was done by using a measure of size (MOS) that was proportional to the ratio of desired overall probability to the original probability:

$$SEGMOS = \frac{1990\ \ households\ \ in\ \ segment}{old\ \ MOS\ \ for\ original\ survey}.$$

Dwelling Unit Selection in Area Segments

As mentioned above, the 1,180 segments for Wave 1 had been listed by contractor staff in late 1991 and early 1992. These lists of housing addresses were keyed. From the keyed files, a systematic PPS sample was drawn with a fixed national target of 30,993 dwelling units. (When combined with the permit sample of 3,407 newly built dwelling units, the total initial sample size was 34,400.) The measure of size was defined as the weight for the segment so that the final dwelling unit sample would be closer to an equi-probability sample (i.e., a sample in which every dwelling unit had the same chance of selection). These 30,993 dwelling units were split into two release groups by segment, with about 590 segments in each release group. For Wave 2, the 689 segments were supplemented with 2,875 new construction dwelling units for a total of 23,000 dwelling units. All of the Wave 2 segments were listed in the fall of 1999. For Wave 3, the 694 segments were supplemented with a permit sample of 3,052 for a total of 23,300 units.

For a subsample of the sample dwelling units, there was a quality control check on the original 1991/1992 listing. For all single-family housing, the interviewer checked for hidden apartments (such as converted basements, garages, and attics) that might have been missed by the lister. Any detected hidden apartments were added to the sample. Also, in a subsample of multifamily housing structures, the interviewer checked for missed apartments. Using these procedures, 192 missed dwelling units were added to the sample. Also, as mentioned above, there was a check for new mobile homes. This procedure added 99 sample mobile homes to the sample. Thus the combined sample from area segments was 31,284 dwelling units. Because the Waves 2 and 3 segments were listed in the fall of 1999, this process was not employed for these waves.

Selection of the Permit Screening Sample

A separate building permit sample was drawn for the three initial waves of NSPY to prevent problems caused by outdated information on block sizes. The data collection procedures for selecting the area segment involved sampling with PPS in the 1990 Census. PPS sampling with 1990 data strongly reduced between-segment variation to the extent that there was a strong correlation between total population in 1990 and eligible population in 1999. New construction would weaken that correlation. To avoid the potentially high between-segment variance caused by a weakened correlation, only pre-1990 census housing from the area segments were interviewed. This was accomplished by asking the occupants when their dwelling unit was constructed and then terminating the screening process if the unit was built after April 1, 1990. A separate sample of postcensus housing was drawn from a frame of building permits. This procedure was introduced at the U.S. Census Bureau in the 1960s and continues to be used for all major household surveys conducted by it. It is used at Westat for large surveys conducted late in a decade.

Permit sampling was possible because most localities required that a permit be obtained before building a residential structure and because the U.S. Census Bureau conducted a regular census of permit activity. This census of local governments has been conducted every month for active offices

and annually for less active offices. A benefit of the census has been that it could be used to select specific offices and months from which to draw an efficient sample of permits for national estimates.

The stages of permit sampling were similar to those in the area frame, but there were five instead of three. First, only permits issued within the 90 sample PSUs were selected. Next, a sample of building permit offices (BPOs) was selected. These were the local county and city offices that issue building permits and keep records about them. At the third stage, a sample of segments was selected, where a segment was defined to be the set of permits issued by an office within a specific time frame. At the fourth stage, individual permits were selected. After selection of the permits, a lister visited all the building sites for the selected permits to list all the housing units that were found there. After listing of housing units within sample segments, the final sample of dwelling units was selected.

The total dwelling unit sample size from the permit frame was set so that the proportion of the total sample selected through the permit frame would roughly equal the proportion of the total national housing stock that was built between April 1, 1990, and the end of 1998. Statistics from the U.S. Census Bureau indicated that about 10 percent of the housing stock as of the end of 1998 met this criterion. The dwelling unit sample size from the permit frame for Wave 1 was 3,407, equal to about 10 percent of the total initial sample. In Wave 2 the dwelling unit sample from the permit frame was 2,875 units compared to 20,125 area sample dwelling units for Wave 2. Because the permit frame covered only until the end of 1998, there was no coverage of new housing units that were permitted and built in 1999 or in 2000. The Wave 3 permit sample was 3,052 units while the area sample for Wave 3 consisted of 20,248 units. For Wave 3, there was no coverage of new housing units that were permitted and built in 1999, 2000, and the first half of 2001.

A.1.2 Selection of Youth and Parents (Waves 1 through 3)

Household screening and subsampling were used to identify eligible households and to oversample those with specific compositions to satisfy precision requirements for the three youth age ranges. In households selected as a result of subsampling, one youth was selected from each age range represented, but no more than a total of two youth were selected. The parents and caregivers for the sample youth were than identified and one was randomly selected. The practice of sampling up to two youth when any are selected had the effect of concentrating the youth interviews in a smaller number of households than would be expected if sampling were conducted independently for each age range. This means that youth in the less rare age domains were sampled at a higher rate if they happen to have a sibling in a rarer age domain. Similar procedures have been used successfully on other surveys. This approach was particularly advantageous for NSPY because the precision requirements for parents were specified in terms of the youth age domains. A mother with children in two or three of the age ranges would be counted toward the parent precision targets for each range in which one of her children was selected. Thus, concentrating the youth selections in a smaller set of households generated a more efficient parent sample. This approach also increased the amount of directly collected sibling data. On the negative side, it increased design effects slightly for older youth, but this had been anticipated and was counteracted by using a slightly larger nominal sample size for this age range.

To carry out this sampling efficiently, it was convenient to divide eligible households into three strata based on the combination of ages represented by the youth in the household. Because youth aged 12 to 13 were the rarest age domain, households containing such youth were always selected. They are thus placed into a stratum by themselves. Youth aged 9 to 11 were the next rarest domain.

Households that contained a 9- to 11-year-old but no 12- or 13-year-olds were subsampled at Wave 1 and thus constituted a second stratum. For Waves 2 and 3, there were no subsampling within either stratum. Finally, 14- to 18-year-olds represented the most common age domain and were most sharply subsampled so that they constituted a third stratum. Thus, the following strata were used:

- Households containing at least one youth aged 12 to 13;
- Households containing at least one youth aged 9 to 11 but no youth aged 12 to 13; and
- Households containing at least one youth aged 14 to 18 but no youth aged 9 to 13.

Table A-A shows estimates of the youth population by stratum from Wave 1 of NSPY. These estimates were prepared using final Wave 1 NSPY youth weights. They were broadly consistent with earlier estimates obtained from the Current Population Survey (CPS). The retention rates represent the percentage of the screened households of the given type that were retained in NSPY. These rates applied only to Wave 1. The retention rates for Waves 2 and 3 were modified slightly.

Table A-A. Youth by household stratum: NSPY Wave 1

			Youth by age domain			
Household composition	Retention rate (%)	Households	9-11	12-13	14-18	Total 9-18
At least one 12- to 13-yr.-old	100%	7,770,932	3,431,546	7,998,814	4,094,726	15,525,086
At least one 9- to 11-yr.-old but no 12- to 13-yr.-olds	70%	8,449,930	9,102,823	0	3,100,064	12,202,887
At least one 14- to 18-yr.-old but no 9- to 13 -yr.-olds	45%	9,545,207	0	0	11,862,093	11,862,093
Total		25,766,069	12,534,369	7,998,814	19,056,883	39,590,066

The mechanics of sample selection then worked as follows. When DUs were selected from the area and permit segments, they were randomly assigned to one of three sampling rules:

A. Interview if the household belongs to stratum A;

AB. Interview if the household belongs to stratum A or B; and

ABC. Interview if the household belongs to stratum A, B, or C.

For sampling rule *A*, the interviewer was instructed to induct the household into the sample only if it contained a youth aged 12 or 13. For sampling rule *AB,* the interviewer inducted the household into the sample if it contained one or more youth aged 9 to 13. For sampling rule *ABC,* the interviewer inducted the household into the sample if there were any youth aged 9 to 18. The interviewer used a hard-copy screening questionnaire and simple focused questions to determine the presence of youth in the specified age ranges.

Eligibility rates have been estimated based on the results from the initial recruitment waves. Table A-B shows eligibility rates in Wave 1 for households assigned to the different screener groups. These rates are lower than were predicted based on CPS tabulations (also shown in Table A-B). There was

significant undercoverage at Wave 1—on the order of 30 percent undercoverage. The reasons for this undercoverage are not known but persisted in Waves 2 and 3.

Table A-B. Wave 1 eligibility rates

Screener group	Screener sample (%)	Wave 1 age eligibility rate (%)	CPS predictions of eligibility rates (%)
A	30.1%	05.6%	07.5%
AB	24.9%	10.8%	15.2%
ABC	45.0%	19.9%	24.4%
Total	100.0%	12.2%	17.0%

For Waves 2 and 3, stratum B was sampled at the same rate as stratum A. The reason for this was to increase the sample size for youth aged 9 to 11. There was some concomitant increase in the sample size for youth aged 14 to 18. Operationally, this was accomplished by reassigning all households in screener group A to screener group AB. A larger sample size was desired for youth aged 9 to 11 at Waves 2 and 3 because of the decision to conduct followup interviews. Because there would be no new sample after Wave 3, the only way to achieve an oversample of 12- to 13-year-olds after Wave 3 was to oversample the 9- to 11-year-olds at Waves 2 and 3.

For the followup waves, the sample will become older because the 9-year-olds are not replenished. Several plans for replenishing the sample of 9-year-olds were considered but they ran into serious operational problems. The most serious problem was that about 37 percent of 8-year-olds have older siblings. To give a chance of selection to these 8-year-olds when they turn 9, a third youth would have to be sampled in many households. That would have resulted in a serious change in existing data structures. There were also lesser problems with sampling and tracking 8-year-olds who did not have older siblings. Given the low level of attention that the Media Campaign was paying to 9- to 11-year-olds, it did not seem worth the high cost to maintain a large sample of children aged 9 to 11 past Wave 3.

Household screening was also used to eliminate multiple chances of selection for DUs built since the 1990 decennial census. As discussed earlier, most of these units had two chances of selection—once in the area segment sample and once in the permit segment sample. This was true for all immobile units built after the census in permit-issuing jurisdictions in Waves 2 and 3. For Wave 1, it was true only for immobile units built after the census but before the listing in late 1991. To eliminate these extra chances of selection, the screener included questions on the year the DU was built.

The only chance of selection for mobile homes was through the area frame because the permit frame did not cover these DUs. Therefore, the screener instructed the interviewer to skip the year-built question for mobile homes. This procedure was efficient for all but Wave 1. The 1991 listings used for these waves included all trailer sites occupied in 1991 but missed all new trailer parks and all isolated mobile homes parked in new locations. To provide coverage of these mobile homes, interviewers recanvassed a subsample of the segments for mobile homes. Any segment from which the first listed DU was selected was marked for the special canvass. Any mobile homes were compared with the old listing sheets to see whether they were enumerated. All previously unenumerated mobile homes were added to the sample in these segments for Wave 1. This procedure yielded a sample of 99 missed mobile homes for Wave 1.

Another activity that took place during the screening process for Wave 1 was called the *missed DU* procedure. At every single-family home, the interviewer asked whether there was a separate

apartment in the basement, garage, or elsewhere. If such an apartment was found, the interviewer checked the original listing of the segment to determine whether the apartment was listed. If missed by the lister, the apartment was automatically added to the screening sample. A similar procedure was carried out in a sample of multifamily housing structures. If the first listed unit in the building was selected for the screening sample, the interviewer conducted a thorough recanvass of the structure to identify units missed by the lister. Any previously unlisted apartments were added to the screening sample. At Wave 1, this procedure generated a sample of 192 missed DUs.

The missed mobile home and missed DU procedures were not used for Waves 2 and 3. The listings used for those waves were prepared in mid-1999, making them fairly fresh for interviewing in late 2000 and early 2001. Because of the screening and sampling procedures, all stick and modular housing built after 1998 was excluded from the sampling frame. In addition, all mobile homes placed after the listing period in mid-1999 had no chance of selection.

A.1.2.1 Youth and Parent Selection (Waves 1 through 3)

The procedure for Waves 1 through 3 was to prepare a list of eligible youth in each sample household and sample one youth within each nonempty age range, subject to a maximum of two sample youth per household. In a household with youth in all three of the age ranges, one youth from the 12-to-13 range was selected. A random decision was then made to either select a second youth from the 9-to-11 range or from the 14-to-18 range. Within an age range, all youth had the same probability of selection. At least one and no more than two youth were selected for every sample household. The interviewers then determined the relationship of all adults in the household to each sample youth and the relationship between the two sample youth if two were selected. If two sample youth were siblings (whole, half, or step), the computer selected one adult from the set of adults in the household who were classified as a parent or caregiver of either youth. If two nonsiblings (such as cousins) were selected, one adult was selected from each set of associated parents and caregivers. All of these procedures were accomplished with the aid of a CAPI questionnaire.

During Waves 1 through 3, a random parent instead of the most knowledgeable or cooperative parent was selected for several reasons. Most importantly, parent statistics were to be prepared in addition to youth statistics. Because the most knowledgeable and cooperative parent in two-parent households is often the mother, a nonrandom selection would have resulted in a sample consisting mostly of mothers with very little data on fathers. To be able to measure the penetration of the Media Campaign with fathers as well as mothers, random selection of parents was used for Waves 1 through 3.

Parents were defined as biological, adoptive, step, or foster parents sharing a roof with a youth. Caregivers were defined as persons serving *in loco parentis* for youth who did not live with their parents. Some distinctions were made between these categories for sampling purposes. Stepparents were considered parents for sampling purposes only if they had lived with their stepchild for at least 6 months. In addition, the exact nature of the relationship between the adult and the youth were recorded for analytic purposes. Henceforth, in this discussion, the term *parent* will be used to refer to both parents and caregivers unless otherwise specified.

In multifamily households, all youth within an age range were given an equal chance of selection. If two selected youth were cousins or are not related at all (as in the case of a live-in nanny with her own children), a separate parent was selected for each family with a sample youth.

For youth with divorced or separated parents, priority was given to the household where the youth spent the majority of the year. Only these households were eligible for selection. The only parent figure eligible for selection was the natural/adoptive parent with whom the youth spent most of the year and any stepparent present in that household. It was possible to select the stepparent without selecting the natural/adoptive parent.

In the case of youth living with adults who were not their parents (under the strict definition of parents given above), special rules for sampling caregivers were implemented. For youth who were not emancipated[2] but lived with adults other than their parents, one or more primary caregivers who lived in the same DU as the youth were identified . These caregivers may or may not have been the youth's legal guardians.[3] If there were more than one resident primary caregiver, one was randomly selected for the parent interview.

For emancipated youth living separately from their parents, a caregiver was generally not required. However, when there was an adult present who might be a caregiver (such as a grandmother), it was determined whether that adult was a caregiver and, if so, an attempt was made to recruit him or her for a parent interview.

Youth under age 19 who were serving in parental roles (e.g., an older sibling in a pair of orphans or a teenage stepmother) were considered ineligible for the youth selection but eligible for the parent selection.

As mentioned above, youth residing in group quarters were not sampled during the recruitment phase; youth living in boarding schools and college dormitories were, therefore, excluded from the scope of the survey. This exclusion was made because it was felt that dormitory residents could not be easily interviewed at their parents' homes and that their experiences were so different from the majority of youth that they would have to be analyzed separately. During screening, the interviewer specifically asked respondents not to count these youth as household members. Despite the exclusion of dormitory residents, youth who live at home or in private apartments while attending college were sampled. It was decided that a broader exclusion of college students was not necessary for analytic purposes and would render the remaining sample of 18-year-olds unrepresentative of the universe that most data users would expect to find. This special exclusion of dormitory residents did pose some special challenges to the weighting process. To poststratify the sample, it was necessary to estimate the dormitory population from the 1990 decennial census and then to carry that estimate forward, in order to subtract it from more current CPS estimates of the entire noninstitutional population aged 9 to 18.

One complication of the dormitory exclusion concerned the length of the field period. For example, Wave 2 started in July 2000. To maintain a stable sampling universe throughout the interviewing period, youth who were currently living in boarding schools and dormitories or who were expected to be in those living arrangements by the end of the wave were excluded. Note that this had the effect of excluding from the spring wave high school seniors who were planning to live in dormitories in the fall. Note that this applied only in the initial recruitment wave. In the subsequent followup waves, such youth were excluded only if they lived in a dormitory or boarding school at the time of initial screening (not any time during data collection).

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[2] The criteria for identifying emancipated youth vary by state but generally involve age and marital status.

[3] If the caregiver was not the legal guardian, a parent interview was conducted with the caregiver and the legal guardian was contacted for permission to interview the youth.

Table A-C shows the counts of interviewed youth at Wave 1 by age and by household stratum. Within households completing the household roster, person-level response rates were high. For example, in Wave 1, extended interviews were obtained for 88 percent of sampled parents and 91 percent of sampled youth. Appendix B provides additional details on response rates.

Table A-C. Rostered households and completed parent and youth interviews by household stratum for NSPY Wave 1

Household composition	Rostered households	Parents	Youth per age domain			
			9-11	12-13	14-18	Total 9-18
At least one 12- to 13-yr.-old	1,191	1,057	340	1,080	389	1,809
At least one 9- to 11-yr.-old but no 12- to 13-yr.-olds	826	733	749	0	230	979
At least one 14- to 18-yr.-old but no 9- to 13 -yr.-olds	584	503	0	0	524	524
Total	2,601	2,293	1,089	1,080	1,143	3,312

A.1.3 Selection of Followup Sample for Wave 4

Under the NSPY sample design, subsamples of youth and parents selected for the initial recruitment waves (i.e., Waves 1 through 3) will be retained for followup in subsequent data collection waves. No new samples will be selected for any of the followup waves. For Wave 4, the first followup of Wave 1, all youth and parents in households that completed the screener roster in Wave 1 were included in the followup sample *if* the household contained at least one Wave 1 respondent (either youth or parent). Note that under the selection criterion employed for Wave 4, a small number of youth and parents, that is, those parents and youth who were selected but who did not complete a Wave 1 interview were refielded in Wave 4. The "extra" youth and parents that were obtained in Wave 4 were used only for cross-sectional analyses at Wave 4. Appendix B provides details on response rates.

A.2 Development of Weights

An analysis weight was calculated for each completed interview. Different weights were prepared for different types of analyses. For Waves 1 through 3, there were six sets of final weights in all, three for national analyses and three for regional analyses. There were national weights for youth, for parents, and for youth-parent dyads. These repeated for regional analyses. For Wave 4, separate regional weights were not prepared. Instead, in addition to national cross sectional weights, two sets of longitudinal weights were created, one for lagged analysis and one for stable analysis. These weights were used to reflect selection probabilities and to compensate for nonresponse and undercoverage. The adjustments for undercoverage involved a process called raking. In the raking process, the weights were adjusted in such a manner that the sums of weights for important domains agreed with those from independent more reliable sources. The final weight for a respondent, including nonresponse adjustments and raking, can be viewed as the number of population members that each respondent represented. Details about the weighting process are given in the following sections.

A.2.1 Baseweights

Baseweights are used to reflect a person's probability of selection into the sample. The baseweight is defined to be the reciprocal of the probability of selection. Thus, people with small probabilities of selection get large baseweights and those with large probabilities get small baseweights. If there were no nonresponse or undercoverage, these baseweights would yield unbiased estimates of population parameters such as the percent of youth who engage in a particular behavior.

Calculation of the baseweights was done by considering the probability of selection at each stage: PSU, segment, dwelling unit, and person. The calculation of these probabilities at each stage was fairly straightforward. However, since the person selection could be carried out only in households where the screener was completed, the person-level baseweight also reflected nonresponse adjustment and, in the case of the parent weights, an adjustment for household undercoverage.

For Waves 1 through 3, the baseweight for a dwelling unit is generally

$$BW_{DUi} = \frac{1}{\Pr\{\text{PSU}\}\Pr\{\text{segment} \mid \text{PSU}\}\Pr\{\text{DU} \mid \text{segment}\}}.$$

For permit segments, there were also some adjustments for failure to find the permits for a particular segment and for the lack of coverage of new housing in jurisdictions where building permits were not required. These adjustments were based on statistics from the Census Bureau's reports on construction starts. Also, in Wave 2, the BPO weights were trimmed to avoid inflating the variances.

These dwelling unit-level baseweights were then adjusted for screener nonresponse as discussed in Section A.2.3 below. After adjustment for screener nonresponse, the adjusted weight was further adjusted for screener-based subsampling. Dwelling units in Wave 1 had been preassigned to three screening groups: *A*, *AB*, and *ABC*. However, for Waves 2 and 3 dwelling units were assigned only to screening groups *AB* and *ABC*. Dwelling units in the *A* screening group were retained in sample only if there was a youth aged 12 to 13 present in the dwelling unit. Dwelling units in the *AB* screening group were retained in sample only if there was a youth aged 9 to 13 present. Dwelling units in the *ABC* screening group were retained in sample only if there was a youth aged 9 to 18 present. These rules were developed as a means to efficiently oversample dwelling units containing youth aged 12 to 13 and (to a lesser extent) those containing youth aged 9 to 11. Based on these screening rules, all dwelling units in all waves with youth aged 12 to 13 were retained with certainty so no adjustment was required to their weights. Also in Waves 2 and 3, those dwelling units with a youth aged 9 to 11 present, but no youth aged 12 to 13, were retained with certainty so again no adjustment was required to their weights. However, in Waves 2 and 3, those dwelling units with a youth aged 9 to 11 present, but no youth aged 12 to 13, had a probability of retention of 0.7, so their weights were adjusted upward by a factor of 1.4286. Similarly, those dwelling units with a youth aged 14 to 18 present, but none aged 9 to 13, had a probability of retention of just 0.45, so their weights were adjusted upward by a factor of 2.2222.

After this stage in the calculation, different paths were taken for the calculation of youth and parent baseweights. However, from this point on, the procedures for Waves 1 through 3 were the same. The youth path is described first.

There were three age classes for youth sampling purposes: 9 to 11, 12 to 13, and 14 to 18. If there were youth present in all three age ranges, the first step in youth subsampling was to select two out the three

age ranges. The 12-to-13 range was always selected with certainty. One of the other two was selected with equal probability. So the first component in the youth probability of selection for youth aged 9 to 11, or 14 to 18 in such households was a factor of 0.5. Next, within each sample age range, one youth was selected from however many were present. For example, if there were 4 youth present in an age range, the probability of selection within the range was 0.25. The two factors were multiplied together to create a youth within-household probability of selection. The youth baseweight was then calculated as the quotient of the adjusted baseweight for the household divided by the within-household probability of selection for the youth.

The parental probability of selection was more complex. In simple nuclear families, the probability of selection for a parent was simply 1.0 for single-parent households and 0.5 for two-parent households, but a variety of other living arrangements were encountered. Some households contained nephews and nieces of the householder where the householder or his/her spouse was reported as the caregiver for the nephew or niece, but not both were so reported. Sometimes, one or two parents of the nephew or niece were present. Sometimes a grandparent was considered the caregiver of the nephew or niece. Other households contain couples who was not married but each had their own children. Some households contain boarders, housekeepers, or nannies who had their own children present.

When one youth was selected, a random parent/caregiver was selected from the set of parents and caregivers for that youth. When two siblings were selected, a random parent/caregiver was selected from the set of parents and caregivers identified for either sibling. When two youth were selected who were not siblings, one parent/caregiver was selected from the "pool" of parents and caregivers for each. If these pools overlapped, it might still be the case that just one parent figure was selected; thus, the parent's probabilities of selection depended on their relationship to the youth in the household. While the relationship of every adult in the household was established to the sample children, this information was not collected about nonsample children. These relationship data were imputed using the available data about household composition. Each parent and caregiver's probability of selection was then computed over all possible youth samples from the household.

Given the complexity of the parent/caregiver concept for NSPY, it was realized that no post-stratification or raking to independent estimates of parents would be possible. In order to correct for undercoverage despite the lack of ability to perform such adjustment, the decision was made to rake the household weights prior to applying the within-household probabilities of selection for parents. This raking is discussed below in Section A.2.4.

For Wave 4, the starting point for the weighting process was the set of sampling weights derived for Wave 1. Because no new youth were selected in Wave 4, the weights from Wave 1 were used as the base weights for youth in Wave 4. These weights were nonresponse adjusted and then raked to the youth population totals at Wave 4. For originally selected parents, Wave 1 weights were used as the base weights for Wave 4. It was possible to select a new parent if the originally selected parent was no longer eligible, for example, in the case of a divorce. In this case the newly selected parent was treated as a substitute for the originally selected parent.

A new feature in Wave 4 was the construction of longitudinal weights. Youth and dyads who were eligible in Wave 1 and were still eligible in Wave 4 were given longitudinal weights that were based on the Wave 1 weights. There was no new raking on the longitudinal weights since these weights were intended to estimate the longitudinal attributes of the Wave 1 population. However, these weights were nonresponse adjusted using the same methods as the cross-sectional weights.

A.2.2 Nonresponse Adjustments

In general, it was hoped that there were groups of households where the decision to respond to a survey was unrelated to substantive characteristics of interest such as substance abuse. Complex modeling techniques were employed to find groups of households with different response rates. The variables that were available to define such groups were mostly from the 1990 Decennial Census and described the block groups containing the households. Within a group, the weighted response rate was calculated. The baseweight was then divided by the group response rate to obtain the nonresponse-adjusted weight for a household. Households in groups with low response rates received large upward adjustments in their weights. Intuitively, this meant that those hard-to-reach households that were interviewed despite being hard to reach ended up receiving larger weights than households that were easy to reach. If the groups were formed well, this procedure could eliminate nonresponse bias. If too many were formed, however, the variation in weights caused by groups with low response rates could hurt survey reliability.

The goal was to develop procedures that would form enough but not too many groups. To this end, special software was created (built on top of data mining software) to form the groups. A set of about 60 household characteristics was used in conjunction with the special software. Some examples of the characteristics used include local percentages of persons in certain age groups, persons of certain race and ethnicity, homeowners versus renters, persons in mobile homes, U.S. citizens versus noncitizens, and persons with incomes below the poverty level.

This type of adjustment was done separately for the doorstep and roster phases of the screener, for youth nonresponse, for parent nonresponse, and for dyad nonresponse.

A.2.2.1 Screener Nonresponse Adjustment

This adjustment was done in two phases and applied only to Waves 1 through 3. The first phase was to adjust for doorstep nonresponse where it was never determined whether eligible youth were present at the address. The second phase was to adjust for roster nonresponse where it was known that the household did contain eligible youth, but it was not possible to prepare a household roster and select a sample of youth and parents.

In the doorstep phase, a dwelling unit was considered to be a respondent if information about the presence of children had been collected from either the occupants of the household or from their neighbors. In addition, if the dwelling unit was selected in an area segment and was not a mobile home, information on the age of the structure was required in order to be considered a complete doorstep screener. As mentioned in Appendix B, the screener response rate was 95.1 percent for Wave 1, 95.7 percent for Wave 2, and 95.5 percent for Wave 3. The adjustment factors for screener nonresponse varied from 1.0 to 1.7 for both Waves 1 and 2 and the factors varied from 1.0 to 1.6 for Wave 3.

In the roster phase, an eligible household was considered to be a respondent if an adult resident of the household had been found who was willing to provide a roster of the occupants of the household, their ages, and their relationships to the sample children. If any of this information was withheld, it was impossible to select the youth and parent sample so the household was classified as a nonrespondent. As mentioned in Appendix B, the roster response rate was 74.4 percent for Wave 1,

74.6 percent for Wave 2, and 75.3 percent for Wave 3. The adjustment factors for roster nonresponse varied from 1.1 to 1.6 for both Waves 1 and 2, but the factors varied from 1.1 to 1.7 for Wave 3.

A.2.2.2 Youth

Youth who answered D13 or any subsequent question were considered respondents. This was the last question on general ad exposure prior to prompting their recall with a display of several real advertisements. Nonrespondents included those whose parents refused consent or otherwise failed to provide consent, those who refused personal assent, and those who were just never reached to do the interview for any reason. Among those who did not complete the questionnaire, a difference was drawn between those who physically or mentally were incapable of completing it and those who simply chose not to. The first group was considered to be ineligible sample youth rather than nonresponding sample youth. The distinction matters only in that the weight of ineligible youth was not redistributed to responding youth through the nonresponse adjustment. Included in the category of ineligible youth were those who could not communicate in English or Spanish. Since the television and radio components of the Media Campaign were only in these languages, it seemed appropriate to classify those who cannot communicate in either language as ineligible for the evaluation. Also potentially included in the ineligible youth category were young people who stepped into parental roles for other youth aged 9 to 18. This might occur by reason of marrying an older person with such youth or by reason of caring for younger siblings.

The set of the same 60 household characteristics used for doorstep and roster nonresponse adjustment, as well as some additional characteristics, were used in conjunction with special adjustment software to develop an appropriate set of response cells for all sampled eligible youth. The additional characteristics included items such as whether both of the youth's parents were in the household, whether the youth was an only child, the total number of youth living in the household, and whether there was a nonrelative living in the household. All of these variables were obtained from the household roster. The resulting set of response cells was then used to adjust the weights of the respondents at the youth level. As mentioned in Appendix B, the youth response rate was 90.6 percent for Wave 1, 91.6 percent for Wave 2, 90.9 percent for Wave 3, and 93.6 percent for Wave 4. The adjustment factors for youth nonresponse varied from 1.0 to 1.5 for Wave 1, from 1.1 to 1.7 to for Wave 2, from 1.0 to 1.6 for Wave 3, and from 1.0 to 1.4 for Wave 4.

Note that for Wave 4, both cross-sectional and longitudinal weights were derived for analysis. The two sets of weights differ slightly because for cross-sectional analysis, a respondent was defined to be a sampled youth who completed the Wave 4 interview, whether or not the Wave 1 interview was completed; whereas for longitudinal analysis, a respondent was defined to be a youth who completed both Wave 1 and Wave 4 interviews. In Wave 4, about 94 percent of the eligible youth who completed the Wave 1 interview were longitudinal responders. For longitudinal youth nonresponse adjustment, the adjustment factors ranged from 1.0 to 1.6.

A.2.2.3 Parent

The parent nonresponse adjustment procedure was very similar to that for youth. Parents had to complete question F4 or a later question in order for the questionnaire to be considered complete. Parents who were too ill to complete the questionnaire, physically or mentally impaired, or could only communicate in a language other than English or Spanish were considered ineligible in Waves 1 through 3. Parents who were no longer living with the sampled youth or who were physically or

mentally disabled were considered to be ineligible for the followup waves. As mentioned in Appendix B, the parent response rate was 88.4 percent for Wave 1, 87.6 percent for Wave 2, 86.9 percent for Wave 3, and 90.3 percent for Wave 4. The adjustment factors for parent nonresponse varied from 1.0 to 1.5 for Wave 1, from 1.0 to 1.7 for Wave 2, from 1.1 to 1.7 for Wave 3, and from 1.0 to 1.5 for Wave 4.

A.2.2.4 Youth-Parent Dyads

Respondents for this analysis were defined as youth who responded and whose parents also responded to the survey. Therefore, both the youth and the parent had to be eligible and have completed their respective surveys to count as a respondent. Nonrespondents included all eligible nonresponding youth, but also included any youth who may have responded but whose parent did not. Youth who were not eligible for the youth weights were also not eligible for dyad analysis. Youth who did not have a corresponding sampled parent interviewed (such as emancipated youth or married youth) were considered ineligible for this set of weights. Also, youth who were eligible and completed an interview but whose parents were ineligible were considered ineligible for the Youth-Parent dyad weights.

The same characteristics used for youth nonresponse adjustment were used for dyad nonresponse adjustment. Again, the special adjustment software was implemented to define appropriate nonresponse adjustment cells, and weighting adjustments were computed using that set of cells. The dyad response rate was 85.7 percent for Wave 1, 86.4 percent for Wave 2, 85.7 percent for Wave 3, and 89.6 for Wave 4. The adjustment factors for dyad nonresponse varied from 1.1 to 1.6 for Wave 1, from 1.1 to 1.5 for Wave 2, from 1.1 to 1.6 for Wave 3, and from 1.0 to 1.5 for Wave 4.

In addition to cross-sectional weights, longitudinal dyad weights were also developed for Wave 4. Among eligible responding dyads in Wave 1, 91.4 percent were longitudinal responders (i.e., also responded in Wave 4). For longitudinal nonresponse adjustment the factors ranged from 1.0 to 1.04 for Wave 4.

A.2.3 Raking

Raking is a commonly used procedure in which survey estimates are controlled to marginal population totals. In theory, the estimates should differ from the population values only as a result of sampling error. In practice, other error sources such as residual nonresponse and coverage errors still may have an important effect on the accuracy of the estimates. The goal of raking is to reduce biases due to undercoverage and nonresponse, and to reduce the sampling error of the estimates. Raking may be thought of as an iterative form of poststratification, in which the weights are consecutively ratio-adjusted to multiple sets of control totals until the resulting weights converge to the control totals in each dimension. The sample sizes of the marginal distributions are the important determinants of the stability of the raking procedure, not the cells formed by a complete cross-classification of the variables. This permits the use of more auxiliary variables or control totals than in poststratification. For this reason we chose to rake the household, youth, and dyad weights rather than poststratify them. However, when sample sizes permitted, some raking dimensions were defined by crossing two variables to preserve the correlation structure in the data.

The parent weights were not raked because no control totals exist for parents as defined by the NSPY. However, estimates of total households with youth between the ages of 9 and 18 were available from the January 2000 CPS for Wave 1, and for Wave 2 the October 2000 CPS data were available.

Wave 3 used the average of March 2001 and April 2001 CPS data. For Wave 3, this average centered the control totals in the middle of the data collection period. For Wave 4 a regression line was fit to a year of CPS data and the estimate for October of 2001 was used as the population total. Marginal household control totals were obtained from the CPS for the following four raking dimensions:

- Household Race/Ethnicity (Non-Hispanic-white + Other Non-Hispanic, Non-Hispanic-Black, Hispanic) by Presence of Male Age 28 or Older in the Household (Yes/No);
- Youth Age Group Composition of Household (any age 12 to 13 present, age 9 to 11 present but no age 12 to 13, age 14 to 18 present but no age 9 to 13);
- Household Race/Ethnicity (Non-Hispanic-white, Non-Hispanic-Black, Other Non-Hispanic, Hispanic); and
- Census Region (Northeast, Midwest, South, West).

After the household doorstep and roster nonresponse adjustments, the household weights were raked to the first three sets of control totals to produce the household weights that were used in creating national parent baseweights. The household weights were raked again on all four dimensions for use in creating regional parent baseweights. Convergence was obtained in Wave 1 after three iterations for the national household weights and six iterations for the regional weights. Convergence was obtained in Waves 2 and 3 after four iterations for the national household weights and six iterations for the regional weights.

For youth, estimates of the total age 9 to 18 civilian population were also obtained from the January 2000 CPS and October 2000 CPS for Wave 1 and Wave 2, respectively. As with the household totals, the youth totals for Wave 3 were based on the average of March 2001 and April 2001 CPS data. From these control totals the civilian noninstitutional group quarters population was excluded, as estimated from the 1990 Census Public Use Micro-data System (PUMS) files. Marginal control totals were obtained for the categories defined by the three raking dimensions:

- Gender (M, F) x Age Group (ages 9 to 11, 12 to 13, and 14 to 18);
- Race/Ethnicity (Non-Hispanic-white, Non-Hispanic-Black, Other Non-Hispanic, Hispanic) x Age Group (ages 9 to 11, 12 to 13, and 14 to 18); and
- Census Region (Northeast, Midwest, South, West) x Age Group (ages 9 to 11, 12 to 13, and 14 to 18).

After the Youth and Youth-dyad nonresponse adjustments, both sets of weights were raked to the first two sets of control totals to produce the final national youth and Youth-dyad weights for use in analysis. Both sets of nonresponse-adjusted weights were raked again on all three dimensions to create regional weights for use in making regional estimates. Convergence was obtained after four iterations for the national weights in Waves 1 and 2, but converged in three iterations for the national weights in Wave 3. Convergence was obtained in six iterations for the regional weights for Waves 1 through 3.

Coverage rates are given in Table A-D for youth by age, race, and gender. The coverage rate was calculated as the ratio of the sum of the weights before raking to the control total. Coverage rates were not computed for Wave 4, because the Wave 4 sample was a subset of the Wave 1 sample.

Table A-D
Coverage rates

Subgroup	Wave 1 Coverage rate	Wave 2 Coverage rate	Wave 3 Coverage rate
Male	0.71	0.68	0.65
Female	0.68	0.69	0.65
Race/Ethnicity:			
Non-Hispanic white, Other Non-Hispanic	0.69	0.69	0.65
Non-Hispanic Black	0.69	0.67	0.63
Hispanic	0.74	0.66	0.62
Age Group			
9-11	0.70	0.69	0.70
12-13	0.74	0.71	0.75
14-18	0.67	0.67	0.57

A.3 Confidence Intervals and Data Suppression

Confidence intervals have been provided for every statistic in the detail tables. These intervals indicate the margin for error because a sample was drawn rather than conducting a census. If the same general sampling procedures were repeated independently a large number of times, and a statistic of interest and its confidence interval were recalculated on each of those independent replications, the average of the replicated statistics would be contained within 95 percent of the calculated confidence intervals.

The confidence intervals reflected the effects of sampling and of the adjustments that were made to the weights. They did not generally reflect measurement variance in the questionnaires. The intervals were based on variance estimation techniques that will be available in separate technical reports. In brief, subsamples of the sample were drawn and put through the same estimation techniques. The adjusted variation among the subsamples provides an estimate of the variance of the total sample. Details on how confidence intervals were calculated from variance estimates follow.

Some estimates were suppressed. This was done when the reliability of a statistic was poor. This was measured in terms of the sample size and the width of the confidence interval. Estimated proportions near 0 percent and 100 percent were more likely to be suppressed than other estimates since it was difficult to estimate rare characteristics well. The exact criteria for this suppression also follow.

A.3.1 Confidence Intervals

Variances were estimated for NSPY using a resampling approach. This resampling method was developed specially for NSPY. It uses 100 resamples to measure the variance in the full sample estimates. This method reflects, the variance due to selecting a larger sample of 100 PSUs for the standard Westat design, the variance due to subsampling to the 90 NSPY sample PSUs, and the variance due to sampling segment dwelling units and persons within PSUs. Moreover, it reflects the finite population correction factors at both the PSU and segment levels. Full technical documentation of this method can be obtained from Westat (Rizzo, 2000).

After each of the 100 resamples was drawn, the full set of adjustment procedures was run on each resample. This means that each resample was adjusted for nonresponse and was raked to adjusted

Current Population Survey (CPS) control totals. By doing this, the variance estimation procedure reflected the changes in uncertainty due to the point estimation procedures.

Once the variance estimates were obtained, they were translated into confidence intervals using approximations similar to those that have been developed on the National Household Survey on Substance Abuse (NHSDA). For means of continuous variables, the confidence intervals were formed by assuming that the sample statistic had a t-distribution with 100 degrees of freedom. The assumption of 100 degrees of freedom came from the 100 resamples. In the NHSDA, it was assumed that the sample statistic had a normal distribution. That was equivalent to assuming a t-distribution with an infinite number of degrees of freedom. Assuming 100 degrees of freedom was slightly more conservative. The standard error was multiplied by 1.98 instead of 1.96 to form a 95 percent confidence interval. The formula is

$$\text{lower bound} = \bar{x} - 1.98\sqrt{\text{var}(\bar{x})} \text{ and upper bound} = \bar{x} + 1.98\sqrt{\text{var}(\bar{x})}\,.$$

For proportions, it is assumed that a logistic transform of the estimated proportion has a normal distribution. This results in confidence limits that are strictly between 0 and 1, a useful property for estimated proportions. The formula for estimated proportions strictly between 0 and 1 is

$$\text{lower bound} = \frac{1}{1+\exp\left\{-\left[\log\left(\frac{\hat{p}}{1-\hat{p}}\right) - 1.98\,\frac{\sqrt{\text{var}(\hat{p})}}{\hat{p}(1-\hat{p})}\right]\right\}} \text{ and}$$

$$\text{upper bound} = \frac{1}{1+\exp\left\{-\left[\log\left(\frac{\hat{p}}{1-\hat{p}}\right) + 1.98\,\frac{\sqrt{\text{var}(\hat{p})}}{\hat{p}(1-\hat{p})}\right]\right\}}\,.$$

For example, if the estimated proportion is 0.5 percent with a standard error of 0.4 percent, rather than calculating the standard t-approximation of -0.3 percent to +1.3 percent, the logistic formula yields a confidence interval of 0.1 percent to 2.4 percent.

Estimated proportions of 0 and 1 pose special difficulties for variance estimation and calculation of confidence intervals. The calculated variance estimate of zero is not meaningful for such estimated proportion, because the best confidence intervals are not collapsed at the point estimates. The approximation used for a confidence interval around an estimated zero proportion is

$$\text{lower bound} = 0 \text{ and upper bound} = \frac{2F_{2,n}^{-1}(1-\alpha/2)}{n + 2F_{2,n}^{-1}(1-\alpha/2)}\,,$$

where $F_{2,n}^{-1}(1-\alpha/2)$ is the 1-$\alpha/2$ quantile of an F distribution with 2 and n degrees of freedom (Korn and Graubard, 1999), where n refers to the effective sample size defined to be the actual sample size divided by the average design effect (as suggested by D. Judkins and P. Zador). For these confidence intervals the average design effect was estimated to be 2.

For an estimated proportion of 1, the confidence interval is calculated as

$$\text{lower bound} = \frac{nF_{n,2}^{-1}(\alpha/2)}{2+nF_{n,2}^{-1}(\alpha/2)}.$$

As examples, if a domain has a sample size of 500, then the upper confidence limit on an estimate of 0 percent will be 1.5 percent and the lower confidence limit on an estimate of 100 percent will be 98.5 percent.

The Wave 3 confidence intervals for the counterfactual projections were done as in Wave 2. The youth counterfactual projections had standard errors estimated in WesVar using replication. However, the dyads counterfactual projections involved youth and parents so estimation for dyads was not as straightforward. The variance for youth and parents was estimated along with an estimate of the covariance between youth and parents based on replication. Once the estimate of standard error was obtained, the formula given above for the confidence intervals was used.

This report also contains confidence intervals for differences and means across waves. The samples in the three initial recruitment waves were independent except for PSU selection. For simplification, the PSU component of variance was ignored and the variances were assumed to be independent across waves. Both means and differences were approximated by assuming the statistic had a normal distribution and the t-distribution intervals with 100 degrees of freedom discussed above apply. For future waves, this will have to be changed because of the dependence of the statistics.

For differences of proportions where one or more of the estimates was 0 or 1 a slight modification of the above formula was needed. The approximation used for a confidence interval around an estimated zero proportion is

$$\text{lower bound} = \frac{-2F_{2,n}^{-1}(1-\alpha/2)}{n+2F_{2,n}^{-1}(1-\alpha/2)} \text{ and upper bound} = \frac{2F_{2,n}^{-1}(1-\alpha/2)}{n+2F_{2,n}^{-1}(1-\alpha/2)},$$

where $F_{2,n}^{-1}(1-\alpha/2)$ is the 1-$\alpha/2$ quantile of an F distribution with 2 and n degrees of freedom, and n was estimated as the harmonic average of the two sample sizes. For a difference of proportions where the only estimate was zero, the standard error for the nonzero estimate was used to impute the standard error for the zero estimate, adjusting for sample size.

A.3.2 Suppression

There were several suppression criteria. All were developed with the aim of preventing overanalysis of statistics that contain little true information. For example, if a domain had a sample size of only two youth, and the estimated proportion of them who thought a certain way on some subject was 50 percent, then the confidence interval would range from 5.7 percent to 94.3 percent, which was too wide to be of any use.

Any estimate based on an effective sample size of 30 or less was suppressed. The effective sample size for a statistic was calculated as the simple random sample size of the same domain that would have generated a standard error of the same size.

Estimated proportions between 0 and .5 were suppressed if

$$\frac{\sqrt{\text{var}(\hat{p})}}{\hat{p}\log(1/\hat{p})} > 0.225$$

and estimated proportions between 0.5 and 1.0 were suppressed if

$$\frac{\sqrt{\text{var}(\hat{p})}}{(1-\hat{p})\log(1/(1-\hat{p}))} > 0.225 .$$

Note that these rules meant that larger effective sample sizes are required to avoid suppression as the estimated proportion approaches 0 or 1. Estimated proportions of 0 or 1 were suppressed if the effective sample size for the domain was 140 or less. This corresponds to confidence limits of (0.000-0.026) on 0 and (0.974-1.000) on 1.

A.3.3 Average Design Effects and Effective Sample Sizes

A design effect is defined as the ratio of the achieved variance to the hypothetical variance that would have been achieved if a simple random sample of the same size had been used. An effective sample size is defined as the quotient of the nominal sample size divided by the design effect. Design effects were calculated for a number of statistics. They varied considerably from statistic to statistic, partially reflecting true differences in design effects but also reflecting substantial measurement noise. Table A-E shows the average design effects and corresponding effective sample sizes for statistics about youth, parents, and dyads.

Table A-E
Design effects and effective sample sizes

Youth age domain	Youth		Parents		Dyads	
	Design effect	Effective sample size	Design effect	Effective sample size	Design effect	Effective sample size
9-11	1.25	870	1.37	757	1.44	714
12-13	1.22	870	1.37	734	1.39	722
14-15	1.47	376	Na	Na	1.58	331
16-18	1.27	481	Na	Na	1.32	430
14-18	1.27	916	1.4	772	1.55	704
Wave 1 Total	1.46	2,268	1.66	1,882	2.27	1,374
9-11	1.27	727	1.38	634	1.38	626
12-13	1.26	522	1.28	483	1.31	469
14-15	1.49	264	Na	Na	1.49	250
16-18	1.46	265	Na	Na	1.58	227
14-18	1.49	524	1.50	484	1.69	443
Wave 2 Total	1.49	1,585	1.73	943	2.25	982
9-11	1.21	808	1.53	607	1.3	707
12-13	1.29	562	1.47	464	1.2	569
14-15	1.49	252	Na	Na	1.4	256
16-18	1.46	260	Na	Na	1.4	248
14-18	1.49	507	1.68	418	1.5	470
Wave 3 Total	1.64	1,499	1.82	923	2.0	1,153
9-11	Na	Na	Na	Na	Na	Na
12-13	1.18	636	1.62	384	1.35	473
14-15	1.21	759	Na	Na	1.87	406
16-18	1.29	550	Na	Na	1.95	282
14-18	1.43	1,309	1.46	784	2.24	584
Wave 4 Total	1.45	1,945	1.68	905	2.18	894

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Appendix B
Data Collection Methodology and Response Rates

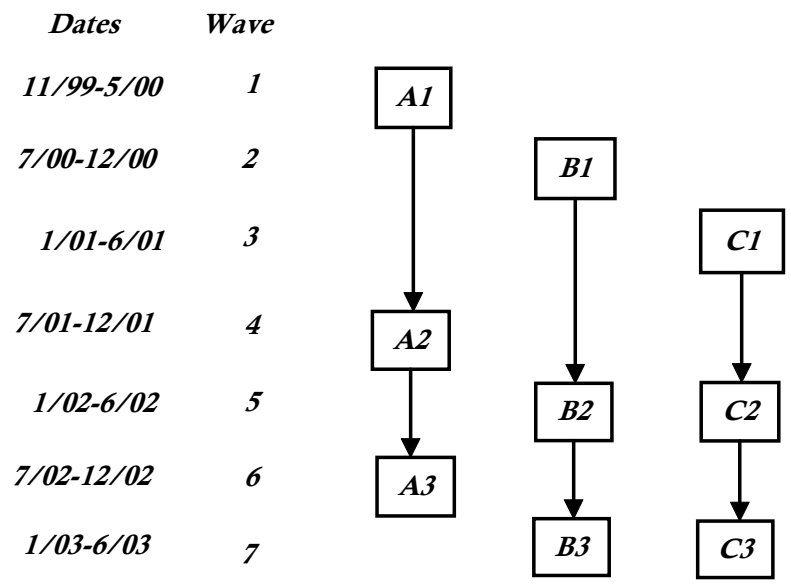
Two types of data were collected and analyzed for the Evaluation: quantitative survey data collected in a screener and three extended interviews (parent, teen, and child), and media buy data (i.e., Gross Rating Point (GRP) information).

This appendix describes the data collection methodology used during the three initial recruitment data collection waves (Waves 1 through 3) and the 1st followup wave (Wave 4) of the Evaluation. Topics include survey design, questionnaire design, pilot testing, interviewer recruitment and training, media activities, procedures used during data collection, data editing and cleaning, and response rates.

B.1 Survey Design

The major evaluation component of the Phase III Evaluation is the conduct of the National Survey of Parents and Youth (NSPY), which is a longitudinal study, consisting of seven data collection waves, each lasting approximately six months. The NSPY is a nationally representative survey being conducted in 90 locations across the United States. Figure B-1 is a graphical depiction of the initial recruitment and followup plan of the NSPY.

Figure B-1. NSPY INITIAL RECRUITMENT AND FOLLOWUP PLAN



The initial recruitment phase (Waves 1 through 3) consisted of three cross-sectional surveys, lasting approximately 6 months each. During recruitment, approximately 81,000 households were screened for the presence of children in the age ranges of interest. Only about one in every eight households was determined was eligible to participate (12%).

The followup phase (Waves 4 through 7) began with the Wave 4 data collection. Parents and youth recruited during the first three recruitment waves are being tracked and recontacted two additional times during the followup. Wave 1 participants are being followed up in Waves 4 and 6. Wave 2 and Wave 3 participants are being followed up in Waves 5 and 7. The followup period can range from 6 to 24 months, depending on the wave and the dates of interview.

B.2 Questionnaire Design

In preparation for the Evaluation of Phase III of the National Youth Anti-Drug Media Campaign, the National Institute on Drug Abuse (NIDA) convened an expert panel to assist in the development of data collection questionnaires. This group, which included specialists in adolescent drug use prevention and parenting behaviors, met and generated draft survey questionnaires for children (aged 9 to 11), teens (aged 12 to 18), and parents for the NSPY. NIDA shared these Phase III prototypes with Westat at the beginning of the contract period.

Westat formed a questionnaire development team whose members included evaluation experts from Westat, the Annenberg School for Communication at the University of Pennsylvania, and the National Development and Research Institutes (NDRI). This team reviewed the Phase III prototypes as well as the survey questionnaires used in the Phase II Media Campaign Evaluation, and other surveys, including Monitoring the Future (MTF), Community Action for Successful Youth, National Household Education Survey (NHES), and the National Household Survey on Drug Abuse (NHSDA).

To facilitate the development of the questionnaires, the team developed a behavioral change model for the Evaluation and mapped each question back to this model, as well as to the communication objectives that had been established for the Media Campaign.

Question domains for parents included the following:

- Media consumption;
- Past discussions with child about drug attitudes and avoidance strategies;
- Past child monitoring behaviors;
- Self-efficacy of discussing drugs with child and of monitoring the child's actions;
- Belief that the child is at risk for drug use;
- Belief that drug use has bad consequences;
- Exposure to the Media Campaign's advertising;
- Parent's own current and past use of tobacco, alcohol, and drugs; and
- Demographic information.

Youth question domains included the following:

- Exposure propensity to media;
- Youth's own current and past use of tobacco, alcohol, marijuana, and inhalants;
- Past discussions with and communication of anti-drug messages from parents and friends;
- Expectations of others about respondent's drug use;
- Knowledge and beliefs about the positive and negative consequences of drug use;
- Exposure to the Media Campaign's advertising;
- Family and peer factors;
- Personal factors; and
- Demographic information.

During Waves 1 and 2, virtually the same set of questions was asked of respondents. However, during Wave 3, some new questions were added. They included a question on brand recognition in the Teen and Parent questionnaires; questions about Ecstasy use in the Teen questionnaire (have used and when last used); questions about doing fun things with parents in the Teen and Child questionnaires; and a question about parents' perception of the efficacy of drug talk in the Parent questionnaire.

To make room for these questions, some questions were deleted. They included questions about reading magazines or seeing TV shows from the Teen and Parent questionnaires, questions about communicating rules for alcohol and smoking from the Teen and Child questionnaires, and a question about perceived consequences of inhalant use from the Child questionnaire.

In Wave 4, the extended interviews for parents, teens, and children were essentially the same as during Wave 3, except for some additional questions on Ecstasy in the Teen questionnaire. Additional Ecstasy questions included intentions to use, perceived expectations of use by peers, and attitudes of use including approval/disapproval of use and perceived harm of use.

The questionnaires for Waves 1 through 4 can be found on the NIDA web site: http://www.nida.nih.gov/DESPR/Westat/index.html. During Waves 1 through 3, a brief, hard copy household screening questionnaire was used to determine a sampled household's eligibility. All other data were collected using a laptop computer and a combination of computer-assisted interview technologies. Computer-assisted personal interview (CAPI) involved having the interviewer read the questions to the respondent and record the answers in the computer. In Waves 1 through 3, CAPI was used to enumerate the household and select a parent/caregiver and one or two youth. In Wave 4, CAPI was used to determine respondent eligibility and to select a new parent, if appropriate. CAPI was also used for the nonsensitive questions in the extended interview (parent, teen, and child) questionnaires in all waves. For collection of sensitive data in the extended interview questionnaires, audio computer-assisted self-interview (ACASI) technology was employed. This allowed respondents to self-administer the survey in total privacy. They listened to the question on headphones and recorded their own responses by touching the computer screen. These technologies were used based on the theory that providing respondents with a methodology that improved privacy and

confidentiality would make reporting of potentially embarrassing, stigmatizing, or illegal behaviors (such as drug use) less threatening, and enhance response validity and response rates.

On average in Waves 1 and 2, it took 6 minutes to enumerate and select household members for interview, and 34 minutes for children (aged 9 to 11), 44 minutes for teens (aged 12 to 18), and 52 minutes for parents to complete their respective extended survey questionnaires. The above noted changes to the Wave 3 questionnaires resulted in the following timings: 6 minutes to enumerate and select household members; and approximately 31 minutes for children, 41 minutes for teens, and 55 minutes for parents to complete their respective extended questionnaires. In Wave 4, it took on average 6 minutes to complete the computerized screener. Timings for the extended instruments were approximately 35 minutes for children, 44 minutes for teens, and 54 minutes for parents.

B.3 Pilot Test

Once the Office of Management and Budget (OMB) clearance was obtained, Westat conducted a pilot test in Baltimore, Maryland, prior to Wave 1. Approximately 300 households were screened to obtain about 20 household interviews using the NSPY questionnaires. The purpose of the pilot was to test the adequacy of questionnaire skip patterns, question wording and flow, and test the application of the ACASI portion of the questionnaire as well as the adequacy of the advance materials and interviewing procedures. A debriefing was held at the end of the pilot data collection. From that, some questions needed to be dropped from each of the extended interview questionnaires to keep within the OMB respondent burden estimates. Procedures and advance materials were updated as appropriate.

Westat conducted a second pilot test prior to Wave 4 to test its Followup screening instruments. The participating households in the first Baltimore pilot test were recontacted and screened for Followup status. The purpose of the pilot was to test the adequacy of the screening instruments, skip patterns, question wordings and flow, as well as advance materials and interviewing procedures. An interviewer debriefing was held at the end of this pilot data collection as well. From that debriefing, some minor changes were made in Followup screening questions and procedures.

B.4 Interviewer Recruitment and Training

The NSPY initial data collection design was based on hiring one primary interviewer in each of 90 primary sampling units (PSUs) and hiring approximately 35 more interviewers to supplement efforts in larger PSUs, PSUs geographically clustered, and in PSUs where primary interviewers quit during the field period. Twenty-nine additional interviewers were hired to supplement the data collection effort later in Wave 1. No additional interviewers were needed to staff Wave 2. Subsequent interviewer attrition required that 26 additional interviewers be hired to supplement the data collection effort in Wave 3. In Wave 4, 28 interviewers were fielded at the beginning of the Wave and three more were hired and trained during the wave.

Initially, interviewers were recruited from Westat's pool of experienced interviewers. Additional candidates were recruited through local organizations and classified newspaper advertisements placed in various PSUs as needed. These candidates were screened for communications skills and availability. Spanish language interviewer candidates were screened by bilingual project staff for their ability to communicate effectively in both Spanish and English. Approximately 12 percent of the total

interviewers hired were bilingual. Most English and bilingual candidates had prior experience relevant for data collection.

Over the waves, all interviewers participated in an 8 to 10 day training session. The training program, which was staffed by qualified project staff and field supervisors, was designed to ensure consistency in data collection through the use of lectures, with a heavy focus on practice sessions. Trainees new to Westat attended an additional half-day training on general interview techniques. Bilingual trainees also attended an additional half-day training that concentrated on reviewing bilingual scripts and materials.

B.5 Media Activities

Because this is an evaluation of a media campaign, activities such as media buying, ad creation, and broadcast levels play key roles in the questionnaires as well. Because the Media Campaign is dynamic over time, the media-specific questions in the questionnaires must also change appropriately.

In the evaluation of Child, Teen, and Parent questionnaires, some questions are asked about the respondent's media usage patterns, including television, radio, and magazines. All NSPY questionnaires contain a section of questions devoted to how the respondent receives anti-drug messages. In these questions, selected television and radio Media Campaign ads that have been broadcast during the prior 2 calendar months are played for the respondent. Questions are then asked about the respondent's recall of prior exposure (viewing or listening) to the ad, and his/her assessment of the ad's message and impact. The set of television and radio ads that are played for respondents are changed monthly, with a set protocol being used to determine which ads are played during each month and for which respondents.

Each month Ogilvy, the Campaign media buy contractor, produces an updated copy rotation schedule. This schedule outlines, by month, each ad that is slated for broadcast, its target audience (parents or youth), and racial or ethnic group (general market, African American, or Hispanic). Included are each ad's planned broadcast dates and the Media Campaign behavioral platform that the ad addresses. As ads are produced, Ogilvy forwards them to Westat for digitizing; a process that puts the ads into an electronic format that can then be incorporated into the computerized laptop questionnaires.

Using the current copy rotation schedule, Westat determines those television and radio ads that will need to be played to respondents over the next 2 months. A CD containing those ads is then produced and sent to the field interviewing staff. A look-up table is also developed for each interview month and transmitted to the field staff. It provides the specifications for ad selection and randomization for each respondent that month.

During Waves 1 and 2, questions were asked about viewership of specific television shows and readership of specific magazines from which Ogilvy purchased advertising time or space. The specifics of these media buys were determined based on the Gross Rating Points (GRPs) that the television shows, radio program or magazine were expected to earn. Ogilvy sent updated information on those television shows and magazines for which ad time or space has been purchased to Westat every 3 months, and appropriate updates were transmitted to the field interviewers' laptop questionnaires. (Questions on specific television shows and specific magazine readership were dropped from the Wave 3 and Wave 4 questionnaires.)

Ogilvy also provides data regarding the planned GRP levels for the previous quarter, by target audience (parents or youth), creative ad execution, media (television, radio, print, and out of home), and week/month. GRPs refer to the percentage of the target population that is estimated to be watching a particular TV show, listening to a specific radio program, or reading a certain magazine, and are therefore exposed to the advertising messages provided. These GRPs are based on data from that media's audience ratings company (Nielsen Media Research for television, Arbitron Research and RADAR for radio and MRI for print). Knowing the reach and frequency objectives for the Media Campaign's messages, the media buyers then purchase a mix of media whose GRPs, when aggregated, should achieve the desired intensity of Media Campaign message exposure. This information is used by the Evaluation's analysts to look for correlation between recalled exposure to ads by respondents and the ads' reach and frequency levels.

B.6 Initial and Followup Data Collection

This section discusses five topics central to the NSPY data collection effort. They include the procedure used to determine whether the household was eligible to participate in the survey, the rules adopted for collection of information from neighbors pertaining to household eligibility determination, how household members were subsampled for inclusion as survey respondents, steps taken to assure respondent confidentiality, and the procedures used to validate Waves 1 through 4 interviews.

B.6.1 Determining Household/Respondent Eligibility

During Waves 1 through 3, interviewers were required to make up to five in-person attempts to contact a household. A household was considered eligible if two criteria were met. First, the household must contain children of a specified age group (age groups included households with children aged 9 through 13, 12 and 13, or 9 through 18). Second, the housing unit must have been built before April 1, 1990 be a mobile home, or be selected through the permit sample (see Appendix A). All eligibility information was collected hard copy and then entered into an electronic file on laptop computers.

To be included in the Wave 4 Followup sample, a household must have had at least one selected person (parent, teen or child) complete his or her extended interview in Wave 1. If no one who was selected completed an interview in Wave 1, then the household was not included in the Wave 4 Followup sample.

Prior to Wave 4, efforts were made to verify the location of Wave 1 adult respondents. Location information (i.e., address and telephone number) about Wave 1 respondents was sent to a National database company for tracking purposes. Updated location information from this source was sent to Westat's Telephone Research Center and telephone interviewers placed calls to these households to verify the identity of the Wave 1 respondents.

At Followup, interviewers were allowed to screen households both by telephone and in-person. Interviewers were required to make up to five telephone attempts to contact a household. If the telephone attempts were not successful, up to 5 in-person attempts were then made. Most first attempts were made by telephone, however first attempts at contact were made in-person if the selected parent had refused to complete his or her initial interview or if the interviewer did not have a telephone number to call.

A youth who had been selected at Wave 1 was considered eligible for the Wave 4 survey if the youth was 9- to 18 -years of age at the time of the Wave 4 interview and was not living in a group quarters situation (that is was not living away from home at school or in an institution). A parent or caregiver who had been selected at Wave 1 was considered eligible for the Wave 4 survey if he or she was still living with an eligible sampled youth at least two nights a week and was not physically or mentally disabled. A new parent was chosen for interview if either of these two conditions was not met.

B.6.2 Use of Neighbor Reports to Determine Eligibility

Through most of the initial data collection waves, interviewers were instructed to visit the sampled household three times to try to determine eligibility, prior to obtaining eligibility information from a neighbor. This procedure was changed for a short period of time during Waves 1 through 3 to allow interviewers to determine eligibility information from neighbors after one attempt to contact the household. Because a neighbor might be less able to accurately know the exact ages of children, two questions about children were asked. First, the neighbor was asked whether any children aged 9 to 18 lived in the household. If yes, a followup question was asked to determine whether children of the specified age for the particular household (see categories above) lived in the household. In addition, the neighbor was asked if sampled housing units in area segments were built after April 1, 1990. Finally the neighbor was asked what times members of the sampled household would be likely to be at home. If answers to both of the age questions were no, the household was considered ineligible. If the answer to either or both age questions was yes and if the housing unit was built before April 1, 1990, or if the housing unit was drawn from the permit sample, the interviewer continued to try to contact the sampled household. Remaining attempts were made to contact the sampled household to obtain an interview at times suggested by the neighbor.

Neighbor reports to determine eligibility were not applicable to the followup data collection waves.

B.6.3 Selection of Respondents

During Waves 1 through 3, the interviewer conducted a household enumeration with a household member 18 years of age or older, once a household was determined to be eligible. All members of the household, excluding children/students who were currently away from home, living at a boarding school or college, were enumerated. At this point, up to two eligible children were randomly selected. Once the children were selected, the relationship of every other person to the selected child was obtained. One or two parents or primary caregivers were then selected based on a predetermined algorithm. (Two parents or primary caregivers were chosen only in the unusual situation where the selected youth were not siblings.) If two parents for a selected child resided in the household, the algorithm selected the male or female parent on a random basis. If one of the parents was a stepparent or foster parent, that parent must have lived with the child in the household for a least 6 months to be eligible for selection. If no parents lived in the household, the algorithm selected a primary caregiver. Once all respondents were selected, information on the race and ethnicity for each selected person was obtained.

As mentioned earlier, youth were considered eligible for the Wave 4 survey if they were 9- to 18- years old at the time of the Wave 4 survey and were not living in group quarters. New youth were never selected as replacements for ineligible ones. New parents/caregivers, however, could be selected in Wave 4, if the Wave 1 parent/caregiver was ineligible for the survey at Wave 4.

For all waves, all respondent selection information was entered into a laptop by the interviewer using a CAPI approach.

B.6.4 Guaranteeing Confidentiality

An important part of the survey methodology was to obtain honest answers to very sensitive data. To meet this end, several procedures were implemented. First, a Certificate of Confidentiality was obtained for the study. Under the certificate, the Federal Government pledged that the evaluation team cannot be compelled by any person or court of law to release a respondent's name or to link a respondent's name with any answers he/she gives. Interviewers showed a copy of the certificate to respondents prior to the interview. They also guaranteed that all respondent names and other identifying information would be destroyed at the end of the study and would not appear in any publications resulting from the study. Teen and child assent forms were appropriately worded for each age group to make sure that the youth understood that the answers they gave would be kept private and would not be connected with their names.

Second, the extended interviews were administered in a CAPI and ACASI format. Sensitive questions were in ACASI format, which meant that respondents used the computer themselves to answer questions by touching the screen and used headphones to hear the questions. The extended interview was programmed so that the interviewer was unable to go back into the interview and look at answers the respondent provided in the ACASI section.

Third, interviewers were instructed to, if possible, seat the respondent in a chair that was against the wall or a piece of furniture so that no other person could stand or pass behind the respondent. This procedure hindered third parties from being able to observe the respondent's answers during the ACASI part of the interview. The interviewer also requested that parents not be present in the room while the questionnaire was being conducted with the youth. If the parent insisted on being present in the room, the interviewer asked the parent not to stand directly behind the child during the ACASI portion of the interview.

B.6.5 Validation of Interviews

During Wave 1, 10 percent of parents interviewed were selected for validation. Approximately 75 percent were contacted by telephone and attempts to contact the remainder were made by mail. When interviewers were suspected of falsifying data, all of their worked cases were redone by different interviewers. In a few instances, interviewers were terminated for falsifying data.

During Wave 2, approximately 13 percent of parents interviewed and 2 percent of the ineligible households were selected for validation. Approximately 58 percent were contacted by telephone, and attempts to contact the remainder were made by mail. No invalid cases were found during Wave 2.

During Wave 3, approximately 18 percent of the parents interviewed and 5 percent of the ineligible households were selected for validation. Approximately 76 percent were contacted by telephone and attempts to contact the remainder were made by mail. When an interviewer was suspected of falsifying data, all of his or her worked cases were redone by different interviewers. In one instance, an interviewer was terminated for falsifying data.

During Wave 4, approximately 13 percent of the parents interviewed and 44 percent of the ineligible households were selected for validation. Approximately 86 percent were contacted by telephone and attempts to contact the remainder were made by mail. No invalid cases were found for interviewers completing Wave 4 work, however two interviews completed during Wave 1 were identified as questionable during Wave 4 when an interviewer revisited the households.

B.7 Data Editing and Cleaning

SAS programs were developed to perform edit checks on the screener and extended interview data. All interview skip patterns were checked to ensure that data did not exist for data items that should have been skipped and that data values were missing only when a data item had been properly skipped. Checks were also performed to confirm that all reported ages and dates were in a logical sequence between birth and the date of interview. Additional edit checks were executed to ensure that questions were asked regarding the appropriate groups of ads, given the demographic characteristics of the respondent. After the SAS edits were reviewed and the appropriate updates were applied, frequencies were produced for all variables at the dwelling unit level, the sampled person level, and the parent/youth dyad level. These frequencies were reviewed by experienced data specialists who identified outliers, unexpected missing data, and data inconsistencies. When a potential problem was identified, the data manager located the corresponding records within the database and evaluated the data to determine if any items needed to be updated.

Data updates were recorded by the data specialists and were carried out through a SAS update program that updated the appropriated data items and kept a transaction record of all updates.

B.8 Response Rates

Wave 1

There were 34,691 sampled addresses to be contacted and screened in NSPY Wave 1. Of those sampled addresses, 4,649 (13.4%) were discovered to be either vacant or nonresidences (such as businesses or other institutions). That left 30,042 occupied residential addresses to be contacted and screened for study eligibility.

Of those occupied addresses, answers to the screening questions were obtained for 28,567 (95.1%). Roughly 1 in 8 screened addresses (12.2%) had children in the required age ranges and were eligible to participate in NSPY.

In the 3,497 eligible households, data collection staff were able to enumerate household members for 2,602 (74.4%) households, so that a parent/caregiver and one or more youth could be selected for interview. Once selected 2,293 (88.4%) of NSPY parents/caregivers completed an interview. Interviews were completed with 3,312 (90.6%) of selected NSPY children and teens.

The cumulative response rate (screener response rate x roster response rate x interview response rate) was 64.1 percent for youth and 62.5 percent for parents.

Wave 2

There were 23,000 sampled addresses to be contacted and screened in NSPY Wave 2. Of those sampled addresses, 2,405 (10.5%) were discovered to be either vacant or nonresidences (such as businesses or other institutions). That left 20,595 occupied residential addresses to be contacted and screened for study eligibility.

Of those occupied addresses, answers to the eligibility screening questions were obtained for 19,701 (95.7%). Roughly 1 in 8 screened addresses (12.7%) had children in the required age ranges and were eligible to participate in NSPY.

In the 2,502 eligible households, data collection staff were able to enumerate household members for 1,866 (74.6%) households, so that a parent/caregiver and one or more youth could be selected for interview. Once selected, 1,632 (88.2%) of NSPY parents/caregivers completed an interview. Interviews were completed with 2,362 (91.9%) of selected NSPY children and teens.

The cumulative response rate (screener response rate x roster response rate x interview response rate) was 65.6 percent for youth and 62.9 percent for parents.

Wave 3

There were 23,300 sampled addresses to be contacted and screened in NSPY Wave 3. Of those sampled addresses, 2,272 (9.8%) were discovered to be either vacant or nonresidences (such as businesses or other institutions). That left 21,028 occupied residential addresses to be contacted and screened for study eligibility.

Of those occupied addresses, answers to the screening questions were obtained for 20,085 (95.5%). Roughly 1 in 8 screened addresses (12.8%) had children in the required age ranges and were eligible to participate in NSPY.

In the 2,566 eligible households, data collection staff were able to enumerate household members for 1,931 (75.3%) households, so that a parent/caregiver and one or more youth could be selected for interview. Once selected, 1,681 (87.6%) of NSPY parents/caregivers completed an interview. Interviews were completed with 2,459 (91.2%) of selected NSPY children and teens.

The cumulative response rate (screener response rate x roster response rate x interview response rate) was 65.5 percent for youth and 63 percent for parents.

Wave 4

Four separate response rates were calculated for Wave 4. These include:

- A followup cross-sectional response rate;
- A cumulative cross-sectional response rate;
- A followup longitudinal response rate; and
- A cumulative longitudinal response rate.

Under the NSPY sample design, subsamples of youth and parents selected during Wave 1 were retained for followup in Wave 4. For the cross-sectional survey, youth and parents in households that completed a screener roster in Wave 1 were included in the followup sample if the household contained at least one Wave 1 sample person (either parent or youth) who completed an interview. As a result, under the selection criterion employed for Wave 4, a small number of youth and parents sampled at Wave 1 who did not complete a Wave 1 interview were refielded in Wave 4. These "extra" youth and parents were used only for the cross-sectional analysis and, therefore, were accounted for in the cross-sectional response rate. For the longitudinal analysis, a youth and parent must have completed an interview in Wave 1 and in Wave 4 to be included in the calculation of the longitudinal response rate.

Cross-Sectional Response Rates

Followup Cross-Sectional Response Rate (FCRR)

The FCRR represents the percentage of parents and youth that were successfully located and interviewed during Wave 4 of the sample fielded in Wave 4. It is defined as:

$$\text{FCRR} = \frac{\text{\# Households Completing Eligibility Screening}}{\text{\# Households Fielded}} \times \frac{\text{\#Respondents Completing Interview}}{\text{\# Respondents Eligible to Participate}}$$

There were 2,602 households that completed the household enumeration (roster) screening at Wave 1. Based on data collected during Wave 1, 2,450 (94.2%) of these households contained at least one respondent from Wave 1 (either a youth or a parent) and thus were eligible for refielding at Wave 4. The further exclusion of households that contained only youth who were expected to be age 19 or older at the beginning of the Wave 4 data collection resulted in the refielding of 2,304 households in Wave 4.

Followup telephone or inperson eligibility screening was attempted for the 2,304 households that were refielded in Wave 4. Of these, eligibility was determined for 1,999 (86.8%) of the households. For the remaining 305 households, eligibility could not be determined for various reasons (e.g., the household moved out of the interviewing area or was not locatable, the household could not be contacted for some other reason, or the household refused to complete the eligibility screener.)

The 1,999 successfully screened households contained 2,744 Wave 1 youth, of which 96 (3.5%) youth were determined to be ineligible for the Wave 4 survey (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Of the 2,648 eligible youth in the screened households, 2,478 (93.6%) completed the Wave 4 interview. Corresponding to the 2,648 youth, 1,939 parents were identified and 1,752 (90.4%) of them completed the Wave 4 interview.

Thus, the followup cross-sectional response rate for Wave 4 youth is **81.2** percent (86.8% x 93.6%); and the followup cross-sectional response rate for Wave 4 parents is **78.5** percent (86.8% x 90.4%).

Cumulative Cross-Sectional Response Rate (CCRR)

The CCRR is the combination of the Wave 1 and Wave 4 survey response rates. It is defined as the product of the five following rates:

- The percentage of households at Wave 1 where eligibility was determined.

- The percentage of eligible households at Wave 1 where the household roster was completed;
- The percentage of Wave 1 households that were refielded (i.e., contained at least one respondent at Wave 1) at Wave 4;
- The percentage households at Wave 4 where eligibility screening was determined; and
- The percentage of youth/parents who completed the Wave 4 interview.

Thus, the cumulative cross-sectional response rate for Wave 4 is **54.1** percent (95.1% x 74.4% x 94.2% x 86.8% x 93.6%) for youth and **52.2** percent (95.1% x 74.4% x 94.2% x 86.8% x 90.4%) for parents.

Longitudinal Response Rates

Followup Longitudinal Response Rate (FLRR)

The FLRR represents the percentage of parents and youth that were successfully located and interviewed in Wave 4, who were also successfully interviewed in Wave 1. It is defined as:

$$\text{FLRR} = \frac{\text{\# Respondents where Eligibility Determined}}{\text{\# Respondents Interviewed in Wave 1}} \times \frac{\text{\# Respondents Completing Interview}}{\text{\# Respondents Eligible to Participate}}.$$

Of the 3,072 youth completing the Wave 1 who were refielded in Wave 4, eligibility status was determined for 2,685 (87.4%) youth. Of those youth, 96 were determined during Wave 4 screening to be ineligible for the Wave 4 survey (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Among the 2,589 eligible youth, 2,435 (94.1%) completed the Wave 4 interview. Similarly, of the 2,158 parents completing the Wave 1 interview that were refielded in Wave 4, eligibility status was determined for 1,885 (87.3%) parents. Of those parents, 93 were determined during screening to be ineligible for the Wave 4 survey. Among the 1,792 eligible parents, 1,644 (91.7%) completed the Wave 4 questionnaire.

Thus, the followup longitudinal response rate for Wave 4 youth is **82.2** percent (87.4% x 94.1%); and the followup longitudinal response rate for Wave 4 parents is **80.1** percent (87.3% x 91.7%).

Cumulative Longitudinal Response Rate (CLRR)

The CLRR is the combination of the Wave 1 and Wave 4 response rates based on a subset of respondents, i.e., those respondents who were interviewed in both Wave 1 and Wave 4. It is defined as the product of the three following rates:

- The cumulative Wave 1 response rate;
- The percentage of youth/parents at Wave 4 for whom eligibility was determined; and
- The percentage of eligible youth/parents who completed the Wave 4 interview.

Thus the cumulative longitudinal response rate for Wave 4 is **52.7** percent (64.1% x 87.4% x 94.1%) for youth and **50.1** percent (62.5% x 87.3% x 91.7%) for parents.

Appendix C
Methodology for Confounder Control

C.1 Introduction

In this report, there has been considerable focus on changes in exposure and outcomes over time. If positive change occurs, then one wonders what might have led to the change. The level of exposure informs us about the activity level of the Campaign. It becomes more plausible to attribute some of the credit for any positive changes in outcomes to the Campaign if high exposure levels are attained and sustained. Most importantly, if people with higher exposure doses have better responses, it becomes plausible to believe that the treatment caused the response to be different from what it would have been in the absence of the Campaign. In the case when exposure and outcomes are measured simultaneously, the method provides important support for an inference of Campaign effect if one can assume that no other variable accounts for the observed association of exposure and outcome, and that the association is not the result of the outcome causing the exposure rather than vice-versa. This type of analysis is sometimes called a study of the dose-response relationship, analogous to a drug study comparing a 40 mg dose to a 20 mg dose.

Section C.2 discusses the strengths and weaknesses of the dose-response approach. Section C.3 provides more detailed information about the procedures used to implement it. Section C.4 provides detailed technical information on how effects were estimated. Section C.5 provides detailed technical information on how confidence intervals were formed on the effect estimates and how hypothesis testing was conducted.

C.2 Strengths and Weaknesses of the Dose-Response Approach

Interpretation of change over time in outcomes relies on the assumption that other factors (everything other than the Campaign) affecting drug-related cognitions and use held steady during the time period. However, it was beyond the scope of this evaluation to determine whether forces external to the Campaign did hold steady. These external forces might include such things as drug prices, drug availability, content of popular media, content of political speech and debate, celebrity actions, and seasonal variations. Consequently, the required assumption of constancy in all other societal forces is a strong assumption. Furthermore, data collection started after the start of the national phase (Phase II) of the Campaign. So even if one were to accept the strong assumption about other forces holding steady, change in outcomes would reflect only the incremental effect of additional exposure beyond any effect that could have been initially achieved. Given these caveats, it is clear a positive trend, while desirable, is insufficient for evaluating the effectiveness of the Campaign. Similarly, a negative trend does not negate the possibility that campaign effects existed, but countervailing effects from other causes were stronger.

In this report, we discuss trends over time but the principal analytic approach taken was to study the dose-response relationship, where the dose is a unit of exposure to anti-drug advertising, and the response is the simultaneously observed cognitive variables about drug use or parenting practices. This approach is common in the epidemiology of chronic conditions brought on by environmental factors such as coal dust, primary smoking, second-hand smoke, indoor radon gas, and so on. The underlying theory in those disciplines is that if a substance is toxic, then a large dose of it should be at least as toxic as a small dose. If this expected relationship does not hold, the toxicity of the material has not been demonstrated. In the application of this theory to our evaluation of the Media Campaign, the underlying theory is that if advertising is effective, a large dose of consumed advertising should be at least as effective as a small dose. If this relationship does not hold, then Evaluation generally cannot conclude that the effectiveness of the advertising has been demonstrated.

In dose-response analysis, one must assume that the variation in doses is random after controlling for known factors. In randomized experiments such as clinical trials, random assignment within groups of substantive interest is used to ensure that doses are randomly given. However, since Media Campaign doses are not randomly assigned, but are instead self-chosen by choices in media consumption and filtered through subject's recall, the Evaluation must instead assume that all sources of systematic (nonrandom) variation in doses have been measured.

This is a strong assumption, but as part of the questionnaire design and acquisition of geographic information, the Evaluation team considered a wide range of background variables that might affect dose reception. However, there is always the risk that the questionnaires might not have measured all the predisposing variables. The questionnaires for Waves 1 through 3 can be found on the NIDA web site: http://www.nida.nih.gov/DESPR/Westat/index.html. Researchers can scan the list of questions that were asked and think about what might have been left out. Leaving important predisposing variables out of the analysis means that false effects can emerge from the dose-response study. The Evaluation team tried to include as many variables as seemed to be plausible predisposing variables, but limitations on the length of each interview meant information could not be recorded about every plausible predisposing variable.

Even among the set of data collected, some of the data items were not allowed into the "pool of admissible predisposing factors." This was necessary because some of the variables that were measured had an unclear temporal order with the outcomes. Some may be consequences of exposure to Campaign messages. Controlling on such "mediating" variables would be to underestimate Campaign effects. For example, if watching Campaign ads leads youth to change their beliefs about the consequences of marijuana use, and these belief changes lead, in turn, to changes in intentions to abstain from marijuana use (as would occur under the theoretical model described in Chapter 2), then it would be a serious mistake to allow marijuana beliefs into the pool of admissible predisposing factors, even though it is true that beliefs are predisposing factors in developing intentions about marijuana abstention.

Because the data for the first three waves were collected in a single session with each respondent, the internal causal ordering of data was often ambiguous. At this point in the process, human judgment was required to decide which variables were potential mediating variables and which were predisposing variables that were not subject to influence by exposure to the Campaign. There were some variables for which valid arguments were advanced both for classification as a mediator and for classification only as a confounder. Resolving such conflicts was difficult and of the utmost importance, because each decision potentially affects the evaluation findings. The Evaluation team

recognized that other researchers may disagree with these choices. A few of the decisions were extraordinarily difficult to make and are discussed in detail below.

At this point, it was decided as a matter of evaluative protocol not to experiment with alternate decisions. The decisions made for the second semiannual report are still those used for this fourth semi-annual report. Section C.3 presents an expanded discussion of each decision.

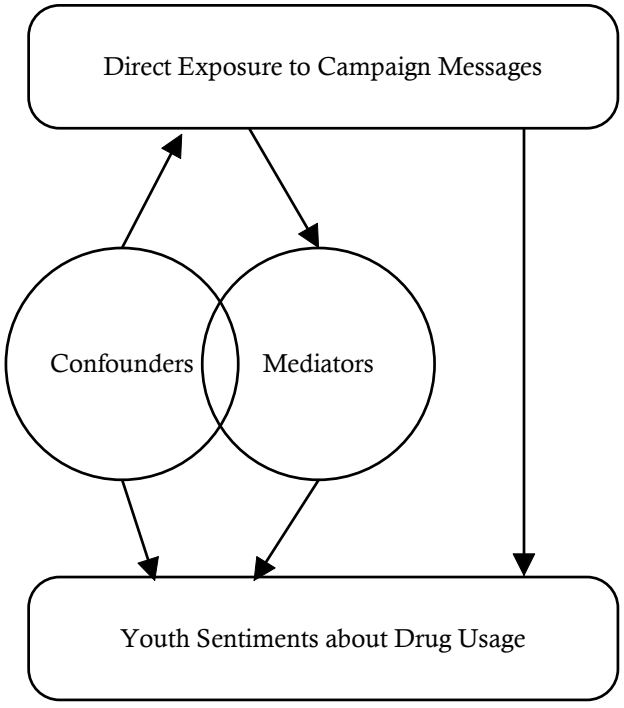
C.3 Admissible Confounder Selection

This section presents the set of variables that the evaluation team admitted into analysis as youth confounders, the set accepted as parent confounders, and concludes with a list of confounders considered as potential moderators. The presentation commences with a brief discussion of the concept of confounding and moderating variables and of the analytic difficulties that arise because some variables may play both roles.

C.3.1 Confounders and Mediators

A large number of cognitive and behavioral variables were obtained on each subject at a single point in time. It is impossible to say with any certainty the order in which these cognitions and behaviors manifested themselves in each subject. Nonetheless, in order to make causal inferences, it is necessary to make some assumptions about this ordering. Figure C-A defines different types of variables schematically.

Figure C-A. Types of variables



A confounder is a variable that leads to variation both in exposure and in outcomes but is itself not caused by exposure or outcomes. This is illustrated in Figure C-A by the directions of the line—

confounders cause variation in exposure and cause variation in anti-drug sentiments. In order to avoid false claims of Campaign effects as well as false claims of counterproductive Campaign effects, it is essential to remove the (confounding) effects of the confounder from the study of the dose-response relationship. Examples are given in the prior section of how this works.

A mediating variable is one that is associated with both exposure and an outcome, as is the case with a confounding variable, but a mediating variable is a result of exposure rather than a cause of exposure. This is illustrated in Figure C-A by the direction of the arrow connecting Mediators and Exposure. In other words, the mediating variable is causally posterior to exposure rather than causally prior to exposure. In order to prevent errors of omission where we do not identify a Campaign effect, it is vitally important that nothing be done to remove the (mediating) effects of the mediator from the study of the dose-response relationship.

Unfortunately, some variables play both confounding and mediating roles. This is illustrated in Figure C-A by the overlap of the circles for confounders and mediators. For variables in this overlap area, we have conflicting imperatives. We must both remove and not remove their effects. As an example of a variable in that overlap, consider the role of cigarette smoking. Cigarette smoking makes it easier to try marijuana and could be related to choices of TV and radio programs and hours of viewing—so it is a confounding variable. At the same time, there may be kids who stopped smoking or were prevented from smoking because of generalized effects of exposure to the Campaign as discussed in Chapter 2.

Thus, it is also a mediating variable. We included items as confounders only when we could be confident that they were not mediators. In the case of cigarette smoking, the issue was resolved by including smoking initiation if it occurred more than 1 year before the date of the interview.

Decisions about which variables would be regarded as potential confounders and which as mediating were made after discussion by a committee of the evaluation team prior to any examination of the data. The committee did not use any of the data about the relationships among the potential confounders/mediators, exposure, and outcomes in making these decisions. Thus the decisions were made blinded to any possible effects on either finding or not finding any effects of the Media Campaign.

C.3.2 Admissible Pool of Youth Confounders

The following variables were judged by the committee to properly belong in the pool of admissible potential confounders for youth. The included variables can be divided into two broad groups. The first group, listed immediately below, include confounders that directly measure the respondent youth's personal demographics, attitudes, family environment, and behaviors. Discussion of particular exclusion and inclusion decisions follow the list.

1. Age
1. Gender
1. Race ethnicity
1. Neighborhood characteristics from the census
1. Urban, suburban, or rural nature of neighborhood
1. School enrollment status in the previous year

1. Whether school was in session in the last 30 days
1. Number of missed schooldays due to illness in the previous 30 days
1. Number of days the youth cut school in the previous 30 days
1. School grade level
1. Academic performance
1. Participation in extra-curricular activities[1]
1. Respondent's primary post-secondary plan
1. Hours of TV consumption on weekdays
1. Hours of TV consumption on weekends
1. Hours of radio consumption on weekdays
1. Hours of radio consumption on weekends
1. Internet use
1. Magazine reading habits
1. Language of TV viewing
1. Language of radio programs heard
1. Availability of cable or satellite TV in the household
1. Consumption of specific cable channels targeted by the Media Campaign
1. Personal assessment of family fighting
1. Personal assessment of feelings of family togetherness
1. Degree of parental supervision
1. Respondent's perception of parental knowledge of his or her activities
1. Respondent's perception of parental knowledge of his or her plans
1. Degree of enjoyment of time spent with his or her family
1. Youth rating of the importance of religion in their lives
1. Attendance of religious services
1. Personal antisocial behavior
1. Association with antisocial peers
1. Youth close friends' drug use
1. Personal tobacco use of a long-standing nature
1. Personal alcohol use of a long-standing nature
1. Sensation seeking tendencies.

[1] It has recently been argued that some of the Campaign advertising in early 2001 may have encouraged youth to join extra-curricular activities and thus, that this variable should be treated as a mediator rather than a confounder. This seemed of much less plausibility than a concern that such activities might both affect access to advertising as well as patterns of drug beliefs and use. The committee assumed that participation in extracurricular activities was largely a function of opportunity, physical fitness, other personal traits, accidents of friendship, and parental memories about extracurricular activities.

All of the above reflect youth reports about themselves, their friends, and their families. Some of these variables might be possible outcomes of drug use, and it could be argued that if the Campaign had reduced drug use these were posterior to the Campaign not prior to it. However, all of the analyses reported in Chapter 5 focus on youth who had not yet used drugs, thus the concern is reduced. For example, the Campaign might potentially reduce drug use and that might decrease family tension and increase a feeling of togetherness. Controlling for family togetherness might reduce that apparent dose response effect of the Campaign. However, given that only nonusing youth are studied in Chapter 5, family togetherness is appropriately seen as a confounder. Still some of these variables, contrary to the Evaluation team's considered judgment, might be causally posterior to either exposure or outcomes and thus not be true confounding variables.

Youth attendance of anti-drug programs (in or out of school) were excluded as confounders. There was some risk that youth reports of attendance at such programs might reflect access to Campaign advertising or other outreach efforts, particularly since substantial advertising buys were made on Channel One, an in-school network.

The second broad category included as admissible potential confounders for the youth analysis covers information on parental characteristics and perceptions. These included:

1. Parental age
1. Parental gender
1. Parental marital status
1. Parent has a child aged 9 to 11
1. Parent has a child aged 12 to 13
1. Parent has a child aged 14 to 18
1. Parental income
1. Parental educational attainment
1. Parental religiosity
1. Sharing of parental responsibilities
1. Parental use of the Internet
1. Parental consumption of newspapers
1. Parental consumption of magazines
1. Parental consumption of TV
1. Parental radio consumption
1. Parental consumption of specific cable channels targeted by the Media Campaign
1. The primary language in which the parent watches TV
1. Parental assessment of family togetherness
1. Parental enjoyment of time spent with children
1. Parent's perception of fights with children
1. Parent-child participation in fun indoor activities
1. Parent-child participation in fun outdoor activities

1. Parent's reports on the respondent youth's grade level
1. Parent's report on child's academic performance
1. Parent's report on the time their child spends with friends
1. Parental alcohol use
1. Parental tobacco use
1. Parental prior or current use of hard drugs
1. Parental prior or current use of marijuana
1. Parental prior or current use of inhalants

As with the youth variables, some of these variables have an ambiguous causal order with respect to outcomes and exposure. The fact that all the youth in the associational analysis are nonusers of marijuana strongly mitigates these concerns, but it is possible that youth viewing of advertising aimed at their parents may have influenced family functioning in some way such as decreasing youth resistance to parental monitoring activities. On balance, however, we thought it far more likely that parental monitoring and family functioning would shape youth cognitions about marijuana use. We did not control on parent-child talk because of concerns that some of this talk may have been initiated by the youth after viewing Media Campaign ads and thus be causally posterior to exposure.

Note that many of these parental attributes may be causally prior to *parental* exposure to Media Campaign advertising, but that this is irrelevant for study of the association of youth cognitions with direct *youth* exposure. More complex analyses will be undertaken in the final report to try to determine whether there is a causal relationship between parental exposure and youth outcomes.

C.3.3 Admissible Pool of Parent Confounders

The committee judged that the following variables properly belong to the pool of admissible potential confounders:

1. Race ethnicity
1. Parent gender
1. Parent age
1. Parental income
1. Parental marital status
1. Parental religiosity
1. Parent has a child aged 9 to 11
1. Parent has a child aged 12 to 13
1. Parent has a child aged 14 to 18
1. Neighborhood characteristics
1. Urbanity
1. Parental use of the internet
1. Parental consumption of newspapers

1. Parental consumption of magazines
1. Parental consumption of TV
1. Parental radio consumption
1. Parental consumption of specific cable channels targeted by the Media Campaign
1. The primary language in which parents watch TV
1. Parental alcohol use
1. Parental tobacco use
1. Parental prior or current use of hard drugs
1. Parental prior or current use of marijuana
1. Parental prior or current use of inhalants
1. Availability of cable or satellite TV in the household

Parental perceptions of family togetherness were excluded since it was felt that it is too close to some of the outcome measures such as parent-child talk. It was felt that, if the Media Campaign is effective in increasing parent-child conversation and activity (as it was meant to), these could actually change parental perceptions of family togetherness.

C.3.4 Confounders as Moderators

A moderator is a characteristic or predisposition that makes respondents more or less susceptible to the Media Campaign. Moderators may cause the effects of the Media Campaign to be different in different subgroups of the population. In this case, there are interactions of Campaign effects with preexisting factors (the moderators). In this report the moderators that are examined for youth are:

- Age of youth
- Gender of youth
- Race of youth
- Hispanic ethnicity of youth
- Urbanity of home neighborhood
- Natural sensation-seeking tendencies of youth

For parents, the moderators examined in this report are:

- Age of youth
- Gender of youth
- Race of youth
- Hispanic ethnicity of youth
- Urbanity of home neighborhood
- Gender of responding parent
- Education of responding parent

C.4 Summarization of Confounders

There were too many variables in the pool of admissible potential confounders to remove the effects of each individually. Instead, we summarized the information from the pool that tested as relevant. The summarization method is called propensity scoring. The method was introduced by Rosenbaum and Rubin (1983) and is widely used to analyze observational studies (D'Agostino, 1998). It can handle a large number of confounding variables. It is not necessary to develop complex models for all outcome variables, which is an advantage of this method over some of the alternative adjustment methods available. Exposure is conceptualized as a chance event. The probability distribution of exposure varies across people, (i.e., one person may have a high probability of achieving high exposure while others may have only moderate or low chance of doing the same). However, it is assumed that everyone has some chance of achieving every value of exposure. This rules out the existence of subgroups that are constrained to a sub-range of the possible values of exposure.

The following discussion starts with a general overview of propensity scoring followed by an examination of the propensity scoring's "balance"—the extent to which the counterfactual projections of population means for the confounding variables vary across exposure levels. The remainder of Section C.4 looks first at the impact of the counterfactual projections on effective sample sizes. It then presents the four cross-sectional models that were fitted on the combined data from Waves 1, 2, 3, and 4—one each for the youth general exposure index, the youth recall aided exposure index, the parent general exposure index, and the parent recall aided exposure index, followed by the four stable exposure models and the four lagged effect models.

C.4.1 Propensity Scoring

Within the group of individuals who have the same exposure propensity, associations between outcome and exposure are free of confounding. This is as if exposure had been randomly assigned to individuals as in a designed experiment. An individual's exposure propensity is estimated as his or her propensity score. Since there are two primary measures of exposure used in this report, two propensity scores were estimated, one for each measure of exposure. An individual's propensity is estimated in terms of confounding variables by complex statistical methods.

Propensity scoring frees the regression modeling process from its usual limitation of reliance on a small number of covariates and simplistic functional forms (e.g., linear main effects only). Rather, a complex model with interactions and higher-order terms can be fit at the propensity scoring stage without concern about overparameterization, since the goal is simply to obtain the best estimated probability of group assignment (in this case to exposure level) from the observed covariates. When subsequently included in the regression model, the propensity score carries all the information from the complex covariate model in a single variable, consuming only one degree of freedom. It also avoids the potentially adverse effects of multicollinearity on the stability of the estimates, regardless of the degree of correlation that exists among the covariates. Finally, propensity score technology can accommodate reasonable numbers of missing observations in the covariates, so fewer cases are lost in analytic procedures requiring complete cases for inclusion.

Despite these advances over traditional regression models, propensity scores have limitations. Like traditional methods for removing group nonequivalence, propensity score methods can adjust only for confounding covariates that are observed and measured. This is always a limitation of nonrandomized studies compared with randomized studies, where the randomization tends to

balance the distribution of all covariates, observed and unobserved. However, tests can be devised to determine the robustness of the conclusions to potential influences of unobserved covariates. Such sensitivity analyses suppose that a relevant but unobserved covariate has been left out of the propensity score model. By explicating how this hypothetical unmeasured covariate is related to treatment assignment and outcome, one can estimate how the treatment effect that adjusts for it might change if such a covariate were available for adjustment. Moreover, propensity scores appear to be more robust to certain types of specification error than standard methods. In a simulation to investigate the relative influence of specification error in propensity scores versus regression models, Drake (1993) found that propensity scores are as vulnerable as standard methods to bias from omitted variables, but less vulnerable to bias from variables that are included but in the wrong functional form (e.g., linear rather than quadratic). A second limitation of propensity score methods—that they require reasonably large samples to support the subclassification—will not be a factor here because reasonably large samples are available. Additional concerns have been raised about the effectiveness of propensity scores for multivariate matching, but they are not being proposed for that purpose here.

Standard propensity score methods assume that there are only two levels of exposure. However, in our set up, exposure is a three- or four-level variable. For this more complex problem, the method suggested by Joffe and Rosenbaum (1990) was used. With this method, an ordinal logit model is fit for each index. The structure of this model is

$$\ln\left(\frac{\sum_{j\le k} p_{ij}}{1-\sum_{j\le k} p_{ij}}\right)=a_k + X_i\beta\,.$$

Here p_{ij} is the propensity of the *i*-th subject for exposure level *j*, X_i denotes the vector of confounder scores for the same subject, α_k is a threshold parameter for the *k*-th exposure level, and β is a vector of slope parameters with one component for every confounder retained in the model. The point of the modeling exercise is to identify which of the admissible potential confounders are actually predictive of exposure and then to estimate the vector of slope parameters for those predictors. To fit this model, we used a stepwise variable selection procedure in SAS on the set of potential confounders. (The sampling weights were ignored in fitting the model.)

Once the models had been fit, the next step was to use the model to remove the effects of the confounding variables from the causal analysis. This was done by following a suggestion by Imbens (2000) with some innovations. The basic suggestion of Imbens was to use the estimated propensities to calculate the expected response across the entire sample, which would be expected in the counterfactual event that everyone in the sample had received the same exposure level. This could be achieved with the estimator

$$\hat{y}_{Ck} = \sum_i \frac{\delta_{ik} y_i}{\hat{p}_{ik}}\,,$$

where δ_{ik} is an indicator variable for the *i*-th case having exposure level *k*, i.e.,

$$\delta_{ik} = \begin{cases} 1 & \text{if the } i\text{-th individual has observed exposure at level } k \\ 0 & \text{else} \end{cases}$$

and $\hat{p}_{ik}$ is the estimated propensity the *i*-th individual has for exposure level *k.* Note that, for each *i*, $\sum_k \hat{p}_{ik} = 1$ for every i.

One innovation for this report was to project the expected response to the entire eligible population by using the sampling weights. This is important in this study given the differential probabilities of selection for youth and parents, depending on family composition. As noted in Appendix A, youth aged 14 to 18 had a higher probability of selection if they had siblings in the 12 to 13 or 9 to 11 brackets, all youth had a lower probability of selection if they had a sibling in the same age bracket, and married parents had lower probabilities of selection than single parents. Also, there is variation in the probability of response to the survey that is reflected in the sampling weights. Using the sampling weights, the counterfactual estimator of response on variable *y* to exposure *k* would be

$$\hat{Y}_{Ck} = \sum_i \frac{\delta_{ik} y_i w_i}{\hat{p}_{ik}},$$

where w_i is the sampling weight for the *i*-th respondent, adjusted for nonresponse and poststratified to population controls. However, it was found that this estimator was unstable and did not balance the covariates very well. Much better results were obtained by smoothing and calibrating the propensities that were estimated by the ordinal logit regression model. The smoothing and calibration was done as follows.

First, the observations were ordered according to the value of $X_i\hat{\beta}$ obtained from the fitted ordinal logit model. The ordered observations were then split into five approximately equal sized groups. Within each group, smoothed and calibrated propensities $\hat{p}$ were calculated according to the formula:

$\tilde{p}_{ik} = \dfrac{\sum_{j \in G_i} \delta_{jk} w_j}{\sum_{j \in G_i} w_j}$, where $G_i \; for \; i \in \{1,2,3,4,5\}$ denotes the group to which observation *i* belongs.

These propensities are smoothed in the sense that there are only five distinct values for each exposure level instead of having a different value for every study subject as is the case with the propensities estimated by the ordinal logit model. These propensities are calibrated in the sense that when they are used to estimate the size of the total population based only on the sample that received a particular exposure level, they yield the same population estimate as is yielded by the total sample. This property is useful in terms of reducing the variance on comparisons of outcomes between exposure levels. The calibration property can be expressed mathematically as

$$\sum_i \frac{\delta_{ik} w_i}{\tilde{p}_{ik}} = \sum_i w_i \;\; \forall \;\; k.$$

Using these smoothed and calibrated propensities and the sampling weights, the counterfactual projection of the average population response on attribute *y* to exposure level *k* is

$$\tilde{Y}_{Ck} = \sum_i \frac{\delta_{ik} y_i w_i}{\tilde{p}_{ik}}.$$

C.4.2 Assessment of Balance

Because propensity scoring is designed to remove the effects of confounding variables from the association between outcomes and exposures, the counterfactual projections of population means for the confounding variables should not vary across the exposure levels. This property is referred to as

balance. If a confounder has been successfully balanced, then it will have the same counterfactual projection across all exposure levels. Mathematically, this condition of balance is expressed as

$$\sum_i \frac{\delta_{ik} x_{ji} w_i}{\tilde{p}_{ik}} = \sum_i x_{ji} w_i \quad \forall\, j \text{ and } \forall\, k \ .$$

Figure C-B shows the plots of balance for the 46 significant main variables in modeling youth specific exposure. Means at each level of exposure are denoted by "O" and a 3-standard error range is indicated for each. The overall mean is also indicated on each plot. These plots were generated for the 3-level specific exposure index for youth using the Wave 1 exposure and covariates and the longitudinal weights. Given a large number of covariates to be balanced, there is no expectation that the counterfactual means will be exactly equal. However, if any of the differences are large, there is a risk of bias in the causal analyses due to less than complete control of confounding variables. Balance was also tested on age subgroups but because of the large number of graphs these are not presented. The graphs indicate that balance was achieved overall and in the age subgroups.

C.4.3 Impact of Counterfactual Projections on Effective Sample Sizes

For the youth general exposure example, the design effects due to the variation in propensities are given in Table C-A. They were calculated using the standard Kish approximation. The true effective samples sizes will be smaller because of larger design effects due to variation in the W_i and due to clustering, but this table gives an impression of how much the counterfactual projection reduces effective sample sizes. The counterfactual projections did not considerably increase variances for the groups with medium or high exposure. The increase in variance for the low-exposure group indicated that confounders were identified that successfully predicted who would have low exposure. The result for correcting for self-selection is a 34 percent reduction in the effective sample size or a 25 percent increase in variances. This was judged to be a good exchange between variance and potential bias.

Table C-A. Design effects and sample sizes by exposure level

Exposure level	Nominal sample size	Design effect	Effective sample size
1	970	1.34	724
2	1,018	1.02	1,001
3	2,218	1.08	2,055

Figure C-B. Plots of balance for lagged youth specicic exposure

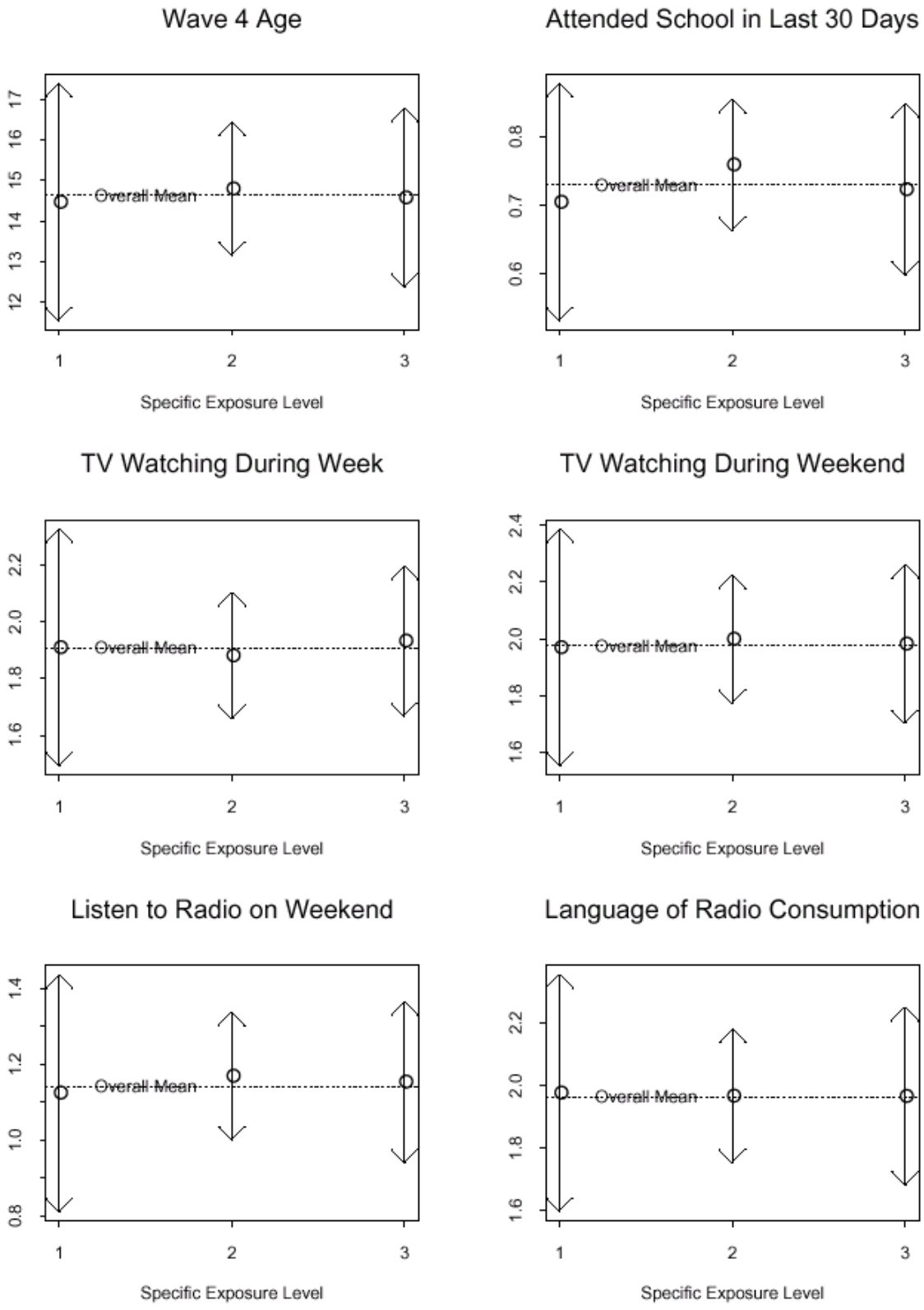


Figure C-B. Plots of balance for lagged youth specicic exposure (continued)

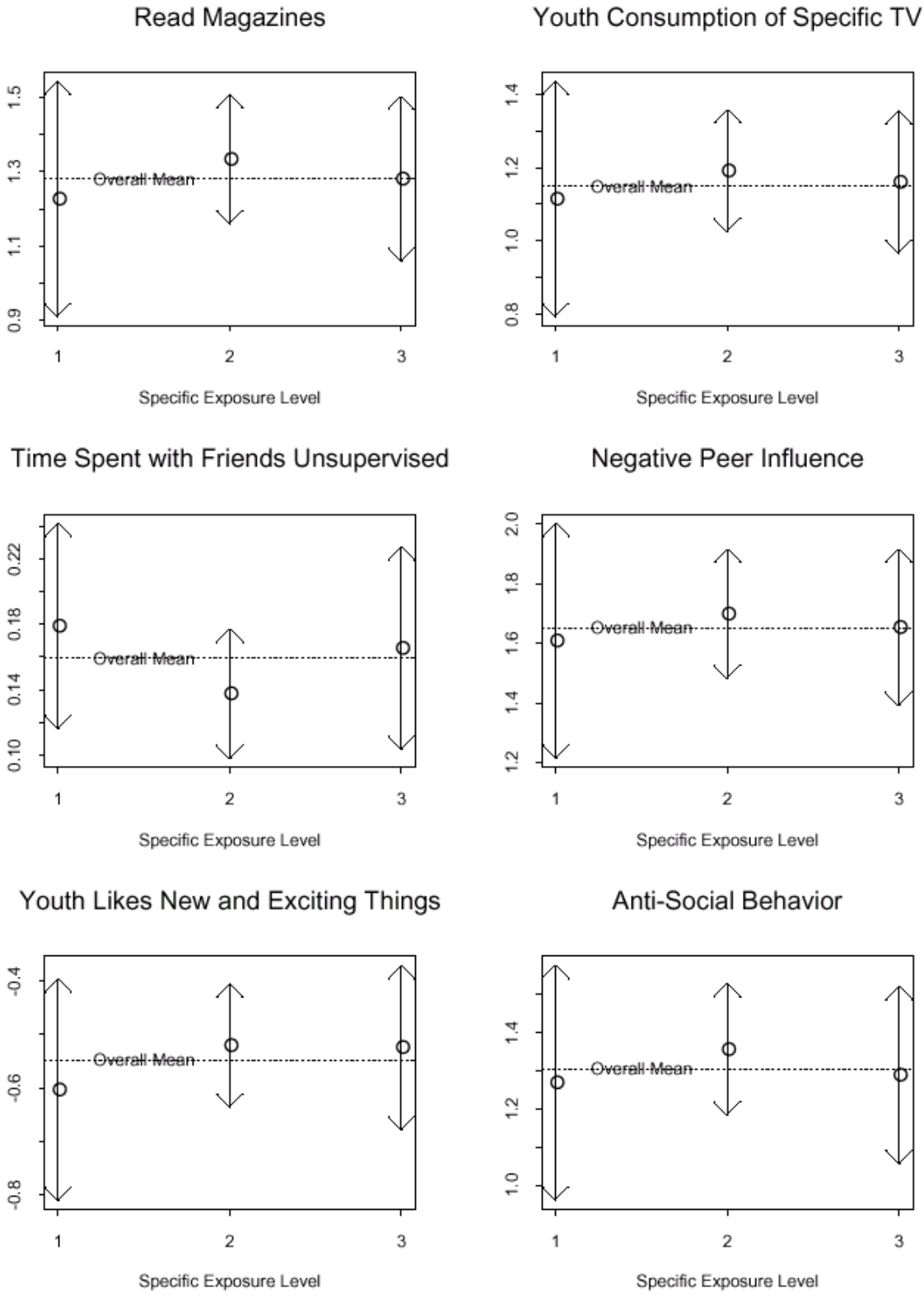


Figure C-B. Plots of balance for lagged youth specicic exposure (continued)

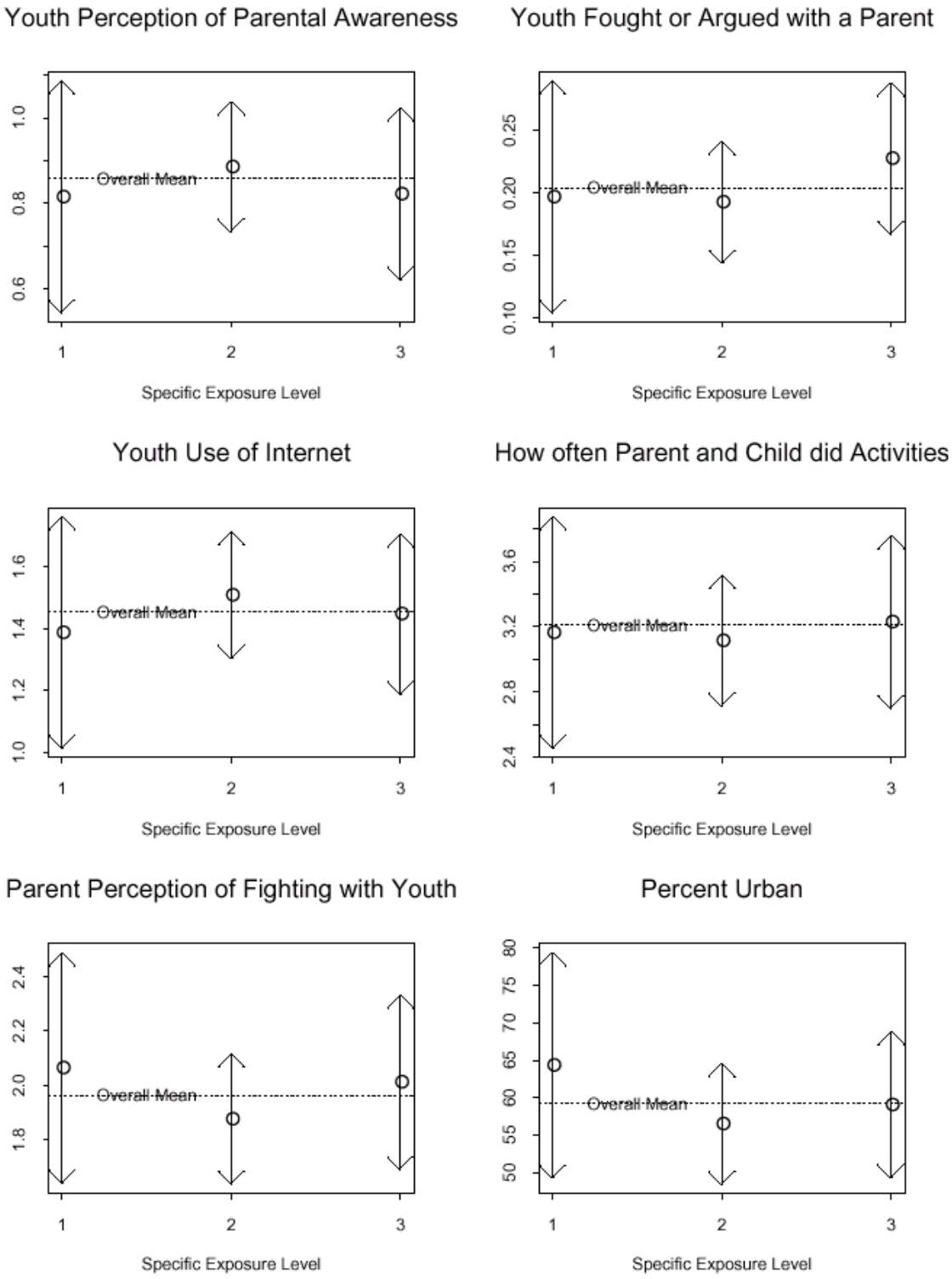


Figure C-B. Plots of balance for lagged youth specicic exposure (continued)

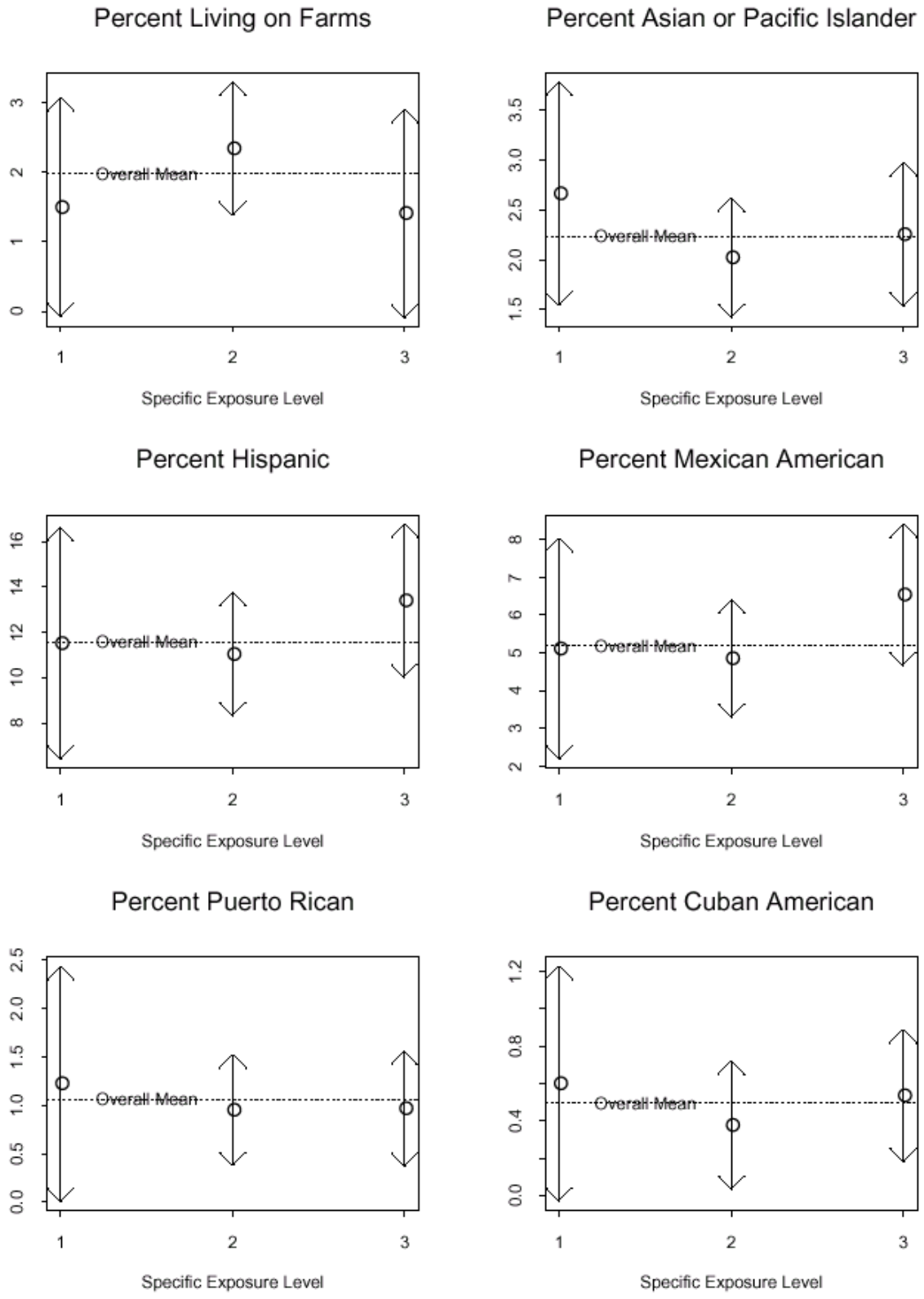


Figure C-B. Plots of balance for lagged youth specicic exposure (continued)

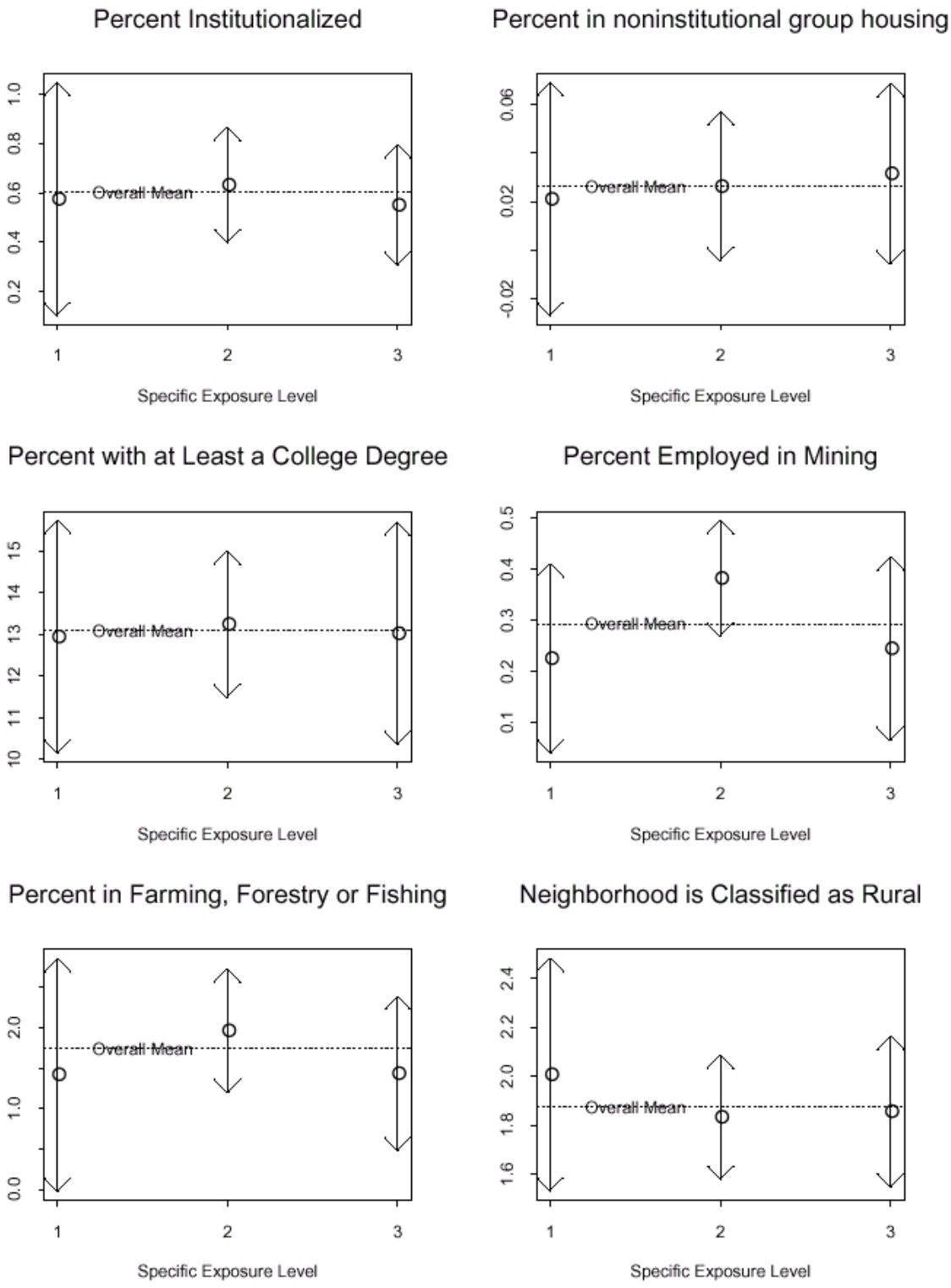


Figure C-B. Plots of balance for lagged youth specicic exposure (continued)

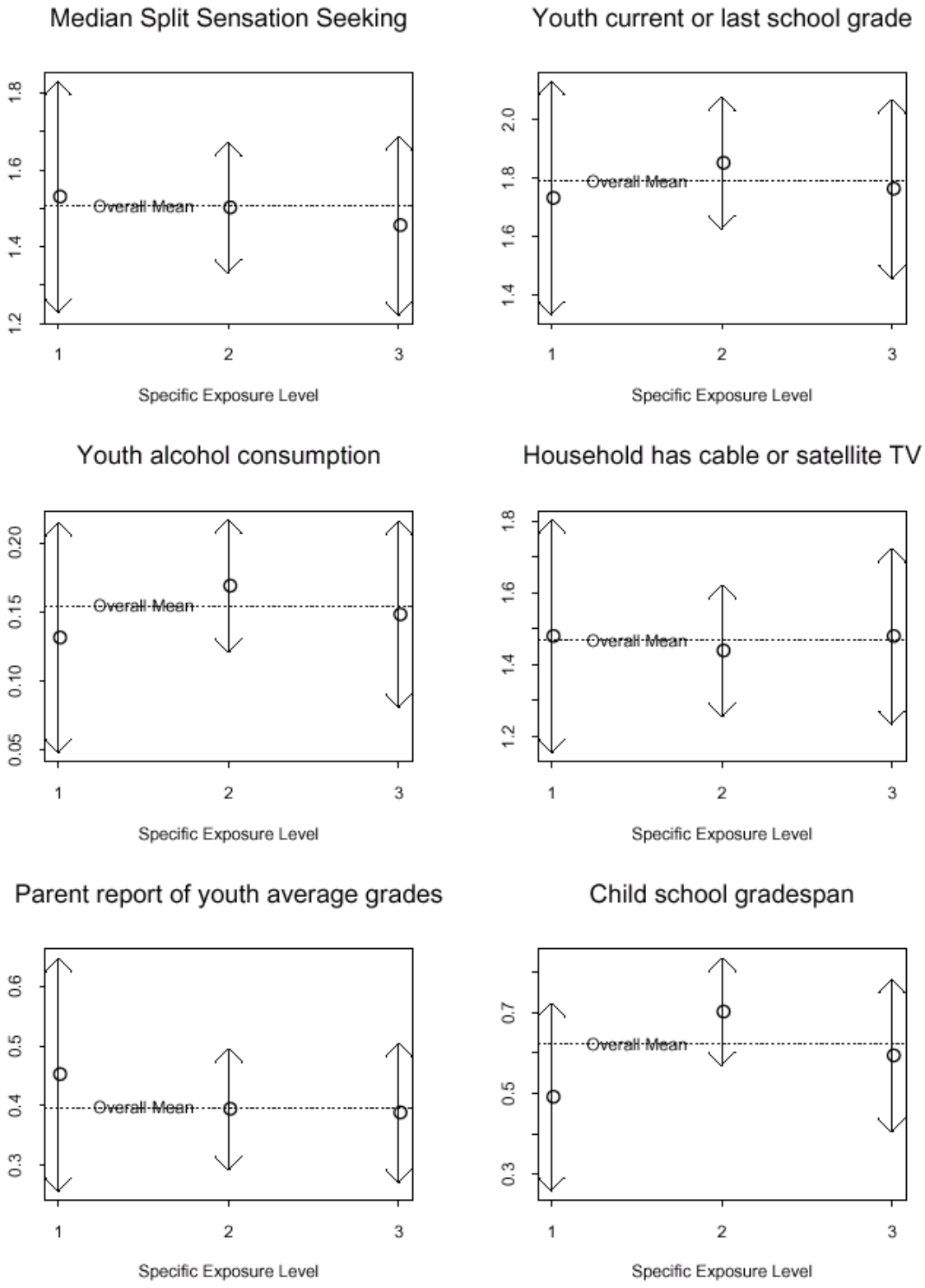


Figure C-B. Plots of balance for lagged youth specicic exposure (continued)

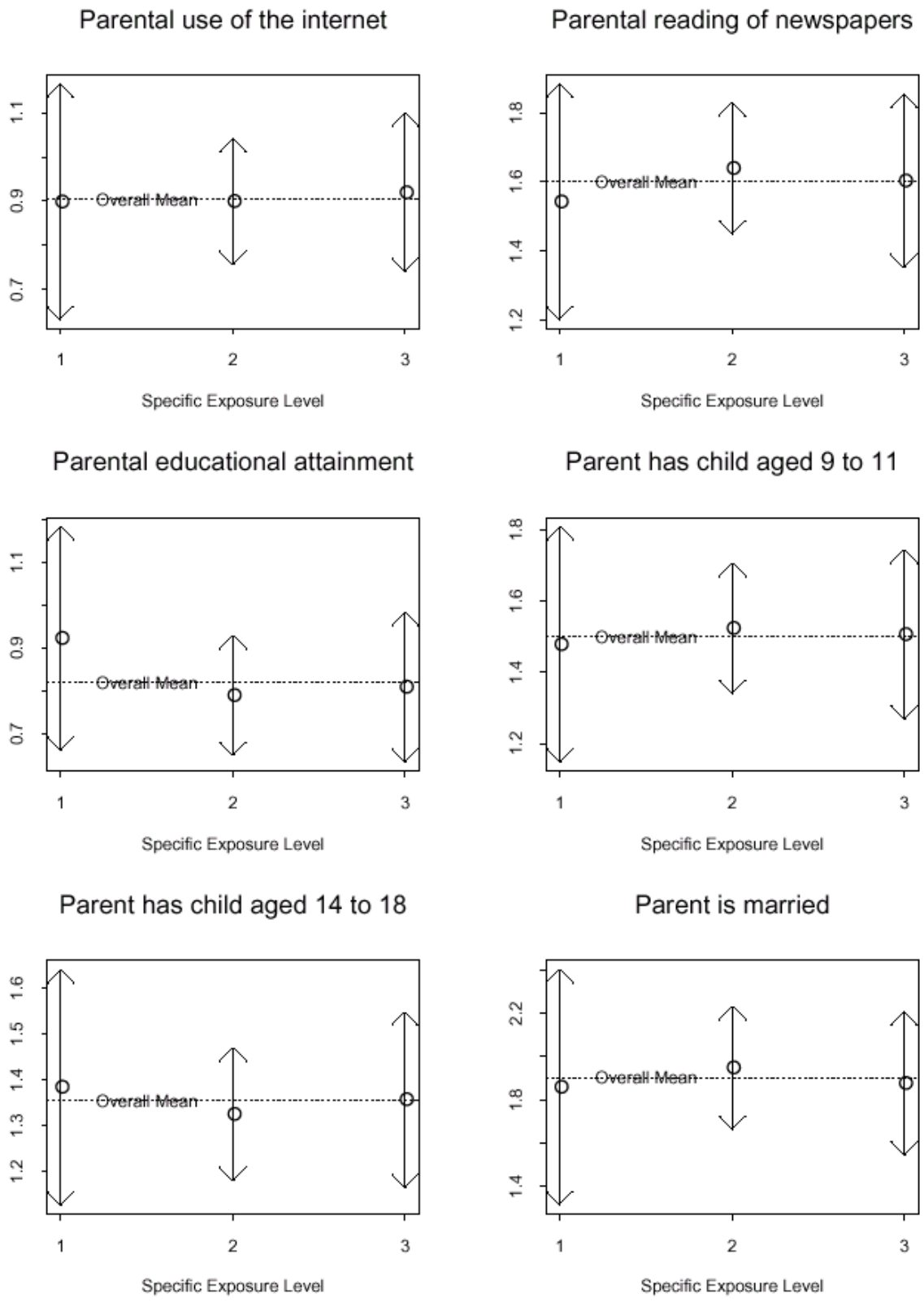
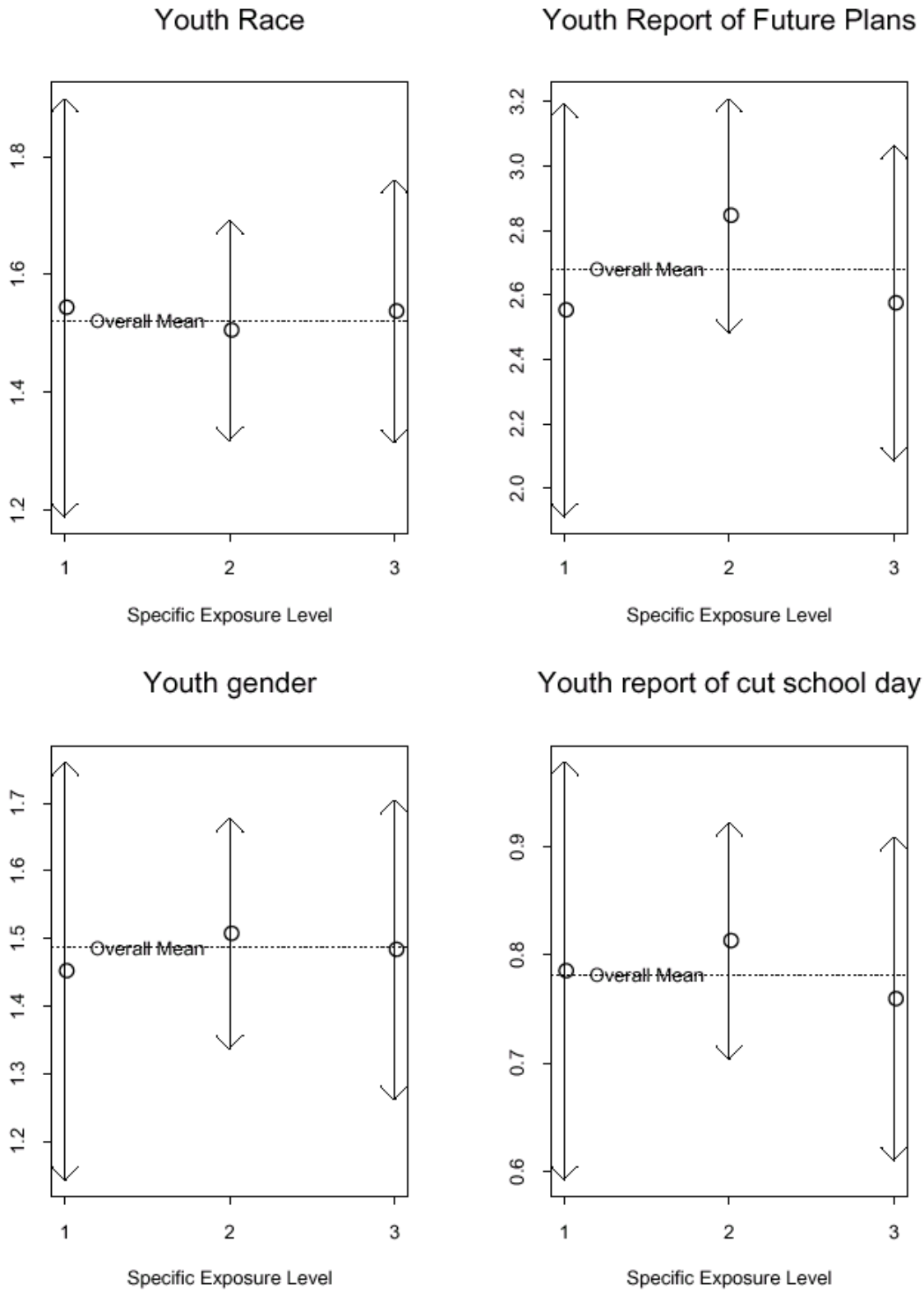


Figure C-B. Plots of balance for lagged youth specicic exposure (continued)



C.4.4 Detailed Models of Exposure

In this section, we present the models that were fitted on the combined data from Waves 1, 2, 3, and 4. Four cross-sectional models were fitted, one for each type of parent exposure index and one for each type of youth exposure index. The variables that were included as potential confounders for each analysis depend on whether the analysis was for parents or for youth. The detailed list of the potential confounders is given in section 3.2 for parents and section 3.1 for youth.

As noted previously, this Wave 4 semiannual report is the first in which longitudinal data were available for analysis. Two longitudinal analyses were proposed to and approved by NIDA: a stable exposure analysis and a lagged analysis. The stable exposure analysis used the average of Wave 1 and Wave 4 exposure as the exposure measure. The lagged analysis used only the Wave 1 exposure data. To meet the requirements of the two longitudinal analyses, new propensity models had to be fit for each. The stable model used the same confounders as the cross-sectional but predicted the new exposure variable. The lagged model for youth was identical to the cross-sectional model, while the lagged model for parents added Wave 1 outcomes to the confounder pool. The lagged model for youth *would* have added Wave 1 outcomes to the confounder pool, except these were not measured on 9- to 11-year-olds in Wave 1. In all, there were eight longitudinal propensity models: youth stable general exposure, youth stable specific exposure, youth lagged general exposure, youth lagged specific exposure, parent stable general exposure, parent stable specific exposure, parent lagged general exposure, and parent lagged specific exposure.

These reduced models were fit using the stepwise ordinal logit procedure in SAS. No weights were used in the model fitting. A level of 0.05 was set for variables to enter the model. Research on Wave 1 indicated that adding interaction terms and other higher order terms tended to result in overfit models that increased the variance of the counterfactual projections without improving balance. However, a term for Wave was included in the cross-sectional models and this term was allowed to interact with other terms in the model. For the cross-sectional models, the Wave term was important for both parent and youth model of recall-aided exposure index but was not important for youth general index.

For categorical variables, coefficients were produced for each value, so that the sum of the coefficients was zero. A positive coefficient means that subjects with that value of the variable have higher exposure propensity, while a negative coefficient means that subjects have lower exposure propensity. For continuous variables, a positive coefficient means that exposure propensity tends to be higher for subjects with higher values of the variable, while a negative coefficient means the opposite.

C.4.4.1 Cross-Sectional Model for the Youth General Exposure Index

The cross-sectional ordinal logit model found 23 significant variables in modeling youth general exposure compared to 17 for Wave 3. Three of the variables in the Wave 3 report were no longer significant. This is the only model in which wave did not enter as a significant predictor. The variables, together with their coefficients, are presented below in Table C-B.

Table C-B. Cross-Sectional Model for youth general exposure index among youth aged 12 to 18 who had never tried marijuana

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	Percentage of persons who are urban and live inside urbanized areas in the neighborhood in 1990	Continuous (0-100)		0.0016	0.0007
	*Percentage of persons in the neighborhood in 1990 who had at least a bachelor's degree	Continuous (0-100)		-0.0082	0.0028
	*Percentage of persons 16+ employed in mining in 1990	Continuous (0-100)		-0.0929	0.0287
A27, A28, A28a, A28b	Youth consumption of specific cable channels targeted by the Media Campaign	Continuous range from 0 (did not watch) to 3 (watched several channels often)		0.3953	0.0512
C34a-d	*Youth likes new and exciting friends and experiences	Continuous range from –2 (dislikes) to +2 (strongly likes)		-0.198	0.0696
C35a, C35b	Youth perception of parental awareness of youth activities and plans	Continuous range from –2 (never aware) to +2 (always aware)		0.2064	0.0249
A19	Time youth spends watching TV on an average weekday	0	Less than 1 hour	-0.2227	0.0461
		1	A few hours	0.0515	0.0363
		2	Several hours	0.1712	0.0522
A20	Time youth spends watching TV on weekends	0	Less than 2 hours	-0.1872	0.0469
		1	Several hours	0.0406	0.0362
		2	More than 9 hours	0.1466	0.0513
A22	*Time youth spends listening to Radio on weekends	0	Less than 2 hours	-0.1262	0.0405
		1	Several hours	0.0639	0.0435
		2	More than 9 hours	0.0624	0.0604
A23	*Language of Radio programs heard by youth	0	More English than Spanish	0.2328	0.0793
		1	At least as much Spanish as English	-0.2328	0.0793
C36c	Youth fought or argued with a parent in the last 30 days	0	Never or sometimes	0.0868	0.0327
		1	Often or always	-0.0868	0.0327
C34c, C34d	Youth score on sensation seeking tendencies (median split)	0	Low	0.1062	0.0276
		1	High	-0.1062	0.0276
D27	Youth use of the Internet	0	Rarely	-0.2708	0.0412
		1	Sometimes	0.0501	0.0351
		2	Every day	0.2208	0.0392
C30	*Time spent with friends without adult supervision	0	Never or some	-0.1226	0.0396
		1	Often or always	0.1226	0.0396
A24	Youth reading of magazines	0	Rarely	-0.2073	0.0288
		1	Often	0.2073	0.0288
A8, A9	Youth current or last school grade	0	Primary (Grades 1-6)	-0.2332	0.0592
		1	Middle (Grades 7-9)	0.1105	0.0429
		2	High (Grades 10-12)	0.1227	0.0630
A9 (parents)	Household has cable or satellite TV service	0	No	0.0993	0.0336
		1	Yes	-0.0993	0.0336

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
A5 (parents)	Parental reading of newspapers	0	Never	0.0005	0.0634
		1	Sometimes	-0.126	0.0501
		2	Often	0.1255	0.0419
H6 (parents)	Parental educational attainment	0	HS or Less	0.0777	0.0285
		1	Beyond HS	-0.0777	0.0285
C10 (parents)	*Parent fought or argued with Child in last 30 days	1	Never	0.0872	0.0555
		2	Sometimes	-0.1277	0.0479
		3	About half the time	-0.0691	0.0697
		4	Often	0.0189	0.0778
		5	Always	0.0908	0.1160
	*Neighborhood is classified as a city in a nonurban area (lower population and density)	0	No	-0.0841	0.0410
		1	Yes	0.0841	0.0410
	Youth was aged between 16 and 18	0	No	0.1593	0.0490
		1	Yes	-0.1593	0.0490
A16	*Youth plans to graduate from 2-year college	0	No	-0.1118	0.0414
		1	Yes	0.1118	0.0414

*Not significant in Wave 3 report.

C.4.4.2 Cross-Sectional Model for the Youth Recall-Aided Exposure Index

The cross-sectional model for the youth recall-aided exposure index found 33 significant variables compared to 20 variables in Wave 3. Wave was the most significant variable and four wave interaction terms entered the model. These variables are presented, together with their coefficients, in Table C-C.

C.4.4.3 Cross-Sectional Model for the Parent General Exposure Index

There were 17 significant variables in the model for parental general exposure compared to 14 in the Wave 3 report. Wave as well as one interaction term entered the model. These and their coefficients are tabulated in Table C-D.

C.4.4.4 Cross-Sectional Model for the Parent Recall-Aided Exposure Index

The model for parental recall-aided exposure found 27 significant variables. In the Wave 3 report there were 23 significant variables for this model. Wave as well as six wave interaction terms entered the model. These variables and their coefficients are presented in Table C-E.

C.4.4.5 Stable Model for the Youth General Exposure Index

The stable ordinal logit model found 17 significant variables in modeling youth general exposure. The variables, together with their coefficients, are presented below in Table C-F.

C.4.4.6 Stable Model for the Youth Recall-Aided Exposure Index

The stable model for the youth recall-aided exposure index found 17 significant variables. These variables are presented, together with their coefficients, in Table C-G.

C.4.4.7 Stable Model for the Parent General Exposure Index

There were 11 significant variables in the stable model for parental general exposure. These and their coefficients are tabulated in Table C-H.

C.4.4.8 Stable Model for the Parent Recall-Aided Exposure Index

The stable model for parental recall-aided exposure found eight significant variables. These variables and their coefficients are presented in Table C-I.

C.4.4.9 Lagged Model for the Youth General Exposure Index

The lagged ordinal logit model found 15 significant variables in modeling youth general exposure. The variables, together with their coefficients are presented below in Table C-J.

Table C-C. Cross-Sectional Model for youth specific exposure index among youth aged 12 to 18 who had never tried marijuana

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	Percentage of persons in the neighborhood in 1990 who were Asian or Pacific Islander	Continuous (0-100)		-0.0091	0.0042
	*Percentage of persons in the neighborhood in 1990 who were Hispanic	Continuous (0-100)		-0.0031	0.0014
	*Percentage of persons in the neighborhood in 1990 who were institutionalized	Continuous (0-100)		0.0338	0.0125
	*Percentage of persons in the neighborhood in 1990 who lived noninstitutional group quarters	Continuous (0-100)		0.1098	0.0476
	*Percentage of persons in the neighborhood in 1990 who had at least a bachelor's degree	Continuous (0-100)		-0.0088	0.0029
	*Percentage of persons in the neighborhood 16 and older who were employed in 1990	Continuous (0-100)		0.0119	0.0027
	Percentage of persons in the neighborhood 16 and older who were in the labor force but unemployed in 1990	Continuous (0-100)		0.0484	0.0107
	*Percentage of persons in the neighborhood 16 and older who were employed in mining in 1990	Continuous (0-100)		-0.1256	0.0276
	*Percentage of persons in the neighborhood 16 and older with farming, forestry, or fishing occupations in 1990	Continuous (0-100)		-0.0177	0.0071
A27, A28, A28a, A28b	Youth consumption of specific cable channels targeted by the Media Campaign	Continuous range from 0 (did not watch) to 3 (watched several channels often)		0.4076	0.0486
C31a – C31d	Youth association with antisocial peers	Continuous range from 0 (did not associate) to 6 (associated often)		0.0689	0.0272
	**Wave of data collection	1	Wave 1	-0.3891	0.0911
		2	Wave 2	-0.0847	0.1007
		3	Wave 3	0.1490	0.1082
		4	Wave 4	0.3248	0.0956
A19	Time youth spends watching TV on an average weekday	0	Less than 1 hour	-0.2718	0.0440
		1	A few hours	0.0661	0.0340
		2	Several hours	0.2057	0.0488
A20	Time youth spends watching TV on weekends	0	Less than 2 hours	-0.2272	0.0453
		1	Several hours	0.0257	0.0345
		2	More than 9 hours	0.2014	0.0484
A24	*Youth reading of magazines	0	Rarely	-0.0637	0.0277
		1	Often	0.0637	0.0277
C30	*Time spent with friends without adult supervision	0	Never or some	-0.1255	0.0382
		1	Often or always	0.1255	0.0382
C34a-d	*Youth likes new and exciting friends and experiences	Continuous range from –2 (dislikes) to +2 (strongly likes)		0.0626	0.0279
C35a, C35b	*Youth perception of parental awareness of youth activities and plans	Continuous range from –2 (never aware) to +2 (always aware)		0.0656	0.0239
C36c	Youth fought or argued with a parent in the last 30 days	0	Never or sometimes	-0.0752	0.0303
		1	Often or always	0.0752	0.0303

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
D27	Youth use of the Internet	0	Rarely	-0.1811	0.0406
		1	Sometimes	-0.0388	0.0331
		2	Every day	0.2199	0.0377
C5c (parents)	How often parents did activities with children in past week	1	Not at all	-0.0488	0.0563
		2	Once	0.0642	0.0564
		3	Twice	0.1674	0.0513
		4	3 times	0.0138	0.0583
		5	4 or 5 times	-0.1216	0.0603
		6	6 or 7 times	0.0327	0.0895
		7	More than 7 times	-0.1077	0.0838
A9 (parents)	Household has cable or satellite TV service	0	No	0.1081	0.0320
		1	Yes	-0.1081	0.0320
H1, H2 (parents)	Youth current or last school grade	0	Primary (Grades 1-6)	0.1032	0.0371
		1	Middle (Grades 7-9)	-0.0848	0.0438
		2	High (Grades 10-12)	-0.0185	0.0404
F9 (parents)	*Parental use of the internet	0	Rarely	-0.0416	0.0361
		1	Sometimes	-0.0516	0.0438
		2	Every day	0.0932	0.0405
	*Parent has child aged 12 to 13	0	No	-0.0703	0.0295
		1	Yes	0.0703	0.0295
	Youth gender	0	Male	-0.1480	0.0252
		1	Female	0.1480	0.0252
H5 (parents)	*Parent is married	0	No	0.0547	0.0278
		1	Yes	-0.0547	0.0278
A3, A4, A5	*Youth was Hispanic	0	No	-0.2159	0.0458
		1	Yes	0.2159	0.0458
	Youth was aged between 16 and 18	0	No	0.1324	0.0352
		1	Yes	-0.1324	0.0352
A20	**Interaction of Wave and Time youth spends watching TV on weekend1s	1 1	Wave 1 – A Little	0.0788	0.0640
		1 2	Wave 1 – Some	-0.0950	0.0530
		1 3	Wave 1 – A Lot	0.0161	0.0670
		2 1	Wave 2 – A Little	-0.0441	0.0731
		2 2	Wave 2 – Some	0.1053	0.0611
		2 3	Wave 2 – A Lot	-0.0612	0.0778
		3 1	Wave 3 – A Little	0.1506	0.0710
		3 2	Wave 3 – Some	-0.0846	0.0605
		3 3	Wave 3 – A Lot	-0.0660	0.0774
		4 1	Wave 4 – A Little	-0.1854	0.0655
		4 2	Wave 4 – Some	0.0743	0.0555
		4 3	Wave 4 – A Lot	0.1111	0.0727
	**Interaction of Wave and Urbanicity of neighborhood (continuous from 0 to 4)	1	Wave 1	-0.0535	0.0299
		2	Wave 2	-0.0456	0.0335
		3	Wave 3	0.0850	0.0340
		4	Wave 4	0.0141	0.0318

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
F9 (parents)	**Interaction of Wave and Parental use of the internet	1 0	Wave 1 Rarely use	-0.0174	0.0551
		1 1	Wave 1 Sometimes use	-0.0601	0.0706
		1 2	Wave 1 Often use	0.0775	0.0589
		2 0	Wave 2 Rarely use	-0.1079	0.0625
		2 1	Wave 2 Sometimes use	0.0140	0.0804
		2 2	Wave 2 Often use	0.0939	0.0686
		3 0	Wave 3 Rarely use	0.1052	0.0616
		3 1	Wave 3 Sometimes use	0.1481	0.0798
		3 2	Wave 3 Often use	-0.2533	0.0691
		4 0	Wave 4 Rarely use	0.0201	0.0561
		4 1	Wave 4 Sometimes use	-0.1021	0.0717
		4 2	Wave 4 Often use	0.0820	0.0639
A3, A4, A5	**Interaction of Wave and whether youth was Hispanic	1 0	Wave 1 Non-Hispanic	0.1014	0.0588
		1 1	Wave 1 Hispanic	-0.1014	0.0588
		2 0	Wave 2 Non-Hispanic	-0.0229	0.0664
		2 1	Wave 2 Hispanic	0.0229	0.0664
		3 0	Wave 3 Non-Hispanic	-0.2186	0.0693
		3 1	Wave 3 Hispanic	0.2186	0.0693
		4 0	Wave 4 Non-Hispanic	0.1401	0.0617
		4 1	Wave 4 Hispanic	-0.1401	0.0617

*Not significant in Wave 3 report. **Could not enter the Wave 3 model.

Table C-D. Cross-Sectional Model for parent general exposure index among all parents of youth aged 9 to 18

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	*Percentage of persons who are urban and live inside urbanized areas in the neighborhood in 1990	Continuous (0-100)		0.0017	0.0005
	Percentage of Cuban Americans in the neighborhood in 1990	Continuous (0-100)		-0.0148	0.0054
	*Percentage of persons in the neighborhood in 1990 who had at least a bachelor's degree	Continuous (0-100)		-0.0093	0.0035
	* Percentage of persons in the neighborhood 16 and older who were in the labor force but unemployed in 1990	Continuous (0-100)		0.0328	0.0089
	* Percentage of households with income above $75000 per year in the neighborhood in 1990	Continuous (0-100)		-0.0059	0.0030
A9a, A9b	Parental viewing of BET and Spanish-language cable channels in the past 30 days	0	None	-0.3753	0.0368
		1	Less than 15 days	-0.0256	0.0397
		2	15 or more days	0.4009	0.0543
F9	*Parental use of the internet	0	Rarely	0.0793	0.0325
		1	Sometimes	-0.0262	0.0403
		2	Every day	-0.0531	0.0358
A3, A4	Time parents spend listening to radio per week	0	Less than 1 hour	-0.2081	0.0355
		1	A few hours	0.0117	0.0301
		2	Several hours	0.1964	0.0338
A6	Parental reading of magazines	0	Never	-0.2706	0.0553
		1	Sometimes	-0.0484	0.0360
		2	Often	0.3191	0.0377
H5	*Parent is married	0	No	-0.0606	0.0262
		1	Yes	0.0606	0.0262
A5	Parental reading of newspapers	0	Never	-0.1736	0.0571
		1	Sometimes	-0.0735	0.0442
		2	Often	0.2471	0.0379
H7, H8	*Influence of religion on parents	0	Low	0.0644	0.0294
		1	High	-0.0644	0.0294
G1, G2	Parental smoking behavior	0	Never smoked	-0.0318	0.0337
		1	Not recently or Rarely	-0.0786	0.0307
		2	Twice or more per day	0.1105	0.0355
A1, A2	Time parents spend watching TV per week	0	Less than 1 hour	-0.4562	0.0618
		1	A few hours	0.0873	0.0381
		2	Several hours	0.3689	0.0398
H5	Parent is a widow	0	No	-0.1816	0.0813
		1	Yes	0.1816	0.0813
	Wave of Data Collection	1	Wave 1	0.1086	0.0397
		2	Wave 2	-0.0249	0.0442
		3	Wave 3	0.0237	0.0437
		4	Wave 4	-0.1074	0.0435

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	Interaction of Wave and whether Parent is Married	0 1	Wave 1 Not Married	-0.0652	
		0 2	Wave 2 Not Married	0.0455	
		0 3	Wave 3 Not Married	0.1019	
		0 4	Wave 4 Not Married		
		1 1	Wave 1 Not Married		
		1 2	Wave 2 Not Married		
		1 3	Wave 3 Not Married		
		1 4	Wave 4 Not Married		

*Not significant in Wave 3 report.

**Could not enter the Wave 3 model.

Table C-E. Cross-Sectional Model for parent specific exposure index among all parents of youth aged 9 to 18

Quex Items	Description of variable	Values	Value Label	Coefficient	Standard Error
	Percentage of American Indian, Eskimo and Aleut persons in the neighborhood in 1990		Continuous(0-100)	0.0101	0.00386
	*Percentage of other Hispanic persons in the neighborhood in 1990		Continuous(0-100)	0.00509	0.0191
	*Percentage of persons in group quarters in the neighborhood in 1990		Continuous(0-100)	0.0885	0.0378
	*Percentage of foreign-born non-citizens in the neighborhood in 1990		Continuous(0-100)	-0.0149	0.00315
	*Percentage high-school dropouts in the neighborhood in 1990		Continuous(0-100)	0.0117	0.00289
	*Percentage of persons 16+ working in manufacturing in the neighborhood in 1990		Continuous(0-100)	0.0124	0.00352
	Percentage of persons 16+ working in farming & fishing in the neighborhood in 1990		Continuous(0-100)	0.0236	0.00671
	Percentage of households with income above $75000 per year in the neighborhood in 1990		Continuous(0-100)	-0.0084	0.00234
	*Percentage of large structured Hus in the neighborhood in 1990		Continuous(0-100)	-0.00795	0.00244
	Neighborhood is classified as a city in a nonurban area (lower population and density)	0	No	-0.0994	0.0284
		1	Yes	0.0994	0.0284
A9a, A9b	Parent viewing of BET and Spanish-language cable channels in the past 30 days	0	None	-0.2414	0.0372
		1	Less than 15 days	0.0359	0.0383
		2	15 or more days	0.2055	0.055
A3, A4	Time Parents spend listening to radio per week	0	Less than 1 hour	-0.2178	0.0345
		1	A few hours	0.0146	0.029
		2	Several hours	0.2032	0.0322
H7, H8	*Influence of religion on parents	0	Low	0.0774	0.0293
		1	High	-0.0774	0.0293
G1, G2	Parental smoking behavior	0	Never smoked	-0.0619	0.0351
		1	Not recently or Rarely	-0.0739	0.0297
		2	Twice or more per day	0.1358	0.035
A2b	Language of parental TV viewing	0	Spanish	0.1828	0.0555
		1	English	-0.1828	0.0555
A1, A2	Time parents spend watching TV per week	0	Less than 1 hour	-0.534	0.0616
		1	A few hours	0.1414	0.0377
		2	Several hours	0.3926	0.0393

Table C-E. Cross-Sectional Model for parent specific exposure index among all parents of youth aged 9 to 18

Quex Items	Description of variable	Values	Value Label	Coefficient	Standard Error
	Parent has child aged 14-18	1	Yes	0.0469	0.0218
		2	No	-0.0469	0.0218
	*Gender of parents	1	Male	-0.0598	0.0233
		2	Female	0.0598	0.0233
H13	Parental income is missing	0	No	0.1275	0.06
		1	Yes	-0.1275	0.06
G6	Parent has ever used marijuana	0	No	0.0439	0.0245
		1	Yes	-0.0439	0.0245
	**WAVE of Data Collection	1		0.3979	0.1072
		2		-0.0645	0.124
		3		-0.2439	0.118
		4		-0.0895	0.1166
	**Percentage of persons 16+ working in	1	Percentage of persons 16+ working in manufacture in wave 1	-0.0013	0.00552
	Manufacturing by wave	2	Percentage of persons 16+ working in manufacture in wave 2	-0.0154	0.00593
		3	Percentage of persons 16+ working in manufacture in wave 3	0.019	0.00621
		4	Percentage of persons 16+ working in manufacture in wave 4	-0.0023	0.0061
	**Influence of religion on parents by wave	0 1	Influence of religion on parents is low in wave 1	-0.1016	0.0455
		0 2	Influence of religion on parents is low in wave 2	-0.0412	0.0508
		0 3	Influence of religion on parents is low in wave 3	-0.0112	0.0515
		0 4	Influence of religion on parents is low in wave 4	0.154	0.0519
		1 1	Influence of religion on parents is high in wave 1	0.1016	0.0455
		1 2	Influence of religion on parents is high in wave 2	0.0412	0.0508
		1 3	Influence of religion on parents is high in wave 3	0.0112	0.0515
		1 4	Influence of religion on parents is high in wave 4	-0.154	0.0519
	**Language of parental TV viewing by wave	0 1	Parental TV viewing is in Spanish in wave 1	0.355	0.0716
		0 2	Parental TV viewing is in Spanish in wave 2	0.1012	0.088
		0 3	Parental TV viewing is in Spanish in wave 3	-0.0087	0.0778
		0 4	Parental TV viewing is in Spanish in wave 4	-0.4475	0.0763

Quex Items	Description of variable	Values		Value Label	Coefficient	Standard Error
		1	1	Parental TV viewing is in English in wave 1	-0.355	0.0716
		1	2	Parental TV viewing is in English in wave 2	-0.1012	0.088
		1	3	Parental TV viewing is in English in wave 3	0.0087	0.0778
		1	4	Parental TV viewing is in English in wave 4	0.4475	0.0763
	**Time parents spend watching TV per week by wave	0	1	Parents spend less than 1 hour watching TV in wave 1	0.2915	0.0972
		0	2	Parents spend less than 1 hour watching TV in wave 2	-0.1608	0.1145
		0	3	Parents spend less than 1 hour watching TV in wave 3	0.2415	0.1061
		0	4	Parents spend less than 1 hour watching TV in wave 4	-0.3721	0.1034
		1	1	Parents spend a few hours watching TV in wave 1	-0.085	0.0603
		1	2	Parents spend a few hours watching TV in wave 2	0.1837	0.0697
		1	3	Parents spend a few hours watching TV in wave 3	-0.135	0.0657
		1	4	Parents spend a few hours watching TV in wave 4	0.0364	0.0644
		2	1	Parents spend several hours watching TV in wave 1	-0.2064	0.0604
		2	2	Parents spend several hours watching TV in wave 2	-0.0228	0.0701
		2	3	Parents spend several hours watching TV in wave 3	-0.1065	0.0669
		2	4	Parents spend several hours watching TV in wave 4	0.3357	0.0656
	**Gender of parents by wave	1	1	Male parent in wave 1	0.0818	0.0371
		1	2	Male parent in wave 2	0.0485	0.0409
		1	3	Male parent in wave 3	0.0051	0.0411
		1	4	Male parent in wave 4	-0.1354	0.0407
		2	1	Female parent in wave 1	-0.0818	0.0371
		2	2	Female parent in wave 2	-0.0485	0.0409
		2	3	Female parent in wave 3	-0.0051	0.0411
		2	4	Female parent in wave 4	0.1354	0.0407
	**Parent has ever used marijuana by wave	0	1	Parent has never used marijuana in wave 1	0.0851	0.0359
		0	2	Parent has never used marijuana in wave 2	0.0161	0.0402
		0	3	Parent has never used marijuana in wave 3	0.0179	0.0401

Quex Items	Description of variable	Values		Value Label	Coefficient	Standard Error
		0	4	Parent has never used marijuana in wave 4	-0.1191	0.0397
		1	1	Parent has ever used marijuana in wave 1	-0.0851	0.0359
		1	2	Parent has ever used marijuana in wave 2	-0.0161	0.0402
		1	3	Parent has ever used marijuana in wave 3	-0.0179	0.0401
		1	4	Parent has ever used marijuana in wave 4	0.1191	0.0397

*Not significant in Wave 3 report. **Could not enter the Wave 3 model.

Table C-F. Stable Model for youth general exposure index among youth aged 12 to 18 at Wave 4 who had never tried marijuana at Wave 1

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	Percentage of persons in the neighborhood in 1990 who are urban and live inside urbanized areas	Continuous (0-100)		0.00433	0.00113
	Percentage of persons in the neighborhood in 1990 who had at least a bachelor's degree	Continuous (0-100)		-0.0126	0.00507
C34a-d	Youth likes new and exciting friends and experiences	Continuous range from –2 (dislikes) to +2 (strongly likes)		-0.3891	0.1451
C35a, C35b	Youth perception of parental awareness of youth activities and plans	Continuous range from –2 (never aware) to +2 (always aware)		0.2133	0.0472
A19	Time youth spends watching TV on an average weekday	-1	Less than 1 hour	-0.2416	0.0913
		0	A few hours	0.1232	0.0712
		1	Several hours	0.1183	0.1047
A20	Time youth spends watching TV on weekends	0	Less than 2 hours	-0.2616	0.0925
		1	Several hours	0.0524	0.0701
		2	More than 9 hours	0.2092	0.0994
A24	Youth reading of magazines	0	Rarely	-0.163	0.0544
		1	Often	0.163	0.0544
C30	Time spent with friends without adult supervision	0	Never or some	0.1567	0.0706
		1	Often or always	-0.1567	0.0706
D27	Youth use of the Internet	0	Rarely	-0.2312	0.0745
		1	Sometimes	-0.0870	0.0680
		2	Every day	0.3181	0.0817
C3 (parents)	How often child hangs out with his/her friends without adult supervision	0	Never	0.1641	0.1050
		1	Seldom	0.2205	0.0989
		2	About Half the time	0.3165	0.1499
		3	Often	-0.1756	0.1708
		4	Almost Always		
C10 (parents)	Parent fought or argued with Child in last 30 days	1	Never	0.1152	0.1122
		2	Sometimes	-0.2494	0.0968
		3	About half the time	0.1866	0.1485
		4	Often	-0.1395	0.1538
		5	Always		
	Parent has child aged 14 to 18	0	No	-0.1376	0.0518
		1	Yes	0.1376	0.0518
H5 (parents)	Parent is living as married	0	No	-0.4023	0.1778
		1	Yes	0.4023	0.1778
A3, A4, A5	Youth was Asian or Pacific Islander	0	No	-0.1376	0.0518
		1	Yes	0.1376	0.0518
A16	Youth plans to graduate from 2-year college	0	No	0.1786	0.0757
		1	Yes	-0.1786	0.0757

Table C-G. Stable Model for youth specific exposure index among youth aged 12 to 18 at Wave 4 who had never tried marijuana at Wave 1

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	Percentage of persons in the neighborhood in 1990 who are urban and live inside urbanized areas	Continuous (0-100)		0.0027	0.0010
	Percentage of persons in the neighborhood in 1990 who were Black	Continuous (0-100)		0.0096	0.0027
	Percentage of persons in the neighborhood in 1990 who were Hispanic	Continuous (0-100)		-0.0078	0.0028
	Persons per room in the neighborhood in 1990	Continuous (0-100)		1.9877	0.5038
	Persons per vehicle in the neighborhood in 1990	Continuous (0-100)		-0.0720	0.0300
A27, A28, A28a, A28b	Youth consumption of specific cable channels targeted by the Media Campaign	Continuous range from 0 (did not watch) to 3 (watched several channels often)		0.3578	0.0907
A19	Time youth spends watching TV on an average weekday	-1	Less than 1 hour	-0.5224	0.0753
		0	A few hours	0.0769	0.0632
		1	Several hours	0.4454	0.0868
A6 (parents)	Parental reading of magazines	-1	Never	0.1293	0.1115
		0	Sometimes	0.0415	0.0751
		1	Often	-0.1708	0.0730
C30	Time spent with friends without adult supervision	0	Never or some	0.2414	0.0638
		1	Often or always	-0.2414	0.0638
C36c	Youth fought or argued with a parent in the last 30 days	0	Never or sometimes	-0.2321	0.0585
		1	Often or always	0.2321	0.0585
D27	Youth use of the Internet	-1	Rarely	-0.2205	0.0701
		0	Sometimes	-0.0601	0.0623
		1	Every day	0.2805	0.0735
A9 (parents)	Household has cable or satellite TV service	0	No	0.1290	0.0590
		1	Yes	-0.1290	0.0590
H1, H2 (parents)	Youth current or last school grade	-1	Primary (Grades 1-6)	0.3854	0.0860
		0	Middle (Grades 7-9)	0.0774	0.0690
		1	High (Grades 10-12)	-0.4629	0.1065
	Parent has child aged 9 to 11	0	No	-0.2529	0.0564
		1	Yes	0.2529	0.0564
	Parent has child aged 14 to 18	0	No	-0.1365	0.0552
		1	Yes	0.1365	0.0552
	Youth gender	0	Male	-0.1539	0.0471
		1	Female	0.1539	0.0471
H5 (parents)	Parent is married	0	No	0.1556	0.0523
		1	Yes	-0.1556	0.0523

Table C-H Stable Model for parent general exposure index among all parents of youth aged 12 to 18 at Wave 4

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	Percentage of persons who are urban and live inside urbanized areas in the neighborhood in 1990	Continuous(0-100)		-0.00277	0.00118
	Percentage of household with income above $75,000 per year	Continuous(0-100)		0.0242	0.00486
	Talking belief/Attitude index	Continuous		-0.00242	0.000584
A9a, A9b	Parent viewing of BET and Spanish-language	0	None	0.3955	0.1078
	Cable channels in the past 30 days	1	Less than 15 days	0.0372	0.1055
		2	15 or more days	-0.4327	0.1653
A3, A4	Time Parents spend listening to radio per week	0	Less than 1 hour	0.2697	0.0828
		1	A few hours	0.0333	0.0708
		2	Several hours	-0.3030	0.0828
A6	Parent reading of magazines	0	Never	0.3383	0.138
		1	Sometimes	-0.0823	0.0882
		2	often	-0.2559	0.0914
H5	Parental martial status	0	Not married	0.1663	0.0631
		1	Married	-0.1663	0.0631
A5	Parental reading of newspapers	0	Never	-0.0462	0.1482
		1	Sometimes	0.2250	0.1079
		2	Often	-0.1788	0.0956
A1, A2	Time parents spend watching TV per week	0	Less than 1 hour	0.4477	0.1437
		1	A few hours	-0.0547	0.0889
		2	Several hours	-0.3930	0.0935
A3, A4, A5	Youth was White	0	No	-0.1695	0.0718
		1	Yes	0.1695	0.0718

Table C-I. Stable Model for parent specific exposure index among all parents of youth aged 9 to 18

Quex Items	Description of variable	Values	Value Label	Coefficient	Standard Error
	Percentage of households with income above $75,000/year in the neighborhood in 1990	Continuous(0-100)		0.0248	0.00462
	Percentage of housing in the neighborhood in 1990 that was large structures with 50 or more housing units.	Continuous(0-100)		0.0209	0.00594
	Talking belief/Attitude index	Continuous		-0.00127	0.000612
A9a, A9b	Parent viewing of BET and Spanish-language	0	None	0.4265	0.0844
	Cable channels in the past 30 days	1	Less than 15 days	0.1246	0.0934
		2	15 or more days	-0.5510	0.1305
A3, A4	Time Parents spend listening to radio per week	0	Less than 1 hour	0.3864	0.0812
		1	A few hours	-0.0677	0.0682
		2	Several hours	-0.3187	0.0785
A1, A2	Time parents spend watching TV per week	-1	Less than 1 hour	0.7392	0.1425
		0	A few hours	-0.1494	0.0875
		1	Several hours	-0.5898	0.0917
	Gender of parents	1	Male	0.1263	0.0551
		2	Female	-0.1263	0.0551
B2, B3b, B3c	Parent talking behavior	0	Never	0.1578	0.1285
		1	Seldom	0.0002	0.1309
		2	Sometimes	0.1285	0.0982
		3	Often	-0.2865	0.0876

Table C-J. Lagged Model for youth general exposure index among youth aged 12 to 18 at Wave 4 who had never tried marijuana at Wave 1

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	Percentage of persons in the neighborhood in 1990 who are urban and live inside urbanized areas	Continuous (0-100)		0.00253	0.00101
	Percentage of persons who are American Indian, Eskimo or Aleut in the neighborhood in 1990	Continuous (0-100)		-0.0264	0.0114
A27, A28, A28a, A28b	Youth consumption of specific cable channels targeted by the Media Campaign	Continuous range from 0 (did not watch) to 3 (watched several channels often)		0.2503	0.0883
C34a-d	Youth likes new and exciting friends and experiences	Continuous range from –2 (dislikes) to +2 (strongly likes)		-0.3278	0.1364
C35a, C35b	Youth perception of parental awareness of youth activities and plans	Continuous range from –2 (never aware) to +2 (always aware)		0.2672	0.0439
C31a – C31d	Youth association with antisocial peers	Continuous range from 0 (did not associate) to 6 (associated often)		0.1393	0.0605
A19	Time youth spends watching TV on an average weekday	-1	Less than 1 hour	-0.3723	0.0745
		0	A few hours	0.0977	0.0639
		1	Several hours	0.2746	0.0870
A24	Youth reading of magazines	0	Rarely	-0.1614	0.0509
		1	Often	0.1614	0.0509
C30	Time spent with friends without adult supervision	0	Never or some	0.1846	0.0631
		1	Often or always	-0.1846	0.0631
D27	Youth use of the Internet	-1	Rarely	-0.2205	0.0701
		0	Sometimes	-0.0601	0.0623
		1	Every day	0.2805	0.0735
C34c, C34d	Youth score on sensation seeking tendencies (median split)	0	Low	0.1062	0.0276
		1	High	-0.1062	0.0276
A9a, A9b	Parent viewing of BET and Spanish-language cable channels in the past 30 days	0	None	-0.2610	0.0688
		1	Less than 15 days	0.0080	0.0630
		2	15 or more days	0.2530	0.0742
H5	Parental martial status	0	Not Separated	-0.2583	0.1142
		1	Separated	0.2583	0.1142
A3, A4, A5	Youth was Black	0	No	-0.5251	0.1595
		1	Yes	0.5251	0.1595
	Youth was aged between 16 and 18	0	No	0.2191	0.0839
		1	Yes	-0.2191	0.0839

C.4.4.10 Lagged Model for the Youth Recall-Aided Exposure Index

The lagged model for the youth recall-aided exposure index found 14 significant variables using stepwise regression. However, tests of balance indicted that the model needed to be improved. Therefore, several variables plus age interactions were added to the model. The resulting model has 46 main terms plus age interactions. These variables are presented, together with their coefficients, in Table C-K.

C.4.4.11 Lagged Model for the Parent General Exposure Index

There were 11 significant variables in the lagged model for parental general exposure. These and their coefficients are tabulated in Table C-L.

C.4.4.12 Lagged Model for the Parent Recall-Aided Exposure Index

The lagged model for parental recall-aided exposure found nine significant variables. These variables and their coefficients are presented in Table C-M.

C.5 Testing for Significance of Counterfactual Effects

Several approaches were employed to assess the significance of estimated effects. The actual mean on each outcome for the weighted sample and all of the counterfactual means for each exposure group were displayed with their confidence intervals and were available for visual inspection. The population effect (called the "direct effect") was assessed by comparing the actual mean with the counterfactual mean for the lowest exposure group. This was done by estimating the variance of the direct effect and using that to place a confidence interval on the direct effect. The second approach was to estimate the variance of the maximum effect, the difference between the lowest and highest exposure groups, and use that to place a confidence interval on the maximum effect. The third was to adapt a test (the Jonckheere-Terpstra) for monotone dose-response relationship. The monotone dose-response test assessed the overall association between exposure and outcome, whereas the direct effect test is an estimate of the average effect in the population, while the maximum effect test provides a hypothetical estimate of the effect if all respondents received the highest does. With all of the approaches, the extra variance introduced by complex sample design, nonresponse adjustment, and counterfactual projection were reflected as fully as possible.

C.5.1 Estimating Variances on Counterfactual Projections

Replicate weights had been prepared for variance estimation of ordinary survey statistics as explained in Appendix A. There are 100 of these replicate weights for every subject. The process of adjusting the standard survey weights for counterfactual projection was partially repeated on each set of replicate weights. As explained in Section C.4.1 of this appendix, there were four major steps in this process. The first was to model exposure. The second was to create a partition of the data set based on the values of $X_i\hat{\beta}$. The third was to estimate the exposure propensity within each cell of the partition for each of the different exposure levels. The fourth was to apply the inverse of these estimated propensities to the sampling weights. To estimate the variances of the counterfactual projections, only the third and fourth steps were replicated. The first two were not. Ideally, all the steps would have

been replicated, but technical issues made this infeasible. As a result, the variance estimates are likely to be a little too small and the confidence intervals a little tighter than they should be.

Table C-K. Lagged Model for youth specific exposure index among youth aged 12 to 18 at Wave 4 who had never tried marijuana at Wave 1

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
	Youth's Age at Wave 4	Ordinal values from 12 to 18		0.0416	0.0871
A12a	Youth school was in session in last 30 days	0	Yes	-1.3465	0.8958
		1	No	1.3465	0.8958
A19	Time youth spends watching TV on an average weekday	-1	Less than 1 hour	-0.3624	0.1107
		0	A few hours	0.1614	0.0857
		1	Several hours	0.2010	
A20	Time youth spends watching TV on weekends	-1	Less than 2 hours	-0.0595	0.1163
		0	Several hours	0.0456	0.0824
		1	More than 9 hours	0.0139	
A22	Time youth spends listening to the radio on weekends	-1	Less than 2 hours	0.0771	0.0973
		0	Several hours	0.0936	0.0979
		1	More than 9 hours	-0.1707	
A22b	Youth language of radio listening	0	Spanish	-0.5582	0.3250
		1	English	0.5582	0.3250
A24	Youth reading of magazines	0	Rarely	-0.0319	0.0742
		1	Often	0.0319	0.0742
A27, A28, A28a, A28b	Youth consumption of specific cable channels targeted by the Media Campaign	Continuous range from 0 (did not watch) to 3 (watched several channels often)		0.3232	0.1158
C30	Time spent with friends without adult supervision	0	Never or some	0.3489	0.1192
		1	Often or always	-0.3489	0.1192
C31a – C31d	Youth association with antisocial peers	Continuous range from 0 (did not associate) to 6 (associated often)		-0.0129	0.0711
C34a-d	Youth likes new and exciting friends and experiences	Continuous range from –2 (dislikes) to +2 (strongly likes)		-0.0445	0.0901
C34aa-ac	Youth behaving anti-socially in last 12 months	Continuous range from –2 (never) to +2 (5 or more times)		-0.0395	0.1690
C35a, C35b	Youth perception of parental awareness of youth activities and plans	Continuous range from –2 (never aware) to +2 (always aware)		-0.0105	0.0620
C36c	Youth fought or argued with a parent in the last 30 days	0	Never or sometimes	-0.2129	0.0793
		1	Often or always	0.2129	0.0793
D27	Youth use of the Internet	-1	Rarely	-0.2027	0.0968
		0	Sometimes	0.0013	0.0836
		1	Every day	0.2014	
C5c (parents)	How often parents did activities with children in past week	-3	Not at all	-0.2750	0.1410
		-2	Once	0.0208	0.1414
		-1	Twice	0.0660	0.1335
		0	3 times	-0.1532	0.1511
		1	4 or 5 times	0.0884	0.1514
		2	6 or 7 times	0.1718	0.2317
		3	More than 7 times	0.0812	

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
C10c (parents)	Parental perception of fighting with the youth	-2	Never	0.1443	0.1290
		-1	Sometimes	-0.0046	0.1143
		0	Half the time	0.2379	0.1723
		1	Often	-0.5110	0.2219
		2	Always	0.1334	
	Percentage of persons in the neighborhood in 1990 who were urban and lived inside urbanized areas			0.0016	0.0014
	Percentage of persons in the neighborhood in 1990 who lived on farms			-0.0221	0.0144
	Percentage of persons in the neighborhood in 1990 who were Asian or Pacific Islander			-0.0061	0.0091
	Percentage of persons in the neighborhood in 1990 who were Hispanic			-0.0039	0.0081
	Percentage of persons in the neighborhood in 1990 who were Mexican American			-0.0064	0.0122
	Percentage of persons in the neighborhood in 1990 who were Puerto Rican			0.0056	0.0146
	Percentage of persons in the neighborhood in 1990 who were Cuban American			0.0004	0.0162
	Percentage of persons in the neighborhood in 1990 who were institutionalized			0.0481	0.0232
	Percentage of persons in the neighborhood in 1990 who lived in noninstitutional group quarters			0.0369	0.1684
	Percentage of persons in the neighborhood in 1990 who had at least a college degree			-0.0102	0.0053
	Percentage of persons in the neighborhood in 1990 16 and older and employed in mining			-0.0624	0.0571
	Percentage of persons in the neighborhood in 1990 16 and older with farming, forestry or fishing occupations			0.0125	0.0205
	Neighborhood is classified as rural	0	No	0.0275	0.0821
		1	Yes	-0.0275	0.0821
C34a	Youth score on sensation seeking tendencies (median split)	0	Low	0.0631	0.0670
		1	High	-0.0631	0.0670
A8, A9	Youth current or last school grade	-1	Primary (Grades 1-6)	-0.0204	0.1591
		0	Middle (Grades 7-9)	0.1234	0.1058
		1	High (Grades 10-12)	-0.1030	
B6 - B7	Youth alcohol consumption	0	Low	0.0496	0.0762
		1	High	-0.0496	0.0762
A9 (parents)	Household has cable or satellite TV service	0	No	0.1402	0.0618
		1	Yes	-0.1402	0.0618

Quex Items	Description of Variable	Values	Value Label	Coefficient	Standard Error
H3 (parents)	Parent report of youth's average grades	0	Low	-0.1169	0.0617
		1	High	0.1169	0.0617
H1, H2 (parents)	Child's school grade span	-1	Elem. or Middle School	0.1618	0.1008
		0	Middle + High	0.0727	0.1035
		1	High school only	-0.2345	
F9 (parents)	Parental use of the internet	-1	Rarely	-0.0650	0.0716
		0	Sometimes	-0.1354	0.0860
		1	Every day	0.2004	
A5 (parents)	Parental reading of newspapers	-1	Never	-0.0283	0.1249
		0	Sometimes	-0.1390	0.0940
		1	Often	0.1673	
H6 (parents)	Parental educational attainment	0	HS or less	-0.0599	0.0553
		1	Beyond HS	0.0599	0.0553
	Parent has child aged 9 to 11	0	No	-0.0917	0.1332
		1	Yes	0.0917	0.1332
	Parent has child aged 14 to 18	0	No	0.4800	0.6362
		1	Yes	-0.4800	0.6362
H5 (parents)	Parent is married	0	No	0.0876	0.0738
		1	Yes	-0.0876	0.0738
A2-A5	Youth's race is white	0	No	0.1899	0.0882
		1	Yes	-0.1899	0.0882
A2-A5	Youth's race/ethnicity is Hispanic	0	No	-0.0942	0.1317
		1	Yes	0.0942	0.1317
A16	Youth plans to graduate from a two-year college program	0	No	0.0345	0.1240
		1	Yes	-0.0345	0.1240
	Youth gender	0	Male	-0.2036	0.0656
		1	Female	0.2036	0.0656
A13b, A13cb	Youth report of cut school days	-1.5	Low	-2.6349	157.0000
		-0.5	Med-Low	-3.0756	157.0000
		0.5	Med-High	-4.0931	157.0000
		1.5	High	9.8036	
G6 (parents)	Parent has ever used marijuana	0	No	-0.0488	0.0627
		1	Yes	0.0488	0.0627

Table C-L. Lagged Model for parent general exposure index among all parents of youth aged 12 to 18

Quex Items	Description of variable	Values	Value Label	Coefficient	Standard Error
	Percentage of persons who are urban and live inside urbanized areas in the neighborhood in 1990	Continuous(0-100)		0.00359	0.0012
	Percentage of households with income above $75,000/year in the neighborhood in 1990	Continuous(0-100)		-0.0216	0.00502
	Percentage of single-family structures	Continuous(0-100)		0.00477	0.00231
	Talking belief/Attitude index	Continuous		0.00133	0.000613
A9a, A9b	Parent viewing of BET and Spanish-language cable channels in the past 30 days	0	None	-0.5808	0.0945
		1	Less than 15 days	-0.1854	0.1016
		2	15 or more days	0.7662	0.1524
A3, A4	Time Parents spend listening to radio per week	0	Less than 1 hour	-0.1661	0.0818
		1	A few hours	-0.0316	0.0691
		2	Several hours	0.1977	0.0800
A6	Parent reading of magazines	0	Never	-0.3902	0.1345
		1	Sometimes	0.0363	0.0859
		2	often	0.3539	0.0892
H5	Parental martial status	0	Not married	-0.176	0.0589
		1	Married	0.176	0.0589
A5	Parental reading of newspapers	0	Never	-0.1389	0.1432
		1	Sometimes	-0.1089	0.1051
		2	Often	0.2478	0.0928
A1, A2	Time parents spend watching TV per week	0	Less than 1 hour	-0.417	0.1439
		1	A few hours	0.1217	0.0885
		2	Several hours	0.2952	0.0926
B2, B3b, B3c	Parent talking behavior	0	Never	-0.4303	0.1309
		1	Seldom	0.2637	0.1339
		2	Sometimes	-0.0154	0.099
		3	Often	0.1820	0.0886

Table C-M. Lagged Model for parent specific exposure index among all parents of youth aged 12 to 18 at Wave 4

Quex Items	Description of variable	Values	Value Label	Coefficient	Standard Error
	Percentage of households with income above $75,000/year in the neighborhood in 1990	Continuous(0-100)		-0.0144	0.00446
	Percentage of housing in the neighborhood in 1990 that was large structures with 50 or more housing units.	Continuous(0-100)		-0.0179	0.00581
A3, A4	Time Parents spend listening to radio per week	-1	Less than 1 hour	-0.189	0.0785
		0	A few hours	0.0041	0.0655
		1	Several hours	0.1849	0.0747
A2b	Language of parental TV viewing	0	Spanish	0.3964	0.1350
		1	English	-0.3964	0.1350
A1, A2	Time parents spend watching TV per week	-1	Less than 1 hour	-0.3837	0.1393
		0	A few hours	0.1297	0.0854
		1	Several hours	0.2540	0.0880
	Respondent is Hispanic	0	No	-0.2613	0.0978
		1	Yes	0.2613	0.0978
G6	Parent has ever used marijuana	0	No	0.1136	0.0504
		1	Yes	-0.1136	0.0504
B2, B3b, B3c	Parent talking behavior	0	Never	-0.1721	0.1224
		1	Seldom	-0.0418	0.1258
		2	Sometimes	-0.1116	0.0952
		3	Often	0.3254	0.0778

The reason for this is that confidence intervals do not reflect the uncertainty due to selecting the most important predictors of exposure. Different samples would no doubt have resulted in different choices of which variables to include in the ordinal logit model. However, the extra uncertainty introduced by model selection among the variables considered is probably small. Note that the confidence intervals are also conditioned on the assumptions made about exposure. If there were important covariates that were omitted from the modeling process because they were never asked in the questionnaire, the confidence intervals will not provide the 95 percent coverage promised.

Let w_{itr} be the *r*-th replicated counterfactual weight for the *t*-th exposure level for the *i*-th observation. Let w_{it0} be the full sample counterfactual weight. Note that these weights are equal to zero for the *i*-th observation unless the *i*-th observation actually experienced the *t*-th exposure level. Let δ_{it} be an indicator flag for the *t*-th exposure level for the *i*-th observation. A unified set of counterfactual weights was then created by stacking these weights according to

$$w'_{ir} = \sum_k \delta_{ik} w_{ikr} \text{ and } w'_{i0} = \sum_k \delta_{ik} w_{ik0} .$$

The counterfactual mean for some outcome *y* on some class *c* indicated by ε_{ci} and exposure level *t* is then

$$\hat{y}_{ct} = \frac{\sum_i w'_{i0}\delta_{it}\varepsilon_{ci}y_i}{\sum_i w'_{i0}\delta_{it}\varepsilon_{ci}} \text{ with variance estimate } \operatorname{var}\hat{y}_{ct} = \sum_r b_r \left(\frac{\sum_i w'_{ir}\delta_{it}\varepsilon_{ci}y_i}{\sum_i w'_{ir}\delta_{it}\varepsilon_{ci}} - \frac{\sum_i w'_{i0}\delta_{it}\varepsilon_{ci}y_i}{\sum_i w'_{i0}\delta_{it}\varepsilon_{ci}} \right)^2 ,$$

where the b_r are factors chosen to correspond to the replication method.

C.5.2 Confidence Intervals on Direct Effects

The direct effect is defined as the difference between the actual estimate and the counterfactual estimate for the low exposure category. To estimate the variance on this effect, the first step was to estimate the covariance between a counterfactual estimate and an actual estimate as

$$\operatorname{covar}(\hat{y}_{ct}, \hat{y}_c) = \sum_r b_r \left(\frac{\sum_i w'_{ir}\delta_{it}\varepsilon_{ci}y_i}{\sum_i w'_{ir}\delta_{it}\varepsilon_{ci}} - \frac{\sum_i w'_{i0}\delta_{it}\varepsilon_{ci}y_i}{\sum_i w'_{i0}\delta_{it}\varepsilon_{ci}} \right) \left(\frac{\sum_i w_{ir}\delta_{it}\varepsilon_{ci}y_i}{\sum_i w_{ir}\delta_{it}\varepsilon_{ci}} - \frac{\sum_i w_{i0}\delta_{it}\varepsilon_{ci}y_i}{\sum_i w_{i0}\delta_{it}\varepsilon_{ci}} \right) .$$

In the second step, the variance on the direct effect was estimated as

$$\operatorname{var}(\hat{y}_c - \hat{y}_{ct}) = \operatorname{var}(\hat{y}_c) + \operatorname{var}(\hat{y}_{ct}) - 2\operatorname{covar}(\hat{y}_{c,}\hat{y}_{ct}), \text{ where } t = 1.$$

Confidence intervals on maximum effects are calculated using WESVAR and a description can be found in Appendix A, section A.3.1.

C.5.4 Testing for a Monotone Dose-Response Relationship

A standard nonparametric test in toxicology and biopharmaceutical research for does-response relationship is the Jonckheere-Terpstra test. This test is described in the SAS manual among other

places. It is appropriate for testing whether two ordinal variables have a monotone relationship to each other. It does not require that the response (outcome) variable have a normal distribution, as is the case in standard analysis of variance procedures. This is important in this report because the outcomes of interest are generally not normally distributed. In this application, a monotone relationship is a relationship such that as the level of exposure increases, the level of the outcome variable moves in one direction only. There is no requirement that the outcome rise linearly or steadily. It can rise in jerks and pauses, but there can be no reversals. In terms of the cognitive processes, it is assumed that extra exposure to advertising will either have an effect or not have an effect, but that the direction of the effect will never reverse. Although it might be possible to imagine a situation where light exposure is beneficial while heavy exposure actually has the opposite of the desired effect, this does not seem plausible in general.

Prior applications of the Jonckheere-Terpstra (JT) test were made only to simple random samples. In this, the counterfactual weights carry the information about confounders needed to remove their effect from the association. Furthermore, the survey clustering introduces correlations between observations that violate the standard JT assumption of independent observations. The test was therefore modified for this application.

SAS has an option to use a weight in calculating the JT test. This feature was used. If a subject has a weight of *W*, using the weight has the same effect on the calculations as if *W* copies of the subject were included in the database. Since the weights were in the tens of thousands, SAS perceives the sample size as being much larger than it really is and returns inappropriate significance levels. This was corrected by replicating the JT.

Let J_0 be the value of the JT test Z-statistic produced by SAS using the full sample counterfactual weights w'_{i0} and J_r be the value of the JT test produced by SAS using the *r*-th replicated counterfactual weights w'_{ir}. The variance on the JT statistic was calculated as

$$v = \sum_{r=1}^{100} b_r (J_r - J_o)^2 \ .$$

The corrected JT test is then given as

$$J_C = \frac{J_0}{\sqrt{v}} \ .$$

Under the null hypothesis that there is no relationship between exposure and the outcome, the statistic J_C has an approximate t-distribution with 100 degrees of freedom. So the alternate hypothesis of a monotone relationship between exposure and outcome is accepted if J_C >1.98.

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Appendix D

Waves 1, 2, 3 and 4 – NSPY Anti–drug Advertisements Shown to Respondents

Wave 4

Table D-1a. Television Advertisements Shown to Parents

Target Audience	Ad name	Description
General Market	Derrick Brooks	NFL player Derrick Brooks talks about how parents can keep kids drug free by making time and monitoring them.
	Eddie George	NFL player Eddie George talks about how his mother kept him from using drugs.
	My Hero GM	A series of young boys and girls address their parents about the necessary actions they need to take to teach them about the dangers of drugs. Parents need to be the grown-up.
African American	Thanks	A series of teens thank their parents for monitoring, disciplining and being there for them during troublesome times.
	Derrick Brooks	NFL player Derrick Brooks talks about how parents can keep kids drug free by making time and monitoring them.
	Eddie George	NFL player Eddie George talks about how his mother kept him from using drugs.
	My Hero AA	A series of African American young boys and girls address their parents about the necessary actions they need to take to teach them about the dangers of drugs. Parents need to be the grown-up.
	Thanks	A series of teens thank their parents for monitoring, disciplining and being there for them during troublesome times.
Hispanic	Alert (Spanish)	Ad warns parents about the dangers of everyday products that can be used to get high by teens. Parents are encouraged to be curious about what their children are doing, even when there is no reason to suspect drug use.
	Shadow – Brochure (Spanish)	A Hispanic boy is “shadowed” by the presence of drugs in society. His concerned parents turn to the brochure they got about drug abuse for advice about talking to the son.
	Shadow – Monitoring (Spanish)	A Hispanic girl is “shadowed” by the presence of drugs in society. Her concerned father realizes the importance of monitoring his daughter’s activities and friends.

Wave 4 (continued)

Table D-1b. Radio Advertisements Played for Parents

Target Audience	Ad name	Description
General market	My Hero GM	A series of young boys and girls address their parents about the necessary actions they take to teach them about the dangers of drugs. Parents need to be the grown-up.
	Sooner or Later David	Teen is being lectured by parent about the dangers of taking and sharing ecstasy with friends, especially when purchased from a stranger. Talk to youth "sooner" rather than "later."
	Sooner or Later Megan	An angry parent is on the phone with her incoherent daughter after learning that she used ecstasy. Message is for parents to speak with youth "sooner" rather than "later."
	Thanks	A series of teens thank their parents for disciplining and being there for them during troublesome times.
African American	My Hero AA	A series of young African American boys and girls address their parents about the necessary actions they take to teach them about the dangers of drugs. Parents need to be the grown-up.
	Thanks	A series of teens thank their parents for disciplining and being there for them during troublesome times.
Hispanic	Alert –Dad (Spanish)	Hispanic male warns parents about the dangers of everyday products that can be used to get high by teens. Parents are encouraged to be curious about what their children are doing, even when there is no reason to suspect drug use.
	Alert-Mom (Spanish)	Hispanic female warns parents about the dangers of everyday products that can be used to get high by teens. Parents are encouraged to be curious about what their children are doing, even when there is no reason to suspect drug use.
	Shadow – Monitoring (Spanish)	A Hispanic girl is "shadowed" by the presence of drugs in society. Her concerned father realizes the importance of monitoring his daughter's activities and friends.

Wave 4 (continued)

Table D-1c. Television Advertisements Shown to Youth

Target Audience	Ad name	Description
General Market	Being Myself	Animation of young girl in various activities: cheerleading, playing basketball, studying. When offered drugs, she blows them off. Her future is her anti-drug.
	Brain	Graphical depiction of a person's head when using inhalants. Be nice to your brain – don't use inhalants.
	Brothers	Younger brother is shown shadowing his older brother, wanting to emulate him. Older brother is offered a joint, younger brother watches to see what he'll do.
	Derrick Brooks	NFL player Derrick Brooks talks about having self-respect and not using drugs.
	Drawing	Sketch work shows a young artist transforming drug users into foolish characters and nonusers into popular winners. Drawing is the youth's anti-drug.
	Music/Mix Tapes	Animation of youth walking around city streets, listening to music. Youth encounters negative drug influences but continues listening to the music. Youth states that music is his anti-drug.
	Tiki Barber	NFL player Tiki Barber talks about how drugs can keep you from achieving your goals. Football is his anti-drug.
African American	Vision Warrior	Young man talks about how smoking marijuana led him to use harder drugs.
	Derrick Brooks	NFL player Derrick Brooks talks about having self-respect and not using drugs.
	Music/Mix Tapes	Animation of youth walking around city streets, listening to music. Youth encounters negative drug influences but continues listening to the music. Youth states that music is his anti-drug.
	Tiki Barber	Tiki Barber of the NY Giants talks about how drugs can keep you from achieving your goals. Football is his anti-drug.
Hispanic	Drowning (Spanish)	Young girl is shown as drowning in her own room, unable to escape. This is the way your brain feels when you use inhalants.
	La Musica (Spanish)	Animation of youth walking around city streets, listening to music. Youth encounters negative drug influences but continues listening to the music. Youth states that music is his anti-drug.

Wave 4 (continued)

Table D-1d. Radio Advertisements Played for Youth

Target Audience	Ad name	Description
General Market	Basketball	Young male explains why basketball is his anti-drug.
	(Two) Brothers	Younger brother brags about his older brother's accomplishments. When the older brother is offered drugs, he realizes he sets the example for his younger brother.
	Cross Country	Young male explains why cross-country running is his anti-drug.
	Excuses	Excuses you can give for not smoking marijuana are provided.
	Limericks	Young male recites limerick about dangers of drug use – writing limericks is his anti-drug.
	Margot	Female youth has a younger friend with a disability and wants to be her role model. Teaching her about life is more important than taking drugs. Her younger friend is her anti-drug.
	The Rant	Ad talks about the lies associated with ecstasy when viewed by nonusers.
African American	Basketball	Young male explains why basketball is his anti-drug.
Hispanic	Jose (Spanish)	Jose is a teen whose anti-drug is music. He sings part of a song called "La Rosa" in the ad.
	She Did It (Spanish)	Girls talk to popular girl who says no to marijuana and is still popular.

Wave 3

Table D-1a. Television Advertisements Shown to Parents

Target Audience	Ad name	Description
General Market	Clinic	A father and son are shown walking through a clinic – like setting, but finally arrive at a basketball clinic. The ad offers a telephone number to get a book on parent – child activities.
	My Hero	A series of young boys and girls address their parents about the necessary actions they need to take to teach them about the dangers of drugs. Parents need to be the grown-up.
	Needle/Spray Can	Ad relays message to parents about unsuspecting drugs under the sink in the home. Aerosol can is depicted as a syringe. Inhalants are dangerous and deadly. "Communication" is the anti-drug.
	Smoke	Ad opens with two smoke streams and a verbal message about parental interaction with kids. During message, the camera follows the smoke streams to two roasting marshmallows over a campfire. Parents are the anti-drug.
	Thanks	A series of teens thank their parents for disciplining and being there for them during troublesome times.
African American	Clinic	A father and son are shown walking through a clinic – like setting, but finally arrive at a basketball clinic. The ad offers a telephone number to get a book on parent – child activities.
	Deal	Father is imitating a drug dealer to his son on a playground to see how he reacts. The boy refuses the offer in a stern fashion to his father's delight.
	My Hero	A series of African American young boys and girls address their parents about the necessary actions they need to take to teach them about the dangers of drugs. Parents need to be the grown-up.
Hispanic	Mirrors – (Spanish)	A boy wanders through a house of mirrors while his parents search for him. "Your child can be under the illusion that smoking marijuana is harmless." It isn't.
	Needle/Spray Can (Spanish)	Ad relays message to parents about unsuspecting drugs under the sink in the home. Aerosol can is depicted as a syringe. Inhalants are dangerous and deadly. "Communication" is the anti-drug.
	Shadow – Brochure (Spanish)	A Hispanic boy is "shadowed" by the presence of drugs in society. His concerned parents turn to the brochure they got about drug abuse for advice about talking to the son.

Wave 3 (continued)

Table D-1b. Radio Advertisements Played for Parents

Target Audience	Ad name	Description
General market	Basketball	Activities are listed that kids would rather do than drugs. The number one deterrent to drugs is parents and the time spent with their kids.
	Desperate	Ad opens with what sounds like a parent lecturing the son about the dangers of drugs. However, the parent is actually playing a video game with the youth and spending time with him. Phone number and web site is given for information about keeping youths off drugs.
	Happy Birthday Steven	A mother describes what she does (feeding, bathing) to take care of her teenaged son who used inhalants and suffered brain damage.
	Kathy Abel	A woman describes how her son died from sniffing fumes with his friends. Youths and adults need to be informed about the lethal dangers with the seemingly "harmless" fun of inhalant use.
	Keep Trying	A boy describes all the times he was told by his parent to keep trying. He encourages parents to "keep trying" to talk to kids about marijuana.
	My Hero	A series of young boys and girls address their parents about the necessary actions they take to teach them about the dangers of drugs. Parents need to be the grown-up.
	Needle/Spray Can	Message informs parents about the dangers of inhalants in the home. Phone number and web site is given for more information. Communication is the anti-drug.
	Sooner or Later David	Teen is being lectured by parent about the dangers of taking and sharing ecstasy with friends, especially when purchased from a stranger. Talk to youth "sooner" rather than "later."
	Sooner or Later Megan	An angry parent is on the phone with her incoherent daughter after learning that she used ecstasy. Message is for parents to speak with youth "sooner" rather than "later."
	Symptoms	Ad talks about the negative ripple effects that occur in the family when a member is using marijuana. Examples include depression, withdrawal, and hostility.
	Tree Fort	Activities are suggested to do with your kids: rollerblade, play chess, go to movie. Be aware of at-risk hours—between 4 pm and 6 pm is when kids are most likely to try drugs.
African American	Keep Trying	A boy describes all the times he was told by his parent to keep trying. He encourages parents to "keep trying" to talk to kids about marijuana.
	My Hero	A series of young African American boys and girls address their parents about the necessary actions they take to teach them about the dangers of drugs. Parents need to be the grown-up.

Wave 3 (continued)

Table D-1b. Radio Advertisements Played for Parents

Target Audience	Ad name	Description
Hispanic	Happy Birthday Raoul (Spanish)	A mother describes what she does (feeding, bathing) to take care of her teenaged son who used inhalants and suffered brain damage.
	Needle/Spray Can (Spanish)	Message informs parents about the dangers of inhalants in the home. Phone number and web site is given for more information. Communication is the anti-drug.
	Pepperoni (Spanish)	The best way to keep youth younger than 15 from using drugs is by supervising them and being an effective parent.
	Shadow – Brochure (Spanish)	A Hispanic boy is "shadowed" by the presence of drugs in society. His concerned parents turn to the brochure they got about drug abuse for advice about talking to their son.

Wave 3 (continued)

Table D-1c. Television Advertisements Shown to Youth

Target Audience	Ad name	Description
General Market	Dance	Animation of a girl dancing to music on her radio. While dancing, she is offered drugs by two boys. She refuses the offer and states that dancing is her anti-drug.
	DJ	A boy talks about his feelings when he performs as a disk jockey. Asks "what's your anti-drug?"
	Drawing	Sketch work shows an young artist transforming drug users into foolish characters and nonusers into popular winners. Drawing is the youth's anti-drug.
	Football	A football player talks about catching a pass. Asks "what's your anti-drug?"
	Friends	A boy talks about doing everything with his friends and sticking together with them. Asks "what's your anti-drug?"
	Icon	Ad shows a collage of images of various activities. Asks "what's your anti-drug?"
	It's OK to Pass	Group of suburban youths sit in a garage talking and passing a drug to each other. The last youth rejects the drug and passes it on. Her rejection is acceptable to her peers indicating that it's 'ok' to pass.
	Music/Mix Tapes	Animation of youth walking around city streets, listening to music. Youth encounters negative drug influences but continues listening to the music. Youth states that music is his anti-drug.
	Swimming	A girl talks about how much she enjoys swimming. Asks "what's your anti-drug?"
African American	DJ	A boy talks about his feelings when he performs as a disk jockey. Asks "what's your anti-drug?"
	Football	A football player talks about catching a pass. Asks "what's your anti-drug?"
	Friends	A boy talks about doing everything with his friends and sticking together with them. Asks "what's your anti-drug?"
	Music/Mix Tapes	Animation of youth walking around city streets, listening to music. Youth encounters negative drug influences but continues listening to the music. Youth states that music is his anti-drug.
	Swimming	A girl talks about how much she enjoys swimming. Asks "what's your anti-drug?"
	What I Need	A youth is confronted by an older teen selling drugs about "what he needs." The youth rattles off a series of positives that he needs in his life. The last positive need is for the dealer to leave him alone.
Hispanic	Music/Mix Tapes (Spanish)	Animation of youth walking around city streets, listening to music. Youth encounters negative drug influences but continues listening to the music. Youth states that music is his anti-drug.
	Second Trip (Spanish)	Youth are shown skate boarding, climbing, kick boxing, performing in a band. The best kinds of highs come from doing things well, not using drugs.
	You Know How to Say It (Spanish)	A youth is offered vegetables, asked to copy homework, asked to ditch basketball, asked to smoke marijuana. "You know how to say no."

Wave 3 (continued)

Table D-1d. Radio Advertisements Played for Youth

Target Audience	Ad name	Description
General Market	Alberto	Young male talks about why drugs don't go with making music. Music is the anti-drug for this youth.
	Excuses	Excuses you can give for not smoking marijuana are provided.
	Margot	Female youth has a younger friend with a disability and wants to be her role model. Teaching her about life is more important than taking drugs. Her younger friend is her anti-drug.
	Orientation	An orientation to middle school life is presented: pizza, science class, recess, kids who smoke marijuana. Say no to drugs and you won't be treated like a little kid.
	The Rant	Ad talks about the lies associated with ecstasy when viewed by nonusers.
	What to Say Boy	A friend wants you to smoke "that wacky weed." What do you say? "I get high above the rim."
	What to Say Girl	The guy is great, but he wants you to get high. What do you say? "I'd rather go to math camp."
	What's Yours	Girl (boy for Black youth) asks "What's your thing? What do you do instead of drugs?" That's your anti-drug. Talks about posting your anti-drug to "whatsyourantidrug.com" or calling 877-979-6300.
African American	Alberto	Young male talks about why drugs don't go with making music. Music is the anti-drug for this youth.
	What to Say Boy	A friend wants you to smoke "that wacky weed." What do you say? "I get high above the rim."
	What to Say Girl	The guy is great, but he wants you to get high. What do you say? "I'd rather go to math camp."
	What's Yours	Girl (boy for Black youth) asks "What's your thing? What do you do instead of drugs?" That's your anti-drug. Talks about posting your anti-drug to "whatsyourantidrug.com" or calling 877-979-6300.
Hispanic	Jose (Spanish)	Jose is a teen whose anti-drug is music. He sings part of a song called "La Rosa" in the ad.
	She Did It (Spanish)	Girls talk to popular girl who says no to marijuana and is still popular.
	The First Time (Spanish)	Kids talk about saying no to marijuana for the first time.

Wave 2

Table D-2a. Television Advertisements Shown to Parents

Target Audience	Ad name	Description
General Market	Clinic	A father and son are shown walking through a clinic – like setting, but finally arrive at a basketball clinic. The ad offers a telephone number to get a book on parent – child activities.
	Differences – Drugs	Drugs to 6th grader is medicine; drugs to 7th grader is bag of marijuana. "What a difference a year makes."
	Differences – Roach	A roach to a 6th grader is an insect; a roach to 7th grader is part of a marijuana joint. "What a difference a year makes."
	Differences – Pipe	A pipe to a 6th grader is plumbing; a pipe to a 7th grader is a marijuana pipe. "What a difference a year makes."
	Differences – Weed	A weed to 6th grader is a dandelion; weed to 7th grader is marijuana. "What a difference a year makes."
	Instructions – Involved	A girl is shown walking with books, a boy is fixing his bike, a girl is playing with a soccer ball. All have parenting "instructions" visible on their bodies. Wouldn't it be great if kids came with instructions? The instructions advise the parent to stay involved with the child.
	Instructions – Reward	Kids are shown playing with their father, eating ice cream, walking. All have parenting "instructions" visible on their bodies. Wouldn't it be great if kids came with instructions? The instructions advise to reward child, provide positive reinforcement.
	Instructions – Reward	Kids are shown walking, playing with a dog, running through the hose. All have parenting "instructions" visible on their bodies. Wouldn't it be great if kids came with instructions? The instructions advise to reward child and provide positive reinforcement.
African American	Clinic	A father and son are shown walking through a clinic – like setting, but finally arrive at a basketball clinic. The ad offers a telephone number to get a book on parent – child activities.
	Instructions – Involved	A boy is shown on a dock, a girl plays with a soccer ball, a boy looks in a mirror. All have parenting "instructions" visible on their bodies. Wouldn't it be great if kids came with instructions? The instructions advise the parent to stay involved with the child.
	Instructions – Reward	Kids are shown playing with their father, eating ice cream, walking. All have parenting "instructions" visible on their bodies. Wouldn't it be great if kids came with instructions? The instructions advise to reward child, provide positive reinforcement.
	Symptoms	A mother is shown looking depressed, the father is yelling, a young child is curled up in the corner, looking scared. These are the family "symptoms" of teen drug use.

Wave 2 (continued)

Table D-2a. Television Advertisements Shown to Parents (continued)

Target Audience	Ad name	Description
Hispanic	Heroes: Dancing (Spanish)	A mother takes her daughter to dance lessons, then watches her daughter's dance recital when the daughter is older. The mother remains the child's hero throughout her life. "Get close to her. . Support her. . .this will help her stay away from drugs."
	Heroes: Swimming (Spanish)	A father carries his son as a child, then watches his son's swim meet when he's older. The father remains the child's hero throughout his life. "Get involved in his activities. . . This will help him stay away from drugs."
	Mirrors – (Spanish)	A boy wanders through a house of mirrors while his parents search for him. "Your child can be under the illusion that smoking marijuana is harmless." It isn't.

Wave 2 (continued)

Table D-2b. Radio Advertisements Played for Parents

Target Audience	Ad name	Description
General Market	Desperate	Ad opens with what sounds like a parent lecturing the son about the dangers of drugs. However, the parent is actually playing a video game with the youth and spending time with him. Phone number and web site is given for information about keeping youths off drugs.
	Differences – Bag	A bag to a 6th grader is a lunch bag; a bag to a 7th grader is a bag of marijuana. "What a difference a year makes."
	Differences – Clip	A clip to a 6th grader is a paper clip; a clip to a 7th grader is a roach clip. "What a difference a year makes."
	Keep Trying	A boy describes all the times he was told by his parent to keep trying. He encourages parents to "keep trying" to talk to kids about marijuana.
African American	Keep Trying	A boy describes all the times he was told by his parent to keep trying. He encourages parents to "keep trying" to talk to kids about marijuana.
	Symptoms	Ad talks about the negative ripple effects that occur in the family when a member is using marijuana. Examples include depression, withdrawal, and hostility.
Hispanic	Pepperoni (Spanish)	The best way to keep youth younger than 15 from using drugs is by supervising them and being an effective parent.

Wave 2 (continued)

Table D-2c. Television Advertisements Shown to Youth

Target Audience	Ad name	Description
General Market	Brothers	A little brother imitates his big brother. The big brother is offered marijuana, but refuses it because he knows he's a role model.
	Dance	Animation of a girl dancing to music on her radio. While dancing, she is offered drugs by two boys. She refuses the offer and states that dancing is her anti-drug.
	DJ	A boy talks about his feelings when he performs as a disk jockey. Asks "what's your anti-drug?"
	Drugs Kill Dreams	Tennis champions Venus and Serena Williams advise against drug use. "Drugs kill dreams."
	Hockey	A boy plays hockey without protective gear. Smoking marijuana is like playing hockey without the right equipment. You can't get in the game.
	Family	A girl talks about her attachment to her mother. Asks "what's your anti-drug?"
	Football	A football player talks about catching a pass. Asks "what's your anti-drug?"
	Friends	A boy talks about doing everything with his friends and sticking together with them. Asks "what's your anti-drug?"
	How to Say No	Alternative ways (angry, rap, dramatic) to say no to drugs are shown.
	Icon	Ad shows a collage of images of various activities. Asks "what's your anti-drug?"
	Love	A girl talks about the love she feels for her cat. Asks "what's your anti-drug?"
	Mary J. Blige	Singer Mary J. Blige talks about loving and accepting yourself and staying drug free.
	Mother/Daughter	A mother talks about how proud she is of her daughter. The daughter meets her friend in the park to smoke marijuana. "Smoking marijuana won't kill you, but it will kill your mother."
	No Thanks	A boy at a party is offered marijuana. Different ways to say no to drugs are shown.
	Swimming	A girl talks about how much she enjoys swimming. Asks "what's your anti-drug?"
	Tara Lipinski	Important female sports figures in past paved the way for women today to play sports. Figure skating champion Tara Lipinski is featured and counsels against drug use.
	U.S. Women's Soccer Team	The members of the 1999 World Champion U.S. Women's Soccer Team talk about what a great time it is to be a girl. "Don't blow it by getting involved with drugs."
	Vision Warrior	Young man talks about how smoking marijuana led him to use harder drugs.

Wave 2 (continued)

Table D-2c. Television Advertisements Shown to Youth (continued)

Target Audience	Ad name	Description
African American	DJ	A boy talks about his feelings when he performs as a disk jockey. Asks "what's your anti-drug?"
	Drugs Kill Dreams	Tennis champions Venus and Serena Williams advise against drug use. "Drugs kill dreams."
	Family	A girl talks about her attachment to her mother. Asks "what's your anti-drug?"
	Football	A football player talks about catching a pass. Asks "what's your anti-drug?"
	Friends	A boy talks about doing everything with his friends and sticking together with them. Asks "what's your anti-drug?"
	How to Say No	Alternative ways (angry, rap, dramatic) to say no to drugs are shown.
	Love	A girl talks about the love she feels for her cat. Asks "what's your anti-drug?"
	Mary J. Blige	Singer Mary J. Blige talks about loving and accepting yourself and staying drug free.
Hispanic	Most Teens	Girls are shown jumping rope, boxing, playing basketball, and not using drugs. "I'm too smart to be doing stupid stuff like that."
	Mother/Daughter	A mother talks about how proud she is of her daughter. The daughter meets her friend in the park to smoke marijuana. "Smoking marijuana won't kill you, but it will kill your mother."
	No Skills	Kids are shown making mistakes and unable to play sports well after using drugs.
	No Thanks	A boy at a party is offered marijuana. Different ways to say no to drugs are shown.
	Swimming	A girl talks about how much she enjoys swimming. Asks "what's your anti-drug?"
	Vision Warrior	Young man talks about how smoking marijuana led him to use harder drugs.
	Second Trip (Spanish)	Youth are shown skate boarding, climbing, kick boxing, performing in a band. The best kinds of highs come from doing things well, not using drugs.
	You Know How to Say It (Spanish)	A youth is offered vegetables, asked to copy homework, asked to ditch basketball, asked to smoke marijuana. "You know how to say no."

Wave 2 (continued)

Table D-2d. Radio Advertisements Played for Youth

Target Audience	Ad name	Description
General Market	Alberto	Young male talks about why drugs don't go with making music. Music is the anti-drug for this youth.
	Excuses	Excuses you can give for not smoking marijuana are provided.
	Make You Think	Marijuana makes you think you're interesting and attractive, when you're really not.
	Margot	Female youth has a younger friend with a disability and wants to be her role model. Teaching her about life is more important than taking drugs. Her younger friend is her anti-drug.
	Orientation	An orientation to middle school life is presented: pizza, science class, recess, kids who smoke marijuana. Say no to drugs and you won't be treated like a little kid.
	What to Say Boy	A friend wants you to smoke "that wacky weed." What do you say? "I get high above the rim."
	What to Say Girl	The guy is great, but he wants you to get high. What do you say? "I'd rather go to math camp."
	What's Yours	Girl (boy for Black youth) asks "What's your thing? What do you do instead of drugs?" That's your anti-drug. Talks about posting your anti-drug to "whatsyourantidrug.com" or calling 877-979-6300.
African American	Alberto	Young male talks about why drugs don't go with making music. Music is the anti-drug for this youth.
	If Pot Were a Person	Reasons are given why, if pot were a person, you wouldn't like him. He'd make you quit sports, get you in trouble with your parents.
	Mary J. Blige	Singer Mary J. Blige talks about loving and accepting yourself and staying drug free.
	Money	Items are listed that you can buy with your money if you don't buy marijuana.
	What to Say Boy	A friend wants you to smoke "that wacky weed." What do you say? "I get high above the rim."
	What to Say Girl	The guy is great, but he wants you to get high. What do you say? "I'd rather go to math camp."
	What's Yours	Girl (boy for Black youth) asks "What's your thing? What do you do instead of drugs?" That's your anti-drug. Talks about posting your anti-drug to "whatsyourantidrug.com" or calling 877-979-6300.

Wave 2 (continued)

Table D-2d. Radio Advertisements Played for Youth (continued)

Target Audience	Ad name	Description
Hispanic	Boy Meets Girl (Spanish)	A boy who uses drugs meets girl he's interested in. He thinks he's making a good impression, but she thinks he's a loser.
	She Did It (Spanish)	Girls talk to popular girl who says no to marijuana and is still popular.
	The First Time (Spanish)	Kids talk about saying no to marijuana for the first time.
	Typical Story (Spanish)	A boy's friends tell him to try smoking marijuana. He says he doesn't want to smoke. They insist. He says, "I don't need that."
	Weekend (Spanish)	A young man laughs and rambles incoherently when friends ask him about his "incredible" weekend. He thinks his story is great. But they can't understand anything he says.

Wave 1

Table D-3a. Television Advertisements Shown to Parents

Target Audience	Ad name	Description
General Market	Differences – Drugs	Drugs to 6th grader is medicine; drugs to 7th grader is bag of marijuana. "What a difference a year makes."
	Differences – Pipe	A pipe to a 6th grader is plumbing; a pipe to a 7th grader is a marijuana pipe. "What a difference a year makes."
	Differences – Pot	Pot to a 6th grader is a flower pot; pot to a 7th grader is marijuana. "What a difference a year makes."
	Differences – Roach	A roach to a 6th grader is an insect; a roach to 7th grader is part of a marijuana joint. "What a difference a year makes."
	Differences – Weed	A weed to 6th grader is a dandelion; weed to 7th grader is marijuana. "What a difference a year makes."
	Drugs Kill Dreams	Tennis champions Venus and Serena Williams advise against drug use. "Drugs kill dreams."
	Email	A father types an email on his computer while his child plays video game in the background. Spending time with your kids is most effective deterrent to drug use. "Could you send one less email?"
	Funeral	Mortuary employees talk about the realities of planning funerals for young people. The ad captions discuss the risk of death from using inhalants.
	Office	A typical office is shown at 5:00 PM. Be aware of at-risk times—5:00 PM is the time kids are most likely to be offered drugs. Be sure to check in with them.
	Phone	A mother talks on the kitchen phone while child sits in background looking bored. Spending time with your kids is the most effective drug deterrent. "Could you make one less call?"
	Symptoms	A mother is shown looking depressed, the father is yelling, a young child is curled up in the corner, looking scared. These are the family "symptoms" of teen drug use.
	TV	A father watches TV show while his daughter skims a magazine on the couch. Kids who are younger than 15 and using marijuana are more likely to use other drugs. Spending time with your kids is the most effective deterrent to drug use. "Why do we watch so much television?"
	Under Your Nose	Camera pans through house showing everyday items that kids sniff to get high. Parents are unaware of the dangers of sniffing everyday household products.
African American	Drugs Kill Dreams	Tennis champions Venus and Serena Williams advise against drug use. "Drugs kill dreams."
	Office	A typical office is shown at 5:00 PM. Be aware of at-risk times—5:00 PM is the time kids are most likely to be offered drugs. Be sure to check in with them.
	Symptoms	A mother is shown looking depressed, the father is yelling, a young child is curled up in the corner, looking scared. These are the family "symptoms" of teen drug use.

Wave 1 (continued)

Table D-3a. Television Advertisements Shown to Parents (continued)

Target Audience	Ad name	Description
Hispanic	Game Show (Spanish)	A parent-child game show is shown. The mother knows where Mozart was born. But her child knows about marijuana. Parents would be surprised about what their kids know about marijuana.
	Heroes: Dancing (Spanish)	A mother takes her daughter to dance lessons, then watches her daughter's dance recital when the daughter is older. The mother remains the child's hero throughout her life. "Get close to her. . Support her. . .this will help her stay away from drugs."
	Heroes: Swimming (Spanish)	A father carries his son as a child, then watches his son's swim meet when he's older. The father remains the child's hero throughout his life. "Get involved in his activities. . . This will help him stay away from drugs."
	Phone (Spanish)	A mother talks on the kitchen phone while child sits in background looking bored. Spending time with your kids is the most effective drug deterrent. "Could you make one less call?"
	Under Your Nose (Spanish)	Camera pans through house showing everyday items that kids sniff to get high. Parents are unaware of the dangers of sniffing everyday household products.

Wave 1 (continued)

Table D-3b. Radio Advertisements Played for Parents

Target Audience	Ad name	Description
General Market	Basketball	Activities are listed that kids would rather do than drugs. The number one deterrent to drugs is parents and the time spent with their kids.
	Cooking Dinner	Boredom is one reason kids get involved with drugs. Stay involved with your kids.
	Differences – Bag	To a 6th grader, a bag is something that holds your lunch; to a 7th grader, it's something that holds your marijuana. "What a difference a year makes."
	Differences – Grass	To a 6th grader, grass is something you cut; to a 7th grader, it's something you smoke. "What a difference a year makes."
	Happy Birthday Steven	A mother describes what she does (feeding, bathing) to take care of her teenaged son who used inhalants and suffered brain damage.
	Keep Trying	A boy describes all the times he was told by his parent to keep trying. He encourages parents to "keep trying" to talk to kids about marijuana.
	Tree Fort	Activities are suggested to do with your kids: rollerblade, play chess, go to movie. Be aware of at-risk hours—between 4 pm and 6 pm is when kids are most likely to try drugs.
African American	Keep Trying	A boy describes all the times he was told by his parent to keep trying. He encourages parents to "keep trying" to talk to kids about marijuana.
Hispanic	Game Show (Spanish)	A parent-child game show is shown. The mother knows where Mozart was born. But her child knows about marijuana. Parents would be surprised about what their kids know about marijuana.
	Happy Birthday Raoul (Spanish)	A mother describes what she does (feeding, bathing) to take care of her teenaged son who used inhalants and suffered brain damage.
	Pepperoni (Spanish)	The best way to keep youth younger than 15 from using drugs is by supervising them and being an effective parent.

Wave 1 (continued)

Table D-3c. Television Advertisements Shown to Youth

Target Audience	Ad name	Description
General Market	Andy McDonald	Skate boarding champion Andy McDonald talks about getting high from skate boarding, not drugs.
	Brothers	A little brother imitates his big brother. The big brother is offered marijuana, but refuses it because he knows he's a role model.
	Dixie Chicks	The band, the Dixie Chicks, talk about the temptations to use drugs and advise against drug use.
	How to Say No	Alternative ways (angry, rap, dramatic) to say no to drugs are shown.
	Michael Johnson	Michael Johnson, the world's fastest 200m and 400m runner, is featured. "None of this would be possible if I had used drugs."
	No Thanks	A boy at a party is offered marijuana. Different ways to say no to drugs are shown.
	Scatman	Scatman performs in a music video style to convey that "Drugs ain't about nothing."
African American	Drugs Kill Dreams	Tennis champions Venus and Serena Williams advise against drug use. "Drugs kill dreams."
	How to Say No	Alternative ways (angry, rap, dramatic) to say no to drugs are shown.
	Most Teens	Girls are shown jumping rope, boxing, playing basketball, and not using drugs. "I'm too smart to be doing stupid stuff like that."
	Venus and Serena Williams	Tennis champions Venus and Serena Williams advise against drug use. "Drugs kill dreams."
Hispanic	Fast Food (Spanish)	A young boy under the influence of drugs can't answer when asked what he wants at a fast food restaurant. He is ridiculed by others in line and embarrasses himself.
	Natural High (Spanish)	Youth are shown skate boarding, climbing, kick boxing, performing in a band. The best kinds of highs come from doing things well, not using drugs.
	Second Trip (Spanish)	Youth are shown skate boarding, climbing, kick boxing, performing in a band. The best kinds of highs come from doing things well, not using drugs.
	You Know How to Say It (Spanish)	A youth is offered vegetables, asked to copy homework, asked to ditch basketball, asked to smoke marijuana. "You know how to say no."
	Test (Spanish)	A young girl under the influence of drugs doodles on a test and can't answer any of the questions. She disappoints the teacher and herself.

Wave 1 (continued)

Table D-3d. Radio Advertisements Played for Youth

Target Audience	Ad name	Description
General Market	Brother Jeff	The things that older brother Jeff can do are featured. Jeff doesn't get high because he knows his little brother looks up to him.
	Excuses	Excuses you can give for not smoking marijuana are provided.
	Make You Think	Marijuana makes you think you're interesting and attractive, when you're really not.
	Orientation	An orientation to middle school life is presented: pizza, science class, recess, kids who smoke marijuana. Say no to drugs and you won't be treated like a little kid.
	Scatman	Scatman performs in a music video style to convey that "Drugs ain't about nothing."
	Stressed	Girls talk about who is stressed out and who has it the worst. But the girl using drugs is really the one who's doing worst.
	What to Say Boy	A friend wants you to smoke "that wacky weed." What do you say? "I get high above the rim."
	What to Say Girl	The guy is great, but he wants you to get high. What do you say? "I'd rather go to math camp."
African American	If Pot Were a Person	Reasons are given why, if pot were a person, you wouldn't like him. He'd make you quit sports, get you in trouble with your parents.
	Kathy and Jackie	Kathy talks about her best friend Jackie and how, if they got high, they wouldn't have fun together
	Money	Items are listed that you can buy with your money if you don't buy marijuana.
	Steven	An urban youth talks about seeing a drug bust on Thanksgiving, being happy, staying true to himself and drug free.
	What I Don't Do	A rap song is played that conveys the message that I don't do drugs and it will be all right.
	What to Say Boy	A friend wants you to smoke "that wacky weed." What do you say? "I get high above the rim."
	What to Say Girl	The guy is great, but he wants you to get high. What do you say? "I'd rather go to math camp."

Wave 1 (continued)

Table D-3d. Radio Advertisements Played for Youth (continued)

Target Audience	Ad name	Description
Hispanic	Boy Meets Girl (Spanish)	A boy who uses drugs meets girl he's interested in. He thinks he's making a good impression, but she thinks he's a loser.
	Laugh (Spanish)	Boy who is high can't stop laughing long enough to finish the story he's trying to tell.
	She Did It (Spanish)	Girls talk to popular girl who says no to marijuana and is still popular.
	The First Time (Spanish)	Kids talk about saying no to marijuana for the first time.
	Typical Story (Spanish)	A boy's friends tell him to try smoking marijuana. He says he doesn't want to smoke. They insist. He says, "I don't need that."
	Weekend (Spanish)	A young man laughs and rambles incoherently when friends ask him about his "incredible" weekend. He thinks his story is great. But they can't understand anything he says.

Appendix E
Construction of Exposure and Outcome Indices

There are two types of indices used in this report, exposure indices and outcome indices. The algorithm for calculating the exposure indices is nearly the same as that described in the second semi-annual report. Sections E.1 and E.2 basically repeat the documentation of these indices. The general exposure index is documented in Section E.1 and the specific in E.2.[1] Section E.3 covers the process for imputation of ad-level recall. This section is more detailed than in the last report. (The procedure itself is little changed.)

The outcome indices are new. They are explained in Section E.4.

E.1 General Exposure Index

One index is a "general exposure" index (GEI) based on questions D10-D12 of the youth and child questionnaires and on questions F1-F4 of the parent questionnaire. The GEI captures exposure through a very wide variety of channels as can be seen by examining the parent questions in Figure E-1 on page E-2. Note that in each question, the reference period is "in recent months." The questions for youth are completely parallel.

The responses to these questions are combined in a way that is meant to reflect the total number of ad viewings experienced by the respondent. Each possible response was translated into a certain number of viewings over a 1-month period, as shown in Table E-1, assuming that the average person would mostly refer to the last month in trying to interpret "recent months." The four responses were then added together to create a variable running from 0 to a maximum of 180. This continuous scale was split at the values of 4 and 12, as shown in Table E-2. The categories in Table E-2 were chosen to be easy to communicate and also to induce a reasonable distribution of the sample. This was important because too small of a sample in the low exposure group would lead to unacceptably unstable estimates of direct effects.

Table E-1. Coding of general exposure questions

Response Category	New Value
Not at all	0
Less than 1 time a month	0.5
1 to 3 times a month	2
1 to 3 times a week	8
Daily or almost daily	30
More than 1 time a day	45

[1] Section F.3 of the second semi-annual report consists of a rationale for the construction of two indices rather than a single index. That material is not repeated here.

Table E-2. Cutpoints for GEI

Lower bound in GEI	Upper bound in GEI	New value for categorical version	Recode Label
0	3.999	1	Low: Less than 4 times per month
4	11.999	2	Medium: 4 to less than 12 times per month
12	∞	3	High: 12 or more times per month

Figure E-1. Parent Questions on General Exposure

The next questions ask about anti-drug commercials or "ads" that are intended to discourage ***illicit drug*** use.

F1. In recent months, about how often have you seen such anti-drug ads on TV, or heard them on the radio?

Not at all 1
Less than one time a month 2
1 to 3 times a month..... 3
1 to 3 times a week..... 4
Daily or almost daily 5
More than 1 time a day 6

F2. In recent months, about how often have you seen such anti-drug ads in newspapers or magazines?

Not at all 1
Less than one time a month 2
1 to 3 times a month..... 3
1 to 3 times a week..... 4
Daily or almost daily 5
More than 1 time a day 6

F4. In recent months, about how often have you seen any anti-drug billboards or other public anti-drug ads such as on buses, in malls, or at sports events?

Not at all 1
Less than one time a month 2
1 to 3 times a month..... 3
1 to 3 times a week..... 4
Daily or almost daily 5
More than 1 time a day 6

F3. In recent months, about how often have you seen such anti-drug ads in the movie theaters or on rental videos?

Haven't gone to movies or rented videos in recent months 0
Not at all 1
Less than 1 time a month..... 2
1 to 3 times a month..... 3
1 to 3 times a week..... 4
Daily or almost daily 5
More than 1 time a day 6

E.2 Recall Aided-Exposure Index

The second index is a "recall-aided exposure" index (RAEI) based on the specific TV and radio ads available for sampling. For parents, exposures to TV and radio ads are combined. For youth, only TV exposure is used.* As discussed in Chapters 2 and 3, a selection of ads projected to be on the air in the two calendar months preceding the month of interview were played for respondents. Ads that were eligible for selection but not actually selected for a particular respondent received imputed responses. The imputation procedures are documented in Section E.4.

After imputation, answers were available to the questions shown in Figure E-2 for every ad that had been on the air in the 60 days preceding the day of interview and that were targeted to the respondent. (This means that for parents, only parent ads were sampled/imputed; for youth, only youth ads were sampled/imputed; for English speakers, only English ads were sampled/imputed; and for Spanish speakers, only Spanish ads were sampled/imputed unless they were bilingual, in which case, ads in both languages were sampled and imputed.)

After imputation, the responses were recoded as shown in Table E-3. These recoded values were then summed across ads to get a total number of viewings. For parents, responses to these questions on both TV and radio ads were summed together. For youth, only responses to the TV ads were summed. After summation, the resulting scales were broken into the categories shown in Table E-4. Four levels were chosen for this index instead of the three chosen for the general index because there was a large sample in the bottom group; the direct effects are more compelling when the low exposure group has extremely low exposure.

E.3 Ad Imputation Procedures

As explained in Section E.2, only a sample of the on-air ads were actually selected for each respondent. In order to characterize each respondent's total exposure to all ads on the air for the RAEI, it was necessary to impute viewing levels of the nonsample ads. Because different ad sampling rules were used for minorities, and because of the variations in the GRPs of the ads, developing a satisfactory analysis procedure was difficult. Simply summing the recall of the sampled ads would have made minorities appear to have been more heavily exposed because they were shown more ads. Simply averaging the recall of the sampled ads would have made people who were shown ads with low GRP appear to be less heavily exposed than those who were shown ads with high GRP. A weighting approach did not appear feasible because we needed to have a single number for each person to conduct this dose-response analysis. Therefore, imputation appeared to be the simplest and, indeed, the only sensible approach. The imputation does tend to reduce the variation in exposure across people—a fact that is not important for the dose-response relationship. The main concern was to get the best possible ordering of people by exposure. Because we controlled on the general recall of TV and radio ads, we believe the imputation produced a better ordering than simple averages would have done. Several different imputation procedures were used depending on the total number of times that an ad was sampled during a wave. The three procedures were single-cell hotdeck imputation,

* See Section 3.1.4 for a discussion of the rationale for this decision at Wave 1. Once the decision had been made at Wave 1, the algorithm for the index was held steady to allow comparisons with Wave 1.

Figure E-2. Specific ad questions

F12a. Now we will show some ads that might or might not have been playing on television around here. Have you ever seen or heard this ad? (PLAY TV AD.)

Yes	1	
No	2	(F13a)
REFUSED		(F13a)
DON'T KNOW		(F13a)

F12b. In recent months, how many times have you seen or heard this ad?

Not at all	1	(F13a)
Once	2	
2 to 4 times	3	
5 to 10 times	4	
More than 10 times	5	

Table E-3. Recoding of Responses to Exposure to Specific Ads

Question: Here is another TV ad. Have you ever seen or heard this ad?	[If yes,] In recent months, how many times have you seen or heard this ad?	Recoded Response
No		0.0
Don't know		0.5
Yes	Not at all	0.0
Yes	Once	1.0
Yes	2 to 4 times	3.0
Yes	5 to 10 times	7.5
Yes	More than 10 times	12.5

Table E-4. Cutpoints for RAEI

Lower bound in RAEI	Upper bound in RAEI	New value for categorical version	Recode Label
0	1.999	0	None
2	7.999	1	One to less than 4 times per month (low)
8	23.999	2	4 to less than 12 times per month (medium)
24	∞ (90 actual upper limit)	3	12 or more times per month (high)

n-cell hotdeck imputation, and a MART-based procedure, each of which is explained below. For Wave 3, the single-cell hotdeck was used for 13 of the ads, the n-cell for 15, and the MART-based approach on 13.

E.3.1 Single-Cell Hotdeck Imputation

This procedure was used whenever the total number of subjects for which an ad was in-scope during a wave was 150 or less. In this situation where there was little information available about the distribution of viewing in the population, the judgment was made that it was best to select a random respondent among those for whom the ad was sampled and then to transcribe the results from the "donor" to the "beggar." The only restrictions on donor choice were that (1) both interviews had to be conducted at times such that the ad in question had been on the air within the 60 days preceding the

interview and (2) both donor and beggar consume the medium in the language of the ad (English or Spanish).

E.3.2 N-Cell Hotdeck Imputation

When there was more information about the distribution of viewing of an ad (sample size between 151 and 499), more complex procedures were used to match donors and beggars. In addition to matching on eligibility for the ad (on air in preceding 60 days and right language), matching was done on the length of time the ad had been on the air (3 categories), whether the respondent's home had cable/satellite service, and the level of general recall of drug-related advertisements on TV and radio. If perfect matching on all three criteria was impossible, the software had an automatic feature that searched for a suitable donor by relaxing the match criteria. The criteria are relaxed according to a predetermined order fixed by the user. In this case, general recall was relaxed first when necessary.

E.3.3 MART-Based Imputation

MART (Multiple Additive Regression Trees) is an iterative method that may be used to form predictive models for variables of interest. It is particularly well suited for modeling ordinal and multilevel categorical variables in terms of other ordinal and multilevel categorical variables. It was designed to handle large numbers of potential predictor variables in a largely automated fashion, requiring little human intervention. Guidance from the developer of the software (Jerome Friedman of Stanford) indicated that at least 500 observations were required for satisfactory performance. That is why the hotdeck procedures were used for the less frequently sampled ads. When there is adequate sample size, the advantage of using MART is that the procedure will preserve associations of exposure with a larger set of covariates than is possible with the hotdeck procedures. With the hotdeck, it is only possible to preserve associations with a few characteristics selected prior to the end of data collection. From a large set of potential predictor variables, MART builds a model for the variable of interest (ad viewing in this application) that fits it very closely. In heuristic terms, the difference is somewhat like buying a ready-made suit by mail order versus having one tailor made—except in this case, the tailor is a robot.

MART was used to form models for viewing the various ads. These models were then used to impute ad viewing. MART delivers the model in the form of a probability distribution on the categories for each respondent. In other words, MART calculates, for each respondent and for every possible response value, the chance of the actual response being the given value. This probability distribution may then be used to impute an unknown response.

The MART procedure calculates the response distribution for every respondent based on data on known responses and possible predictor variables. It relates responses to predictors using the respondents for whom responses are available. It then uses these relationships to calculate the likelihood of different responses for the respondents for whom the response is missing. It is an extremely flexible method, which can accommodate large numbers of possible predictors and possibly complicated interactions between them. It can also deal with missing predictor values by treating predictor nonresponse as a different category of the predictor.

In our use of MART for imputing responses to the different advertisements shown, we have used data that has been pooled over advertisements. This allows MART to exploit the similarity of the predictor-response relationship across advertisements and thus "borrow strength" during calculation.

However, possible individual advertisement characteristics are preserved by adding an advertisement indicator variable as a predictor. This allows MART to distinguish between the different advertisements and prevents individual signal from being overwhelmed by overall signals.

Once the probability distribution is calculated by MART, an impute value is chosen as follows. A random number is generated from a uniform distribution. The MART-predicted probability distribution is cumulated over categories to give break points and the category in which the random number lies is noted. This category is then determined to be the imputed response value. If there are *n* response categories, all of which were determined to be equally likely, this procedure is equivalent to rolling an *n*-faced die to determine the unknown response value. Each face of the die is associated with a particular value of the response. To carry the analogy over in case of the categories being unequally likely, as is usually the case in reality, we would have to imagine the die as being unequally weighted so that the probability of each face corresponds the probability of the response category associated with the face.

Details of the MART procedure may be found in Friedman et al. (2000). A separate paper on the quality of imputations based on MART versus the more traditional hotdeck is under preparation. Testing done at Westat indicated a slight MART advantage in the marginal distributions of the variables being imputed. The more important MART advantage is that associations are preserved with a larger set of covariates. The set of covariates that were fed to MART and may thus be considered to have had their associations with exposure preserved include the following data.

Parent Data

- Parental response group used to determine which advertisements they were shown during the interview (African American, monolingual English, monolingual Spanish, bilingual English/Spanish)
- Parental TV consumption on weekdays
- Parental TV consumption on weekends
- Primary language of TV viewing by parent
- Availability of cable/satellite TV in the household
- Parental consumption of TV channels focused on African Americans in last 30 days
- Parental consumption of TV channels focused on Hispanics/Latinos in last 30 days
- Parental recall of watching or hearing anti-drug advertisements on TV or radio
- Parental age
- Parental marital status
- Parental educational attainment
- Parent's attendance of religious services
- Importance of religion to the parent

- Parental income
- Parental weekday radio consumption
- Parental weekend radio consumption
- Primary language in which parent listens to radio
- Urbanity of the neighborhood
- Parental race
- Parental gender
- Region of the country
- Number of days out of the last 30 that the advertisement was aired
- Number of days out of the last 60 that the advertisement was aired
- Number of days out of the last 90 that the advertisement was aired
- Indicator of which advertisement is being shown

Youth Data

- The youth category (teen or child)
- Youth response group used to determine which advertisements they were shown during the interview (African American, monolingual English, monolingual Spanish, bilingual English/Spanish)
- Youth report on school enrollment in previous 12 months
- Youth school grade level
- Average grade in school
- Whether the youth's school was in session in the last 30 days
- Youth report of school days missed due to illness in the last 30 days
- Youth report of cut school days in the last 30 days
- Youth's attendance of religious services
- Importance of religion to the youth
- Youth TV consumption on weekdays
- Youth TV consumption on weekends
- Primary language in which the youth watches TV

- Youth consumption of radio on weekdays
- Youth consumption of radio on weekends
- Primary language in which the youth listens to radio
- Youth consumption of TV channels focused on music in last 30 days
- Youth consumption of TV channels focused on sports in last 30 days
- Youth consumption of TV channels focused on African Americans in last 30 days
- Youth consumption of TV channels focused on Hispanics/Latinos in last 30 days
- Youth recall of watching or hearing anti-drug advertisements on TV or radio
- Youth age
- Availability of cable/satellite TV in the household
- Urbanity of the neighborhood
- Youth race
- Youth gender
- Region of the country
- Number of days out of the last 30 that the advertisement was aired
- Number of days out of the last 60 that the advertisement was aired
- Number of days out of the last 90 that the advertisement was aired
- Indicator of which advertisement is being shown

E.3.4 Some Evaluative Information on the N-cell Hotdeck Application

As mentioned above, the sample sizes for some ads were too small to make use of MART. Parametric modeling procedures would also have failed on these small sample sizes, in particular given the nonnormality of the recall data. This nonnormality is demonstrated in Table E-5. Kolmogorov-Smirnoff tests were carried out to check how significantly the response distribution differed from he normal distribution. Skew and kurtosis were also calculated and are shown in the table. Clearly, these data are far from normal, so any parametric-based imputation of the ad-level data would be difficult.

Despite this nonnormality, however, it is interesting to use linear modeling as a means to partially demonstrate the process features of the hotdeck. The variables used to match beggars with donors in the n-cell hotdeck were chosen prior to processing of the Wave 1 data. As discussed in Section E.3.2, there were three of these matching variables. Linear models were fit for the ad-level recall data in terms of the three matching variables as a means of confirming that these *a prior* choices for matching variables were reasonable. A separate linear model was fit for each audience and medium (i.e., for

each of parent TV, parent radio, youth TV, and youth radio). Interactions were examined. The results are shown in Table E-6.

Table E-5. Non-normality of Ad-level Recall Data

	Kolmogorov-Smirnoff Test		Moments of Ad-level Recall Data			
Audience and Medium	Statistic	p value	Mean	Standard Deviation	Skewness	Kurtosis
Parent TV	0.3382	0.0000	2.0026	3.5163	1.9272	5.7102
Parent Radio	0.4005	0.0000	1.1680	2.6081	2.7929	10.7849
Youth TV	0.3194	0.0000	2.2292	3.8177	1.7734	4.8855
Youth Radio	0.4233	0.0000	0.8674	2.3569	3.5381	15.8444

Note : A Normal distribution has a skewness of 0 and kurtosis of 3.

Table E-6. Results of ANOVA Analysis for WESDECK Imputation Procedure

	Parent TV Model		Parent Radio Model		Youth TV Model		Youth Radio Model	
Effect *(Degrees of Freedom)*	F-Statistic	p value	F-Statistic	p value	F-Statistic	p value	F-Statistic	p value
Availability of cable TV in the household (TCABLETV) *(1)*	0.0495	0.8239	0.0004	0.9837	4.4984	**0.0343**	1.5482	0.2136
Level of general recall of drug-related advertising on TV and radio (TVRAD) *(5)*	24.5390	**0.0000**	12.1425	**0.0000**	6.9137	**0.0000**	7.1031	**0.0000**
Length of time advertisement had been on air in the 60 days preceding the interview - 3 levels (AIR60) *(2)*	7.1532	**0.0008**	3.9412	**0.0197**	13.9294	**0.0002**	8.0582	**0.0003**
TCABLETV*TVRAD *(5)*	0.4582	0.8075	0.6667	0.6488	1.9909	*0.0782*	0.6579	0.6555
TCABLETV*AIR60 *(2)*	2.3608	*0.0948*	2.4039	*0.0908*	1.1065	0.2933	0.2748	0.7597
TVRAD*AIR60 *(9)*	0.6350	0.7847	0.8738	0.5482	1.3894	0.2263	0.6370	0.7830
TCABLETV*TVRAD*AIR60 *(6)*	2.2240	**0.0235**	2.0710	*0.0539*	2.0056	*0.0922*	1.0962	0.3613

Note : **Boldface** denotes effect is significant at 5 percent level. *Underlined Italics* denote effects significant at 10 percent level. Note, however, that since the response variable is highly nonnormal as demonstrated above the significance levels of the ANOVA are highly approximate.

The availability of cable or satellite TV service was not as important as initially guessed it would be, but is still relevant for youth TV. Within each audience and medium, the general level of recall of anti-drug advertisements on TV and radio was highly relevant to recall of specific Campaign-sponsored advertisements. It would, of course, have been surprising not to find this relationship. Similarly, the number of recent weeks during which the ad had been played was extremely important. In several cases, some of the interaction terms were also found to be significant.

E.4 Outcome Indices

In order to ameliorate problems caused by multiple comparisons, new outcome indices were created for Wave 3 and retrospectively applied to Waves 1 and 2. By focusing on a smaller number of outcomes, the expected number of false positive findings is reduced. In addition, if the outcome indices are well-constructed, it is possible that the index will be more sensitive to change or effects than any of the components individually.

For youth, a total of just four outcome indices were produced. For parents, there were two. These indices are different from scales. Scales are functions of several variables that are thought to measure the same latent construct. Indices are more general functions of several variables, designed with a particular objective in mind. Well-known indices in other fields include the gross domestic product (GDP), the Consumer Price Index (CPI), and various quality of life indices comparing cities.

In this case, the indices were created with the specific objective of predicting a primary cognitive or behavioral outcome. For youth, the primary outcome was the intention not to use a drug in the future. For parents, the primary outcome was either talking with their kids about drugs or monitoring their kids closely. More detail is given below on each set of indices.

E.4.1 Youth

For youth, the two primary outcomes were intentions to avoid marijuana use and intentions to avoid inhalant use. Referring back to Figure 2-C, intentions are theorized to be influenced by (1) knowledge, beliefs, and attitudes; (2) perceived social norms, and (3) self-efficacy to avoid drug usage. Questionnaire items that corresponded to each of the influential cognition families were used to form parametric models of the primary outcomes. The concept behind this practice was to let the data inform the Evaluation team about which items within a family really were influential on the primary outcome.

For example, in Table E-11, it can be seen that among the self-efficacy items included in the questionnaire, the most important in terms of influencing intentions to avoid marijuana use are feelings of self-efficacy to refuse marijuana when home alone and sad or bored; when on school property, and when hanging out at a friend's house without parents. Kids who are completely sure that they could refuse marijuana when home alone and sad/bored, or when hanging out at a friends house, were much more likely to have strong intentions to avoid future marijuana use. Conversely, youth who were completely sure that they could refuse offers when on school grounds were less likely to have such strong intentions. Feelings of self-efficacy at parties and at the suggestion of close friends do not appear to be influential on intentions for future use.

The indices for beliefs/attitudes and for social norms were more difficult to construct. For these areas, there were skip patterns in the questionnaires that forced part of the sample to answer questions about trial use and forced the balance to answer questions about regular use. The skip patterns were partly random and partly a function of past marijuana use. As a way to use different questions to create a single index that was meaningfully defined on the entire sample, a complex procedure was used to create each index.

The first step in the process was to model intentions to avoid future use on nonusers in terms of beliefs and attitudes about trial use. This model is shown in Table E-7. The second step was to model intentions to avoid future use on nonusers in terms of beliefs and attitudes about regular use. This model is shown in Table E-8. The third step was to shift and rescale these subindices to that they had a common mean and standard deviation on the population of nonusers. The transformed functions were then applied to the questions about regular use asked of users. (Users were never asked about future trial use.) The end result of this operation was to create an index on the entire dataset that reflects the influence on intentions for avoidance of future use of an amalgam of beliefs and attitudes about both marijuana trial and regular marijuana use.

Table E-7. Model for intentions to avoid any marijuana use among 12 to 18 year old non-marijuana users in terms of personal beliefs and attitudes about trial marijuana use

Quex Item	Description of Variable	Values	Value Label	Coefficient	Standard Error
C3a(a)	Trying marijuana would upset parents/caregivers	1-3	Very unlikely, unlikely, or neither likely nor unlikely	0.1524	0.2695
		4	Likely	-0.5901	0.3027
		5	Very likely	0.4377	0.2118
C3a(b)	Trying marijuana would cause legal trouble for youth	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.3179	0.1949
		4	Likely	0.1289	0.2095
		5	Very likely	0.1891	0.2329
C3a(c)	Trying marijuana would cause youth to lose control	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.1752	0.2224
		4	Likely	-0.2441	0.2164
		5	Very likely	0.4193	0.3087
C3a(d)	Trying marijuana would cause youth to use stronger drugs	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.0221	0.2478
		4	Likely	0.3056	0.2823
		5	Very likely	-0.2835	0.3883
C3a(e)	Trying marijuana would cause youth to be more relaxed	1	Very unlikely	0.1361	0.2427
		2	Unlikely	0.0211	0.2468
		3-5	Neither likely nor unlikely, likely, or very likely	-0.1572	0.2036
C3a(f)	Trying marijuana would cause youth to have a good time with friends	1	Very unlikely	0.4546	0.2688
		2	Unlikely	-0.4197	0.2310
		3-5	Neither likely nor unlikely, likely or very likely	-0.0349	0.2180
C3a(g)	Trying marijuana would cause youth to feel better	1	Very unlikely	-0.1994	0.2331
		2	Unlikely	0.1629	0.2189
		3-5	Neither likely nor unlikely, likely, or very likely	0.0365	0.2327
C3a(h)	Trying marijuana would cause youth to be like the coolest kids	1	Very unlikely	0.3274	0.1942
		2	Unlikely	0.2613	0.2122
		3-5	Neither likely nor unlikely, likely, or very likely	-0.5886	0.2038
C4a	Youth perception of trying marijuana in the next year (7-point scale from “extremely bad” to “extremely good”)	1		1.4258	0.2460
		2		-0.3259	0.2440
		3		-0.2839	0.3129
		4-7		-0.8160	0.2806
C5a	Youth perception of trying marijuana in the next year (7-point scale from “extremely unenjoyable” to “extremely enjoyable”)	1		0.8747	0.2433
		2		0.2961	0.2593
		3		-0.6307	0.2843
		4-7		-0.5402	0.2846

Table E-8. Model for intentions to avoid any marijuana use among 12-18 year old non-marijuana users in terms of personal beliefs and attitudes about regular marijuana use

Quex Item	Description of Variable	Values	Value Label	Coefficient	Standard Error
C3b(a)	Regular marijuana use would damage youth's brain	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.1549	0.2164
		4	Likely	-0.0435	0.1858
		5	Very likely	0.1984	0.2141
C3b(b)	Regular marijuana use would mess up youth's life	1-3	Very unlikely, unlikely, or neither likely nor unlikely	0.2318	0.2415
		4	Likely	-0.0884	0.1969
		5	Very likely	-0.1434	0.2395
C3b(c)	Regular marijuana use would make youth do worse in school	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.3141	0.2464
		4	Likely	-0.0044	0.1933
		5	Very likely	0.3186	0.2318
C3b(d)	Regular marijuana use would be acting against youth's moral beliefs	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.2912	0.1988
		4	Likely	0.1467	0.1973
		5	Very likely	0.1446	0.2104
C3b(e)	Regular marijuana use would cause youth to lose ambition	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.0250	0.2259
		4	Likely	0.1443	0.1977
		5	Very likely	-0.1193	0.2447
C3b(f)	Regular marijuana use would cause youth to lose friends' respect	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.5111	0.1967
		4	Likely	0.1517	0.1983
		5	Very likely	0.3594	0.2349
C3b(g)	Regular marijuana use would cause youth to have a good time with friends	1	Very unlikely	1.0099	0.2677
		2	Unlikely	-0.6336	0.2172
		3-5	Neither likely nor unlikely, likely or very likely	-0.3762	0.1953
C3b(h)	Regular marijuana use would cause youth to be more creative and imaginative	1-3	Very unlikely, unlikely, or neither likely nor unlikely	-0.1549	0.2437
		4	Likely	0.1546	0.3294
		5	Very likely	0.0004	0.3749
C4b	Youth perception of regular marijuana use in the next year (7-point scale from "extremely bad" to "extremely good")	1		0.9698	0.2370
		2		-0.2337	0.2386
		3		-0.7086	0.2921
		4-7		-0.0275	0.3042
C5b	Youth perception of regular marijuana use in the next year (7-point scale from "extremely unenjoyable" to "extremely enjoyable")	1		0.7496	0.2271
		2		-0.1493	0.2414
		3		-0.2438	0.2936
		4-7		-0.3565	0.2451

A parallel process was used for social norms. Table E-9 has the parameter estimates for the subindex for social norms about trial use. Table E-10 provides the parallel estimates for the subindex for social norms about regular use. Table E-11 provides the model for intentions to avoid any marijuana use among 12- to 18-year-olds in terms of self-efficacy to refuse offers of marijuana.

One index was created for youth to summarize personal beliefs about inhalants. (There were no questionnaire items on attitudes, social norms or self-efficacy with respect to inhalants.) As with marijuana, the importance of each component in the index was determined from the parametric model for intentions to avoid inhalant use in terms of the components. The fitted model is shown in Table E-12. Perceptions of trial risk are related to intentions to avoid future use. Approval of others' trial of inhalants is also related to intentions to avoid future use.

Table E-9. Model for intentions to avoid any marijuana use among 12 to 18 year old non-marijuana users in terms of perceived social norms about trial marijuana use

Quex Item	Description of Variable	Values	Value Label	Coefficient	Standard Error
C6a	Youth perception of most important people's reaction to youth trying marijuana	1	Strongly disapprove	0.3815	0.2229
		2	Disapprove	-0.4784	0.2455
		3-5	Neither approve nor disapprove, approve or strongly approve	0.0970	0.3381
C7a	Youth perception of close friends' reaction to youth trying marijuana	1	Strongly disapprove	1.0315	0.1786
		2	Disapprove	-0.0991	0.1618
		3-5	Neither approve nor disapprove, approve or strongly approve	-0.9324	0.1681
C8a	Youth perception of parents' reaction to youth trying marijuana	1	Strongly disapprove	0.5658	0.2729
		2	Disapprove	0.0545	0.3315
		3-5	Neither approve nor disapprove, approve or strongly approve	-0.6203	0.4227
C10a	Youth perception of how many friends have tried marijuana	1-2	None or a few	0.3854	0.1918
		3	Some	-0.1872	0.2012
		4-5	Most or all	-0.1982	0.2568
C11	Youth perception of how many kids in same grade or same age have tried marijuana	1-2	None or a few	0.3894	0.1764
		3	Some	-0.1868	0.1607
		4-5	Most or all	-0.2026	0.2039

Table E-10. Model for intentions to avoid any marijuana use among 12 to 18 year old non-marijuana users in terms of perceived social norms about regular marijuana use

Quex Item	Description of Variable	Values	Value Label	Coefficient	Standard Error
C6b	Youth perception of most important people's reaction to youth using marijuana regularly	1	Strongly disapprove	0.6495	0.2230
		2	Disapprove	-0.2729	0.2472
		3-5	Neither approve nor disapprove, approve or strongly approve	-0.3765	0.3476
C7b	Youth perception of close friends' reaction to youth using marijuana regularly	1	Strongly disapprove	0.9112	0.1844
		2	Disapprove	-0.0951	0.1722
		3-5	Neither approve nor disapprove, approve or strongly approve	-0.8160	0.1825
C8b	Youth perception of parents' reaction to youth using marijuana regularly	1	Strongly disapprove	-0.0445	0.2371
		2-5	Disapprove, neither approve or disapprove, approve or strongly approve	0.0445	0.2371
C10b	Youth perception of how many friends have used marijuana regularly	1-2	None or a few	0.2339	0.2050
		3	Some	0.0106	0.2192
		4-5	Most or all	-0.2445	0.2814
C12	Youth perception of how many kids in same grade or same age have used marijuana regularly	1-2	None or a few	0.3827	0.1874
		3	Some	-0.1066	0.1726
		4-5	Most or all	-0.2761	0.2353

Table E-11 Model for intentions to avoid any marijuana use among 12- to 18-year-olds in terms of self-efficacy to refuse offers of marijuana.

Quex Item	Description of Variable	Values	Value Label	Coefficient	Standard Error
C9(a)	Certainty of refusing marijuana when at a party where most people are using it	1-3	Somewhat sure, slightly sure, or not at all sure	-0.1805	0.1421
		4	Mostly sure	0.2339	0.1130
		5	Completely sure	-0.0535	0.1166
C9(b)	Certainty of refusing marijuana when a very close friend suggests using it	1-3	Somewhat sure, slightly sure, or not at all sure	-0.0627	0.1530
		4	Mostly sure	-0.1604	0.1110
		5	Completely sure	0.2231	0.1197
C9(c)	Certainty of refusing marijuana when home alone and feeling sad or bored	1-3	Somewhat sure, slightly sure, or not at all sure	-0.6240	0.1402
		4	Mostly sure	-0.0458	0.1221
		5	Completely sure	0.6699	0.1051
C9(d)	Certainty of refusing marijuana when on school property	1-3	Somewhat sure, slightly sure, or not at all sure	0.6551	0.1892
		4	Mostly sure	-0.3183	0.1556
		5	Completely sure	-0.3367	0.1356
C9(e)	Certainty of refusing marijuana when hanging out at a friend's house whose parents aren't home	1-3	Somewhat sure, slightly sure, or not at all sure	-0.8485	0.1527
		4	Mostly sure	-0.1478	0.1118
		5	Completely sure	0.9963	0.1221

Table E-12 Model for intentions to avoid any inhalant use among 12- to 18-year-olds in terms of personal anti-inhalant beliefs

Quex Item	Description of Variable	Values	Value Label	Coefficient	Standard Error
C33a(c)	Youth perception of risk of harm when trying inhalants	1-2	No or slight risk	-0.3292	0.1177
		3	Moderate risk	0.0600	0.1066
		4	Great risk	0.2692	0.1249
C33a(d)	Youth perception of risk of harm when using inhalants regularly	1-2	No or slight risk	0.2185	0.1823
		3	Moderate risk	-0.3062	0.1339
		4	Great risk	0.0876	0.1328
C33(c)	Youth approval of others trying inhalants	1	Strongly disapprove	1.3941	0.1511
		2	Disapprove	-0.1367	0.1153
		3-5	Neither approve nor disapprove, approve, or strongly approve	-1.2574	0.1330
C33(d)	Youth approval of others using inhalants regularly	1	Strongly disapprove	0.2942	0.1249
		2	Disapprove	-0.1642	0.1162
		3-5	Neither approve nor disapprove, approve, or strongly approve	-0.1301	0.1412

E.4.2 Parents

Two indices were constructed for parents. One summarized information about cognitive variables surrounding the discussion of drugs with their children. The other summarized information about cognitive variables surrounding monitoring of their children. As for youth, models were constructed for primary outcomes in terms of these cognitive variables in order to summarize only the relevant information. Ordinal logistic regressions were used for the modeling.

For discussions about drugs, the primary outcome variable was a scale based on three types of talking behavior. The scale gives a point for each type: (1) two or more general discussions about drugs, (2) at least conversation on the specific topic of family rules or expectations about drug use, and (3) at least conversation on the specific topic of how to avoid drug use. The scale thus runs from 0 to3, with 0 reflecting no discussion and 3 reflecting a pattern of discussions consistent with Campaign objectives. The cognitive variables to be summarized are shown in Table E-13, along with their coefficients.

For monitoring their children, the primary outcome variable was a scale based on three types of monitoring behavior. The scale gives a point for each type: (1) always or almost always knowing what their child is doing when he/she is away from home, (2) always or almost always having a pretty good idea about their child's plans for the coming day, and (3) never allowing their child to spend his/her free time in the afternoons hanging out with friends without adult supervision. The scale thus runs from 0 to3, with 0 reflecting very weak monitoring and 3 reflecting a pattern of monitoring consistent with Campaign objectives. The cognitive variables to be summarized are shown in Table E-14, along with their coefficients.

Table E-13. Model for Parental talking scale in terms of cognitive variables surrounding discussion of drugs with their children

Quex Item	Description of Variable	Values	Value label	Co-efficient	Standard Error
D2a	Discussing drug use in the next 6 months with my child would be (7-point scale form "extremely bad" to "Extremely good")	1-4		-0.3066	0.0976
		5		-0.1794	0.0757
		6		0.0913	0.0629
		7		0.3947	0.0617
D2b	Discussing drug use in the next 6 months with my child would be (7-point scale form "extremely unpleasant " to "Extremely pleasant")	1-4		-0.2097	0.0581
		5		-0.0588	0.0519
		6		-0.0395	0.0479
		7		0.308	0.051
D2c	Discussing drug use in the next 6 months with my child would be (7-point scale form "extremely unimportant" to "Extremely important")	1-4		-0.516	0.1043
		5		-0.279	0.0823
		6		0.2465	0.0669
		7		0.5484	0.0622
D3a	If my child asked me questions about drug use in general, how sure am I that would be able to talk about illicit drug use with that child?	1-3	Very unsure, unsure, or neither sure nor unsure	-0.1814	0.1046
		4	Sure	0.0868	0.0668
		5	Very Sure	0.0945	0.0659
D3b	If my child asked me questions about me what specific things he/she could do to stay away from drugs, how sure am I that would be able to talk about illicit drug use with that child?	1-3	Very unsure, unsure, or neither sure nor unsure	-0.3382	0.1076
		4	Sure	0.0342	0.0662
		5	Very Sure	0.304	0.0671
D3c	If my child and I had been having conflicts over other things not related to drugs, and our relationship were tense, how sure am I that would be able to talk about illicit drug use with that child?	1-3	Very unsure, unsure, or neither sure nor unsure	-0.1407	0.0482
		4	Sure	0.0714	0.039
		5	Very Sure	0.0693	0.0436
D3d	If my child asked me questions about me about my own past use of drugs, how sure am I that would be able to talk about illicit drug use with that child?	1-3	Very unsure, unsure, or neither sure nor unsure	-0.0591	0.0562
		4	Sure	0.0146	0.0473
		5	Very Sure	0.0445	0.0423

Table E-14. Model for parental monitoring index in terms of personal beliefs regarding monitoring kids' behavior and activities

Quex Item	Description of Variable	Values	Value Label	Coefficient	Standard Error
C6a	Closely monitoring my child's daily activities would be (7-point scale from "extremely bad" to "extremely good")	1-4		-0.8304	0.1135
		5		-0.1358	0.0793
		6		0.1675	0.0705
		7		0.7987	0.0727
C6b	Closely monitoring my child's daily activities would be (7-point scale from "extremely unpleasant" to "extremely pleasant")	1-4		-0.3743	0.0888
		5		-0.0235	0.0656
		6		0.1349	0.0605
		7		0.2628	0.0646
C6c	Closely monitoring my child's daily activities would be (7-point scale from "extremely unimportant" to "extremely important")	1-4		0.0616	0.1536
		5		-0.0482	0.1017
		6		-0.1347	0.0857
		7		0.1213	0.0802
C7a	Closely monitoring my child's daily activities will make it more likely that my child will do well in school	1-3	Strongly disagree, disagree, or neither agree nor disagree	-0.0819	0.0812
		4	Agree	-0.1007	0.0565
		5	Strongly agree	0.1827	0.0617
C7b	Closely monitoring my child's daily activities will make me feel like I am doing my job as a parent	1-3	Strongly disagree, disagree, or neither agree nor disagree	0.1989	0.0931
		4	Agree	-0.1064	0.0589
		5	Strongly agree	-0.0925	0.0664
C7d	Closely monitoring my child's daily activities will make it less likely that my child will try any drug, even once or twice	1-3	Strongly disagree, disagree, or neither agree nor disagree	-0.1213	0.0712
		4	Agree	-0.1000	0.0552
		5	Strongly agree	0.2212	0.0651
C7e	Closely monitoring my child's daily activities will make it less likely that my child will use any drug nearly every month	1-3	Strongly disagree, disagree, or neither agree nor disagree	-0.0375	0.0725
		4	Agree	-0.0870	0.0568
		5	Strongly agree	0.1245	0.0645
C7f	Closely monitoring my child's daily activities will make my child feel I am invading their privacy	1	Strongly disagree	0.3013	0.0614
		2	Disagree	-0.0476	0.0475
		3-5	Neither agree nor disagree, agree or strongly agree	-0.2537	0.0462

Detail Tables

Notes on tables: The Detail Tables corresponding to Chapters 2 through 6 each have a Wave 1 estimate, a Wave 2 estimate, a Wave 3 estimate, a Wave 4 estimate, an average for 2000 (Waves 1 and 2), an average for 2001 (Waves 3 and 4). This shows change between each wave. The tables also include an estimate of change from 2000 to 2001 with a 95 percent confidence interval (CI). Significant changes between the two years are flagged with an asterisk. Significant change was defined as having a 95 percent CI that does not overlap a no-change value of zero. The simple averages for 2000 and 2001 are particularly useful for analyzing stable subgroup diversity. "S" denotes cells where statistics were suppressed because the sample size was too small to meet NIDA publication standards. See Appendix A for details on suppression rules.

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Table 2-1. Sample sizes and population estimates for youth subpopulations

	Sample size				Population estimate (thousands)				95% Confidence interval			
Characteristics	Wave 1	Wave 2	Wave 3	Wave 4	Wave 1	Wave 2	Wave 3	Wave 4	Wave 1	Wave 2	Wave 3	Wave 4
All youth aged 9 to 18	3,312	2,362	2,459	2,478	39,590	39,931	40,308	40,497	(39,421,39,759)	(39,764,40,098)	(40,260,40,356)	(40,497,40,497)
Youth aged 12 to 18												
12 to 13	1,056	658	725	664	7,832	7,993	8,055	8,198	(7,776,7,888)	(7,955,8,032)	(8,036,8,074)	(8,198,8,198)
14 to 15	552	394	376	806	8,533	8,928	9,135	8,489	(8,001,9,065)	(8,208,9,648)	(8,321,9,949)	(7,893,9,085)
16 to 18	613	387	380	585	10,662	10,409	10,283	11,025	(10,149,11,175)	(9,698,11,121)	(9,467,11,099)	(10,429,11,621)
14 to 18	1,165	781	756	1,391	19,195	19,338	19,418	19,513	(19,038,19,352)	(19,273,19,402)	(19,382,19,454)	(19,513,19,513)
12 to 18	2,221	1,439	1,481	2,055	27,027	27,331	27,473	27,711	(26,853,27,202)	(27,257,27,405)	(27,431,27,514)	(27,711,27,711)
Youth aged 12 to 18												
Males	1,171	723	744	1,094	13,756	14,013	14,066	14,247	(13,648,13,864)	(13,937,14,089)	(14,030,14,102)	(14,150,14,343)
Females	1,050	716	737	961	13,272	13,318	13,407	13,465	(13,134,13,409)	(13,243,13,393)	(13,388,13,426)	(13,368,13,562)
White	1,501	955	969	1,404	18,116	17,957	18,116	18,424	(17,813,18,420)	(17,219,18,694)	(17,722,18,509)	(18,150,18,699)
African American	310	216	232	269	4,117	4,245	4,238	4,365	(4,069,4,164)	(4,229,4,262)	(4,238,4,238)	(4,365,4,365)
Hispanic	331	210	209	312	3,847	3,986	4,005	4,062	(3,828,3,865)	(3,950,4,022)	(4,005,4,005)	(4,062,4,062)
Risk score												
Higher risk	661	391	398	628	10,158	9,223	9,662	9,676	(9,528,10,787)	(8,427,10,019)	(8,837,10,487)	(9,011,10,342)
Lower risk	1,313	896	934	1,242	14,009	14,835	14,907	15,489	(13,306,14,712)	(13,900,15,771)	(14,088,15,727)	(14,813,16,166)
Sensation seeking												
High	1,162	737	767	1,125	14,989	14,436	15,649	15,103	(14,307,15,670)	(13,602,15,270)	(14,865,16,432)	(14,432,15,774)
Low	999	667	679	880	11,361	12,158	11,339	11,955	(10,620,12,103)	(11,318,12,999)	(10,537,12,141)	(11,236,12,675)
Use of Marijuana												
Nonuser	1,834	1,210	1,238	1,642	20,852	21,424	21,141	21,415	(20,165,21,539)	(20,619,22,229)	(20,214,22,069)	(20,709,22,121)
Occasional user	184	108	106	172	2,890	2,602	2,495	2,505	(2,365,3,415)	(2,041,3,164)	(1,990,2,999)	(2,029,2,980)

NOTE: The detail by race and ethnicity does not add to 100 percent of the total because the detail on other races is not shown.

Table 3-1. Percent of youth recalling having seen youth-targeted Campaign TV ads at least once per week, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent recalling having seen TV ads at least once per week									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All Youth aged 12 to 18										
12 to 13	39.5	42.9	50.6	59.7	41.2	(38.1,44.4)	55.2	(52.2,58.1)	13.9	*(10.2,17.7)
14 to 15	39.4	37.9	48.0	59.7	38.7	(35.0,42.5)	53.6	(49.4,57.7)	15.0	*(9.6,20.3)
16 to 18	29.3	35.6	46.9	47.8	32.4	(28.9,36.1)	47.3	(43.7,51.0)	14.9	*(9.8,20.0)
14 to 18	33.8	36.6	47.4	53.0	35.2	(32.6,38.0)	50.2	(47.3,53.0)	14.9	*(11.3,18.6)
12 to 18	35.4	38.5	48.3	55.0	37.0	(34.8,39.2)	51.6	(49.2,54.1)	14.7	*(11.7,17.6)
Youth aged 12 to 18										
Males	33.3	37.7	44.4	53.2	35.5	(32.7,38.5)	48.8	(45.6,52.1)	13.3	*(8.6,18.0)
Females	37.7	39.3	52.5	56.8	38.5	(35.7,41.4)	54.6	(51.2,58.0)	16.1	*(12.2,20.1)
White	32.6	36.0	45.8	53.3	34.3	(31.8,36.9)	49.6	(46.6,52.5)	15.3	*(11.8,18.7)
African American	48.8	44.5	48.6	65.3	46.6	(40.5,52.9)	57.1	(51.1,62.9)	10.5	*(2.9,18.0)
Hispanic	37.4	45.4	60.5	52.3	41.5	(36.3,46.8)	56.4	(50.6,62.0)	14.9	*(8.5,21.3)
Risk score										
Higher risk	33.9	36.7	45.4	50.5	35.2	(31.7,38.9)	48.0	(43.6,52.4)	12.7	*(6.6,18.9)
Lower risk	37.8	38.7	47.6	57.9	38.3	(35.8,40.9)	52.9	(50.3,55.4)	14.6	*(11.4,17.7)
Sensation seeking										
High	35.3	38.8	48.4	55.1	37.1	(34.1,40.1)	51.7	(48.4,55.0)	14.7	*(10.1,19.2)
Low	35.7	37.8	47.8	54.8	36.8	(33.6,40.2)	51.4	(48.3,54.4)	14.6	*(10.3,18.9)

Table 3-2. Summary of recall among youth for all eligible Campaign TV ads

Total recall Number of ad viewings per month	Recall for all TV platform ads									
	Wave 1[1] %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 13										
0	16.1	11.7	14.1	9.9	13.9	(12.1,15.9)	12.0	(10.1,14.2)	12.9	(11.7,14.3)
0.01 to .99	8.2	5.4	3.8	4.0	6.8	(5.6,8.2)	3.9	(3.0,5.0)	5.3	(4.5,6.2)
1 - 3.99	36.9	39.9	31.5	26.4	38.4	(35.8,41.1)	28.9	(26.5,31.5)	33.6	(31.8,35.5)
4 - 11.99	31.3	34.6	40.0	43.7	33.0	(30.3,35.7)	41.8	(39.3,44.4)	37.5	(35.5,39.5)
12 or more	7.6	8.3	10.6	16.0	8.0	(6.6,9.7)	13.3	(11.4,15.5)	10.7	(9.4,12.1)
Total	100.1	99.9	100.0	100.0	---	---	---	---	---	---
Mean	8.53	9.28	10.53	12.97	8.91	(8.33,9.49)	11.76	(11.09,12.43)	10.35	(9.86,10.84)
95% CI	(7.85,9.20)	(8.45,10.11)	(9.76,11.30)	(11.92,14.02)	---	---	---	---	---	---
Youth aged 14 to 18										
0	18.0	13.1	12.8	12.7	15.5	(13.4,17.9)	12.7	(10.4,15.5)	14.1	(12.3,16.1)
0.01 to .99	7.9	8.6	5.2	4.7	8.2	(6.8,9.9)	5.0	(3.9,6.3)	6.6	(5.6,7.8)
1 - 3.99	41.0	41.7	34.6	29.7	41.3	(38.7,44.0)	32.1	(29.5,34.8)	36.7	(34.9,38.6)
4 - 11.99	28.5	30.1	37.3	40.4	29.3	(26.7,32.1)	38.9	(36.3,41.5)	34.1	(32.1,36.2)
12 or more	4.7	6.6	10.1	12.6	5.6	(4.5,6.9)	11.3	(10.0,12.8)	8.5	(7.6,9.5)
Total	100.1	100.1	100.0	100.1	---	---	---	---	---	---
Mean	7.22	8.23	10.18	11.28	7.73	(7.28,8.17)	10.73	(10.21,11.25)	9.24	(8.88,9.60)
95% CI	(6.78,7.67)	(7.45,9.00)	(9.33,11.03)	(10.64,11.92)	---	---	---	---	---	---

[1]Wave 1 estimates do not match those printed in the previous report due to an error in the previous report.

Table 3-3. Summary of recall of TV ads among youth for the "Negative Consequences" strategic platform ads

Total recall Number of ad viewings per month	Percent recalling "Negative Consequences" TV ads									
	Wave 1 %	Wave 2 %	Wave 3[1] %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 13										
0	66.1	65.6	100.0	42.9	65.8	(62.3,69.2)	71.2	(68.0,74.3)	68.6	(66.3,70.8)
0.01 to .99	4.1	3.8	0.0	4.6	4.0	(3.0,5.2)	2.3	(1.5,3.5)	3.1	(2.5,3.9)
1 - 3.99	21.5	17.8	0.0	30.1	19.6	(17.2,22.3)	15.2	(13.0,17.6)	17.4	(15.7,19.1)
4 - 11.99	7.9	11.4	0.0	21.6	9.7	(8.2,11.5)	10.9	(8.9,13.3)	10.3	(8.9,11.9)
12 or more	0.4	1.4	0.0	0.8	0.9	(0.5,1.7)	0.4	(0.2,0.8)	0.6	(0.4,1.0)
Total	100.0	100.0	100.0	100.0	---	---	---	---	---	---
Mean	2.14	2.71	0.00	4.49	2.43	(2.11,2.74)	2.27	(1.95,2.59)	2.35	(2.11,2.58)
95% CI	(1.85,2.42)	(2.15,3.27)	(S)	(3.86,5.13)	---	---	---	---	---	---
Youth aged 14 to 18										
0	66.1	65.8	100.0	46.0	66.0	(62.8,69.0)	72.9	(70.0,75.7)	69.5	(67.3,71.6)
0.01 to .99	6.6	4.6	0.0	5.0	5.6	(4.2,7.4)	2.5	(1.8,3.4)	4.0	(3.2,5.0)
1 - 3.99	23.1	21.1	0.0	29.3	22.1	(19.6,24.8)	14.7	(12.9,16.7)	18.4	(16.8,20.1)
4 - 11.99	4.1	7.6	0.0	19.2	5.8	(4.8,7.1)	9.6	(8.3,11.2)	7.8	(6.8,8.8)
12 or more	0.1	0.9	0.0	0.4	0.5	(0.3,1.0)	0.2	(0.1,0.4)	0.4	(0.2,0.6)
Total	100.0	100.0	100.0	99.9	---	---	---	---	---	---
Mean	1.62	2.20	0.00	4.06	1.91	(1.68,2.14)	2.04	(1.79,2.28)	1.97	(1.80,2.15)
95% CI	(1.43,1.81)	(1.79,2.61)	(S)	(3.58,4.55)	---	---	---	---	---	---

[1]Interviews included no ads in this platform for Wave 3.

Table 3-4. Summary of recall of TV ads among youth for the "Normative Positive Consequences" strategic platform ads

	Percent recalling "Normative Positive Consequences" TV ads									
Total recall Number of ad viewings per month	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 13										
0	45.2	34.6	38.0	19.6	39.9	(37.3,42.6)	28.7	(25.8,31.8)	34.2	(32.3,36.2)
0.01 to .99	8.9	12.1	5.0	6.2	10.5	(8.9,12.4)	5.6	(4.4,7.1)	8.0	(6.9,9.4)
1 - 3.99	32.5	41.9	31.5	36.1	37.3	(34.9,39.7)	33.8	(31.1,36.7)	35.5	(33.8,37.3)
4 - 11.99	11.9	10.2	22.3	29.8	11.0	(9.5,12.9)	26.1	(23.2,29.3)	18.7	(16.9,20.6)
12 or more	1.4	1.1	3.2	8.3	1.3	(0.8,2.0)	5.8	(4.7,7.0)	3.5	(2.9,4.3)
Total	99.9	99.9	100.0	100.0	---	---	---	---	---	---
Mean	3.59	3.48	5.42	8.47	3.53	(3.22,3.85)	6.96	(6.47,7.44)	5.27	(4.97,5.57)
95% CI	(3.22,3.95)	(2.98,3.99)	(4.81,6.02)	(7.76,9.19)	---	---	---	---	---	---
Youth aged 14 to 18										
0	46.9	41.1	43.5	25.7	44.0	(41.1,46.9)	34.6	(32.1,37.2)	39.3	(37.3,41.2)
0.01 to .99	6.9	14.8	6.1	5.3	10.9	(9.0,13.1)	5.7	(4.5,7.1)	8.3	(7.2,9.5)
1 - 3.99	34.7	32.8	28.5	36.0	33.7	(31.1,36.5)	32.2	(30.3,34.3)	33.0	(31.4,34.5)
4 - 11.99	11.5	11.1	20.0	27.1	11.3	(9.8,13.0)	23.6	(21.6,25.7)	17.5	(16.2,18.9)
12 or more	0.1	0.2	1.9	5.9	0.2	(0.1,0.4)	3.9	(3.1,4.8)	2.0	(1.6,2.5)
Total	100.1	100.0	100.0	100.0	---	---	---	---	---	---
Mean	3.15	3.15	4.66	7.22	3.15	(2.89,3.41)	5.94	(5.60,6.28)	4.55	(4.31,4.79)
95% CI	(2.90,3.40)	(2.73,3.56)	(4.16,5.15)	(6.76,7.68)	---	---	---	---	---	---

Table 3-5. Summary of recall of TV ads among youth for the "Resistance Skills" strategic platform ads

Total recall Number of ad viewings per month	Percent recalling "Resistance Skills" TV ads									
	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 13										
0	50.5	80.4	40.8	100.0	65.6	(62.4,68.7)	70.7	(68.2,73.0)	68.2	(66.4,69.9)
0.01 to .99	5.2	0.8	3.8	0.0	3.0	(2.3,3.9)	1.9	(1.3,2.7)	2.4	(1.9,3.1)
1 - 3.99	28.9	12.7	29.7	0.0	20.7	(18.2,23.5)	14.7	(13.0,16.7)	17.7	(16.2,19.3)
4 - 11.99	13.6	5.9	24.3	0.0	9.7	(8.3,11.4)	12.0	(10.4,13.9)	10.9	(9.7,12.2)
12 or more	1.8	0.2	1.3	0.0	1.0	(0.6,1.6)	0.7	(0.3,1.2)	0.8	(0.6,1.2)
Total	100.0	100.0	99.9	100.0	---	---	---	---	---	---
Mean	3.63	1.45	5.11	0.00	2.53	(2.25,2.81)	2.53	(2.28,2.78)	2.53	(2.35,2.71)
95% CI	(3.21,4.04)	(1.11,1.79)	(4.61,5.62)	(S)	---	---	---	---	---	---
Youth aged 14 to 18										
0	54.2	82.4	33.8	100.0	68.4	(65.3,71.3)	67.0	(64.4,69.5)	67.7	(65.9,69.4)
0.01 to .99	5.7	1.6	4.5	0.0	3.6	(2.6,4.9)	2.2	(1.5,3.4)	2.9	(2.3,3.7)
1 - 3.99	27.8	8.8	33.9	0.0	18.3	(16.4,20.4)	16.9	(14.9,19.1)	17.6	(16.1,19.2)
4 - 11.99	10.9	7.1	27.1	0.0	9.0	(7.4,10.8)	13.5	(11.6,15.7)	11.3	(10.0,12.6)
12 or more	1.4	0.1	0.8	0.0	0.7	(0.4,1.3)	0.4	(0.2,0.8)	0.6	(0.4,0.9)
Total	100.0	100.0	100.1	100.0	---	---	---	---	---	---
Mean	3.06	1.38	5.52	0.00	2.22	(1.97,2.47)	2.75	(2.49,3.02)	2.49	(2.33,2.65)
95% CI	(2.71,3.41)	(1.04,1.73)	(4.98,6.06)	(S)	---	---	---	---	---	---

Table 3-6. Percent of parents[1] recalling having seen parent-targeted Campaign TV ads at least once per week, by parent characteristics and age of child(ren)

	Percent recalling having seen TV ads at least once per week									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Total	25.5	22.6	19.8	39.2	24.1	(22.2,26.1)	29.7	(26.9,32.7)	5.6	*(2.5,8.8)
Male	22.6	20.1	18.0	34.7	21.3	(18.2,24.7)	26.0	(22.3,30.1)	4.7	*(0.7,8.8)
Female	27.2	24.6	21.1	41.9	26.0	(23.9,28.2)	32.1	(28.6,35.8)	6.1	*(1.8,10.4)
White	21.6	19.8	17.5	41.0	20.7	(18.6,23.0)	29.3	(26.0,32.9)	8.6	*(4.9,12.3)
African American	25.0	24.1	28.9	44.2	24.5	(20.2,29.5)	36.6	(29.9,43.8)	12.0	*(3.4,20.7)
Hispanic	47.9	36.6	26.6	33.8	42.2	(36.5,48.1)	30.4	(24.8,36.6)	-11.8	*(-20.2,-3.4)
Less than high school	35.5	32.2	30.7	42.7	33.9	(28.9,39.3)	37.0	(30.9,43.5)	3.1	(-4.4,10.6)
High school graduate	26.4	23.4	19.9	42.3	24.9	(21.9,28.3)	31.0	(26.6,35.9)	6.1	*(0.7,11.5)
Some college	28.0	23.0	23.1	41.4	25.3	(22.4,28.5)	33.1	(28.2,38.3)	7.7	*(1.7,13.8)
College graduate	16.6	15.9	12.1	31.3	16.3	(13.6,19.4)	21.5	(18.1,25.5)	5.3	*(0.8,9.7)
One or more child(ren)[2] aged:										
12 to 13	24.6	20.2	21.2	38.8	22.3	(20.1,24.7)	29.8	(26.5,33.3)	7.5	*(3.4,11.5)
14 to 18	26.1	24.1	19.2	39.6	25.1	(22.8,27.5)	29.8	(26.5,33.3)	4.7	*(1.1,8.3)
12 to 18	25.5	22.6	19.8	39.2	24.1	(22.2,26.1)	29.7	(26.9,32.7)	5.6	*(2.5,8.8)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-7. Summary of recall among parents for all eligible Campaign TV ads

	Recall for all platforms' TV ads									
Total recall Number of ad viewings per month	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Parents with one or more child(ren)[1] aged 12 to 18										
0	34.0	41.8	33.1	19.4	37.9	(36.0,39.8)	26.1	(23.7,28.7)	31.9	(30.2,33.7)
0.01 to .99	7.9	7.0	9.3	4.6	7.5	(6.5,8.5)	6.9	(5.7,8.3)	7.2	(6.3,8.1)
1 - 3.99	32.7	28.5	37.8	36.8	30.6	(28.7,32.7)	37.3	(34.7,40.0)	34.0	(32.5,35.5)
4 - 11.99	19.7	17.8	16.4	32.4	18.8	(17.1,20.6)	24.6	(21.9,27.4)	21.7	(20.0,23.5)
12 or more	5.7	4.8	3.4	6.8	5.2	(4.2,6.5)	5.1	(4.1,6.4)	5.2	(4.4,6.1)
Total	100.0	99.9	100.0	100.0	---	---	---	---	---	---
Mean	6.15	5.39	4.95	8.29	5.77	(5.36,6.18)	6.65	(6.19,7.12)	6.22	(5.87,6.56)
95% CI	(5.60,6.69)	(4.78,6.00)	(4.37,5.54)	(7.79,8.79)	---	---	---	---	---	---

[1]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-8. Summary of recall of TV ads among parents for the "Parenting Skills/Personal Efficacy" strategic platform ads

	Percent recalling "Parenting Skills/Personal Efficacy" TV ads									
Total recall Number of ad viewings per month	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Parents with one or more child(ren)[1] aged 12 to 18										
0	63.7	51.5	92.2	100.0	57.6	(55.4,59.8)	96.2	(94.5,97.3)	77.1	(75.0,79.0)
0.01 to .99	6.1	7.6	1.3	0.0	6.8	(6.0,7.8)	0.6	(0.3,1.3)	3.7	(3.2,4.3)
1 - 3.99	23.3	28.4	6.1	0.0	25.8	(23.8,28.0)	3.0	(2.0,4.4)	14.3	(12.9,15.8)
4 - 11.99	6.3	10.0	0.4	0.0	8.1	(6.8,9.7)	0.2	(0.1,0.6)	4.1	(3.4,5.0)
12 or more	0.6	2.5	0.0	0.0	1.6	(1.0,2.4)	0.0	(0.0,0.3)	0.8	(0.5,1.2)
Total	100.0	100.0	100.0	100.0	---	---	---	---	---	---
Mean	1.98	3.48	0.30	0.00	2.72	(2.46,2.98)	0.15	(0.10,0.20)	1.42	(1.26,1.58)
95% CI	(1.78,2.17)	(2.97,3.99)	(0.21,0.39)	(S)	---	---	---	---	---	---

[1]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-9. Summary of recall of TV ads among parents for the "Your Child at Risk" strategic platform ads

Total recall Number of ad viewings per month	Percent recalling "Your Child at Risk" TV ads									
	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Parents with one or more child(ren)[1] aged 12 to 18										
0	63.8	89.5	99.3	95.4	76.5	(74.5,78.5)	97.3	(95.5,98.4)	87.0	(85.3,88.5)
0.01 to .99	3.5	0.8	0.0	0.6	2.2	(1.7,2.8)	0.3	(0.1,0.8)	1.3	(1.0,1.6)
1 - 3.99	17.2	4.6	0.2	2.9	11.0	(9.7,12.3)	1.6	(0.9,2.8)	6.3	(5.3,7.3)
4 - 11.99	13.1	4.4	0.4	1.0	8.8	(7.5,10.3)	0.7	(0.4,1.3)	4.7	(4.0,5.6)
12 or more	2.4	0.7	0.0	0.1	1.5	(1.1,2.2)	0.0	(0.0,0.2)	0.8	(0.5,1.1)
Total	100.0	100.0	99.9	100.0	---	---	---	---	---	---
Mean	3.36	1.03	0.06	0.31	2.21	(1.94,2.48)	0.19	(0.09,0.29)	1.19	(1.02,1.36)
95% CI	(2.89,3.84)	(0.79,1.27)	(0.00,0.12)	(0.12,0.50)	---	---	---	---	---	---

[1]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-10. Summary of recall of TV ads among parents for the "Perceptions of Harm" strategic platform ads

	Percent recalling "Perceptions of Harm/Marijuana" TV ads									
Total recall Number of ad viewings per month	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Parents with one or more child(ren)[1] aged 12 to 18										
0	78.8	96.0	38.3	100.0	87.3	(85.8,88.7)	69.8	(64.9,74.3)	78.5	(76.0,80.7)
0.01 to .99	5.4	0.8	10.5	0.0	3.1	(2.4,4.0)	5.1	(4.0,6.5)	4.1	(3.5,4.9)
1 - 3.99	13.2	2.9	37.4	0.0	8.1	(7.0,9.4)	18.3	(15.3,21.8)	13.3	(11.7,15.0)
4 - 11.99	2.4	0.3	12.7	0.0	1.3	(1.0,1.9)	6.2	(4.8,8.0)	3.8	(3.1,4.7)
12 or more	0.3	0.0	1.1	0.0	0.1	(0.0,0.5)	0.5	(0.3,1.0)	0.3	(0.2,0.6)
Total	100.1	100.0	100.0	100.0	---	---	---	---	---	---
Mean	0.95	0.18	3.73	0.00	0.57	(0.48,0.65)	1.83	(1.50,2.16)	1.20	(1.04,1.37)
95% CI	(0.78,1.12)	(0.11,0.24)	(3.29,4.18)	(S)	---	---	---	---	---	---

[1]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-11. Summary of recall of TV ads among parents on the topic of inhalants

Total recall Number of ad viewings per month	Recall for all inhalant TV ads									
	Wave 1 %	Wave 2[1] %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Parents with one or more child(ren)[2] aged 12 to 18										
0	92.7	100.0	66.5	98.9	96.3	(95.3,97.1)	83.0	(79.4,86.1)	89.6	(87.8,91.1)
0.01 to .99	1.9	0.0	6.5	0.1	1.0	(0.6,1.5)	3.2	(2.4,4.2)	2.1	(1.7,2.6)
1 - 3.99	4.2	0.0	23.5	0.9	2.1	(1.5,2.9)	12.0	(9.4,15.1)	7.1	(5.8,8.6)
4 - 11.99	1.1	0.0	3.3	0.2	0.6	(0.3,1.0)	1.7	(1.1,2.5)	1.1	(0.8,1.6)
12 or more	0.1	0.0	0.2	0.0	0.0	(0.0,0.2)	0.1	(0.0,0.9)	0.1	(0.0,0.4)
Total	100.0	100.0	100.0	100.1	---	---	---	---	---	---
Mean	0.36	0.00	1.59	0.07	0.18	(0.13,0.24)	0.81	(0.64,0.99)	0.50	(0.41,0.59)
95% CI	(0.25,0.47)	(S)	(1.31,1.88)	(0.00,0.13)	---	---	---	---	---	---

[1]TV ads on the topic of inhalants were not aired during Wave 2.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-12. Overall evaluation of TV ads by youth by age, gender, race/ethnicity, risk score, sensation seeking, and marijuana use

	Mean TV ad evaluation scale score[1] (-2 = most negative response, 2 = most positive response)									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	Mean	Mean	Mean	Mean	Est	95% CI	Est	95% CI	Est	95% CI
All Youth aged 12 to 18										
12 to 13	0.95	1.05	0.98	1.02	1.00	(0.95,1.05)	1.00	(0.96,1.04)	0.00	(-0.07,0.07)
14 to 15	0.74	0.84	0.70	0.76	0.79	(0.73,0.86)	0.73	(0.68,0.78)	-0.07	(-0.15,0.02)
16 to 18	0.58	0.51	0.56	0.62	0.54	(0.47,0.62)	0.59	(0.53,0.65)	0.04	(-0.05,0.13)
14 to 18	0.66	0.67	0.63	0.68	0.66	(0.61,0.71)	0.65	(0.62,0.69)	-0.01	(-0.07,0.05)
12 to 18	0.74	0.78	0.72	0.78	0.76	(0.72,0.81)	0.75	(0.73,0.78)	-0.01	(-0.06,0.04)
Youth aged 12 to 18										
Males	0.65	0.64	0.63	0.72	0.65	(0.58,0.71)	0.67	(0.62,0.73)	0.03	(-0.06,0.12)
Females	0.84	0.93	0.82	0.85	0.88	(0.83,0.93)	0.84	(0.79,0.88)	-0.05	(-0.12,0.02)
White	0.70	0.77	0.67	0.69	0.74	(0.69,0.79)	0.68	(0.64,0.72)	-0.05	(-0.11,0.00)
African American	0.92	0.82	0.90	1.05	0.87	(0.80,0.94)	0.98	(0.90,1.06)	0.11	(-0.01,0.22)
Hispanic	0.74	0.83	0.83	0.91	0.79	(0.68,0.89)	0.87	(0.79,0.95)	0.08	(-0.06,0.22)
Risk score										
Higher risk	0.51	0.52	0.49	0.56	0.52	(0.44,0.59)	0.52	(0.46,0.58)	0.00	(-0.09,0.10)
Lower risk	0.93	0.93	0.91	0.91	0.93	(0.88,0.98)	0.91	(0.87,0.95)	-0.02	(-0.08,0.04)
Sensation seeking										
High	0.57	0.59	0.53	0.61	0.58	(0.53,0.63)	0.57	(0.52,0.61)	-0.01	(-0.08,0.06)
Low	0.99	0.99	1.02	1.00	0.99	(0.93,1.04)	1.01	(0.96,1.05)	0.02	(-0.05,0.09)
Use of marijuana										
Nonuser	0.85	0.89	0.84	0.91	0.87	(0.82,0.91)	0.88	(0.84,0.91)	0.01	(-0.05,0.07)
Occasional user	0.30	0.43	0.52	0.46	0.36	(0.25,0.48)	0.49	(0.37,0.61)	0.12	(-0.02,0.26)

[1]Means represent the average response to a three-item evaluation scale (i.e., statements regarding whether the ad was attention-getting, convincing, and personally relevant).

Table 3-13. Overall evaluation of TV ads by youth by age, gender, race/ethnicity, risk score, sensation seeking, and marijuana use

	Agreement that TV ads exaggerate the problem[1] (-2 = strongly agree, 2 = strongly disagree)									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	Mean	Mean	Mean	Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	0.81	0.86	0.79	0.74	0.84	(0.77,0.90)	0.76	(0.70,0.83)	-0.07	(-0.17,0.03)
14 to 15	0.79	0.69	0.73	0.74	0.74	(0.68,0.80)	0.73	(0.68,0.79)	-0.01	(-0.09,0.08)
16 to 18	0.62	0.67	0.64	0.73	0.65	(0.56,0.74)	0.69	(0.62,0.75)	0.04	(-0.06,0.14)
14 to 18	0.70	0.68	0.68	0.73	0.69	(0.64,0.75)	0.71	(0.66,0.75)	0.02	(-0.05,0.08)
12 to 18	0.73	0.73	0.71	0.74	0.73	(0.69,0.78)	0.72	(0.69,0.76)	-0.01	(-0.06,0.05)
Youth aged 12 to 18										
Males	0.66	0.65	0.62	0.66	0.66	(0.59,0.72)	0.64	(0.58,0.70)	-0.01	(-0.10,0.07)
Females	0.81	0.82	0.81	0.82	0.82	(0.76,0.87)	0.81	(0.76,0.86)	0.00	(-0.08,0.07)
White	0.72	0.74	0.66	0.74	0.73	(0.68,0.78)	0.70	(0.66,0.75)	-0.03	(-0.09,0.03)
African American	0.80	0.75	0.79	0.72	0.77	(0.64,0.90)	0.76	(0.64,0.87)	-0.02	(-0.18,0.15)
Hispanic	0.72	0.72	0.82	0.78	0.72	(0.62,0.82)	0.80	(0.70,0.91)	0.08	(-0.05,0.21)
Risk score										
Higher risk	0.56	0.52	0.59	0.55	0.54	(0.46,0.62)	0.57	(0.50,0.64)	0.03	(-0.07,0.13)
Lower risk	0.87	0.90	0.79	0.87	0.88	(0.83,0.94)	0.83	(0.78,0.88)	-0.05	(-0.13,0.02)
Sensation seeking										
High	0.57	0.64	0.58	0.63	0.60	(0.55,0.66)	0.60	(0.56,0.65)	0.00	(-0.07,0.07)
Low	0.95	0.84	0.90	0.89	0.89	(0.82,0.96)	0.89	(0.83,0.96)	0.00	(-0.09,0.09)
Use of marijuana										
Nonuser	0.83	0.82	0.78	0.84	0.82	(0.78,0.87)	0.81	(0.76,0.86)	-0.01	(-0.07,0.05)
Occasional user	0.36	0.53	0.51	0.56	0.44	(0.31,0.56)	0.54	(0.39,0.68)	0.10	(-0.06,0.26)

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Table 3-14. Overall evaluation of TV ads by parents[1] by gender, race/ethnicity, education, and age of child(ren)

	Mean TV ad evaluation scale score[2] (-2 = most negative response, 2 = most positive response)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Overall	1.07	1.07	1.21	1.32	1.07	(1.02,1.11)	1.27	(1.24,1.31)	0.20	*(0.15,0.26)
Male	0.96	1.01	1.16	1.22	0.99	(0.92,1.06)	1.19	(1.13,1.26)	0.20	*(0.11,0.29)
Female	1.13	1.10	1.24	1.38	1.12	(1.06,1.17)	1.32	(1.29,1.36)	0.21	*(0.16,0.26)
White	0.98	1.03	1.15	1.31	1.01	(0.95,1.07)	1.24	(1.20,1.28)	0.23	*(0.16,0.31)
African American	1.06	1.23	1.38	1.35	1.16	(1.07,1.25)	1.36	(1.27,1.45)	0.20	*(0.08,0.33)
Hispanic	1.37	1.20	1.35	1.43	1.29	(1.21,1.36)	1.39	(1.28,1.50)	0.11	(-0.02,0.23)
Less than high school	1.21	1.29	1.18	1.37	1.25	(1.17,1.33)	1.29	(1.18,1.41)	0.04	(-0.09,0.17)
High school graduate	1.03	1.06	1.15	1.32	1.04	(0.98,1.11)	1.25	(1.19,1.31)	0.20	*(0.12,0.29)
Some college	1.10	1.01	1.40	1.31	1.05	(0.95,1.14)	1.34	(1.29,1.40)	0.30	*(0.19,0.41)
College graduate	0.98	0.99	1.10	1.31	0.99	(0.91,1.06)	1.22	(1.16,1.28)	0.23	*(0.14,0.32)
One or more child(ren)[3] aged:										
12 to 13	1.08	1.13	1.23	1.35	1.11	(1.06,1.16)	1.30	(1.25,1.34)	0.19	*(0.12,0.26)
14 to 18	1.06	1.02	1.21	1.31	1.04	(0.99,1.09)	1.26	(1.23,1.30)	0.22	*(0.17,0.28)
12 to 18	1.07	1.07	1.21	1.32	1.07	(1.02,1.11)	1.27	(1.24,1.31)	0.20	*(0.15,0.26)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Means represent the average response across ads to a three-item evaluation scale (i.e., statements regarding whether the ad was attention-getting, convincing, and personally relevant).

[3]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-15. Overall evaluation of TV ads by parents[1] by gender, race/ethnicity, education, and age of child(ren)

	Agreement that TV ads exaggerate the problem[2] (-2 = strongly agree, 2 = strongly disagree)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Overall	0.89	1.07	1.22	1.22	0.99	(0.93,1.05)	1.22	(1.18,1.27)	0.23	*(0.15,0.31)
Male	0.81	1.11	1.16	1.19	0.99	(0.88,1.09)	1.18	(1.10,1.26)	0.19	*(0.07,0.31)
Female	0.93	1.04	1.27	1.24	0.99	(0.91,1.07)	1.25	(1.19,1.31)	0.26	*(0.16,0.36)
White	0.95	1.09	1.26	1.28	1.03	(0.95,1.10)	1.27	(1.22,1.32)	0.24	*(0.16,0.33)
African American	0.84	1.16	1.09	1.12	1.03	(0.88,1.17)	1.11	(0.99,1.23)	0.08	(-0.11,0.28)
Hispanic	0.86	1.00	1.21	1.20	0.93	(0.77,1.09)	1.20	(1.07,1.33)	0.27	*(0.09,0.46)
Less than high school	0.78	0.82	1.03	1.04	0.80	(0.64,0.96)	1.03	(0.91,1.16)	0.23	*(0.04,0.43)
High school graduate	0.82	1.06	1.16	1.22	0.95	(0.86,1.04)	1.20	(1.10,1.29)	0.24	*(0.10,0.39)
Some college	1.07	1.15	1.35	1.27	1.12	(1.00,1.23)	1.30	(1.22,1.38)	0.18	*(0.05,0.32)
College graduate	0.87	1.13	1.31	1.26	1.01	(0.93,1.10)	1.28	(1.20,1.36)	0.27	*(0.15,0.39)
One or more child(ren)[3] aged:										
12 to 13	0.97	1.06	1.22	1.22	1.02	(0.96,1.08)	1.22	(1.15,1.28)	0.20	*(0.10,0.29)
14 to 18	0.88	1.07	1.23	1.22	0.98	(0.91,1.05)	1.22	(1.17,1.28)	0.24	*(0.15,0.33)
12 to 18	0.89	1.07	1.22	1.22	0.99	(0.93,1.05)	1.22	(1.18,1.27)	0.23	*(0.15,0.31)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]All estimates represent average disagreement with statement that an ad "exaggerates the problem."

[3]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-16. Percent of youth recalling having heard all radio ads at least once per week, averaged over aired ads, by age, gender, race/ethnicity, risk score, sensation seeking, and marijuana use

	Percent recalling having heard all radio ads at least once per week									
	Wave 1[1]	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Avg %	Avg %	Avg %	Avg %	%	95% CI	%	95% CI	Est	95% CI
All Youth aged 12 to 18										
12 to 13	N/A	4.0	10.0	3.0	N/A	N/A	6.5	(5.1,8.3)	N/A	N/A
14 to 15	N/A	5.0	14.3	3.6	N/A	N/A	9.2	(7.3,11.4)	N/A	N/A
16 to 18	N/A	2.5	12.1	2.8	N/A	N/A	7.3	(5.6,9.4)	N/A	N/A
14 to 18	N/A	3.6	13.1	3.1	N/A	N/A	8.1	(6.9,9.6)	N/A	N/A
12 to 18	N/A	3.7	12.2	3.1	N/A	N/A	7.7	(6.6,8.9)	N/A	N/A
Youth aged 12 to 18										
Males	N/A	2.2	11.1	3.3	N/A	N/A	7.2	(5.8,8.8)	N/A	N/A
Females	N/A	5.3	13.4	2.9	N/A	N/A	8.2	(6.9,9.7)	N/A	N/A
White	N/A	3.4	9.9	2.8	N/A	N/A	6.4	(5.3,7.6)	N/A	N/A
African American	N/A	5.4	19.0	6.2	N/A	N/A	12.6	(9.2,16.9)	N/A	N/A
Hispanic	N/A	4.6	14.4	1.7	N/A	N/A	8.0	(5.2,12.1)	N/A	N/A
Risk score										
Higher risk	N/A	2.0	14.8	3.3	N/A	N/A	9.0	(7.1,11.5)	N/A	N/A
Lower risk	N/A	5.3	10.7	2.7	N/A	N/A	6.6	(5.3,8.2)	N/A	N/A
Sensation seeking										
High	N/A	2.7	13.1	4.2	N/A	N/A	8.7	(7.3,10.4)	N/A	N/A
Low	N/A	4.8	11.3	1.9	N/A	N/A	6.5	(5.1,8.3)	N/A	N/A
Use of marijuana										
Nonuser	N/A	4.7	11.5	3.0	N/A	N/A	7.2	(6.1,8.6)	N/A	N/A
Occasional user	N/A	S	15.1	3.1	N/A	N/A	9.1	(6.0,13.7)	N/A	N/A

[1]Wave 1 interviews asked respondents only about ads that had aired exclusively on the radio and did not ask about radio ads that were the soundtracks for television ads. During Wave 1 almost all ads were soundtracks so there were no meaningful estimates of radio exposure.

Table 3-17. Summary of recall among youth for all eligible Campaign radio ads

Total recall Number of ad viewings per month	Recall for all radio platforms' ads									
	Wave 1[1] %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 18										
0	N/A	65.2	42.7	69.5	N/A	N/A	56.1	(54.0,58.3)	59.3	(57.8,60.7)
0.01 to .99	N/A	10.9	17.2	10.5	N/A	N/A	13.9	(12.5,15.4)	12.9	(12.0,13.9)
1 - 3.99	N/A	20.3	27.8	16.9	N/A	N/A	22.4	(20.5,24.3)	22.1	(20.7,23.5)
4 - 11.99	N/A	3.4	10.9	2.7	N/A	N/A	6.8	(5.8,8.0)	5.2	(4.6,5.9)
12 or more	N/A	0.2	1.3	0.4	N/A	N/A	0.8	(0.5,1.3)	0.5	(0.4,0.8)
Total	N/A	100.0	99.9	100.0	---	---	---	---	---	---
Mean	N/A	1.35	3.05	1.16	N/A	N/A	2.10	(1.92,2.28)	1.78	(1.67,1.89)
95% CI	N/A	(1.18,1.52)	(2.74,3.35)	(1.00,1.32)	---	---	---	---	---	---

[1]Wave 1 interviews asked respondents only about ads that had aired exclusively on the radio and did not ask about radio ads that were the soundtracks for television ads. During Wave 1 almost all ads were soundtracks so there were no meaningful estimates of radio exposure.

Table 3-18. Summary of recall of radio ads among youth for the "Negative Consequences" strategic platform ads

Total recall Number of ad viewings per month	Percent recalling "Negative Consequences" radio ads									
	Wave 1[1] %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 18										
0	N/A	81.3	96.1	84.1	N/A	N/A	90.1	(89.0,91.1)	83.4	(82.3,84.4)
0.01 to .99	N/A	7.6	1.5	6.3	N/A	N/A	3.9	(3.3,4.5)	6.7	(6.0,7.4)
1 - 3.99	N/A	9.5	2.2	9.0	N/A	N/A	5.6	(4.8,6.4)	8.9	(8.0,9.8)
4 - 11.99	N/A	1.6	0.3	0.6	N/A	N/A	0.4	(0.2,0.8)	1.1	(0.8,1.4)
12 or more	N/A	0.0	0.0	0.0	N/A	N/A	0.0	(0.0,0.2)	0.0	(0.0,0.1)
Total	N/A	100.0	100.1	100.0	---	---	---	---	---	---
Mean	N/A	0.63	0.13	0.46	N/A	N/A	0.29	(0.25,0.34)	0.53	(0.48,0.58)
95% CI	N/A	(0.49,0.77)	(0.07,0.19)	(0.39,0.53)	---	---	---	---	---	---

[1]Wave 1 interviews asked respondents only about ads that had aired exclusively on the radio and did not ask about radio ads that were the soundtracks for television ads. During Wave 1 almost all ads were soundtracks so there were no meaningful estimates of radio exposure.

Table 3-19. Summary of recall of radio ads among youth for the "Normative Positive Consequences" strategic platform ads

Total recall Number of ad viewings per month	Percent recalling "Normative Positive Consequences" radio ads									
	Wave 1[1] %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 18										
0 _____	N/A	98.9	71.7	80.6	N/A	N/A	76.2	(73.9,78.3)	85.1	(83.8,86.4)
0.01 to .99_____	N/A	0.3	9.0	8.1	N/A	N/A	8.6	(7.6,9.6)	5.5	(5.0,6.1)
1 - 3.99 _____	N/A	0.7	14.5	9.4	N/A	N/A	12.0	(10.4,13.7)	7.6	(6.7,8.6)
4 - 11.99 _____	N/A	0.0	4.2	1.8	N/A	N/A	3.0	(2.3,4.0)	1.6	(1.2,2.1)
12 or more_____	N/A	0.0	0.5	0.1	N/A	N/A	0.3	(0.1,0.6)	0.1	(0.1,0.3)
Total _____	N/A	99.9	99.9	100.0	---	---	---	---	---	---
Mean_____	N/A	0.04	1.39	0.70	N/A	N/A	1.05	(0.90,1.20)	0.61	(0.53,0.69)
95% CI_____	N/A	(0.01,0.07)	(1.13,1.65)	(0.58,0.82)	---	---	---	---	---	---

[1]Wave 1 interviews asked respondents only about ads that had aired exclusively on the radio and did not ask about radio ads that were the soundtracks for television ads. During Wave 1 almost all ads were soundtracks so there were no meaningful estimates of radio exposure.

Table 3-20. Summary of recall of radio ads among youth for the "Resistance Skills" strategic platform ads

Total recall Number of ad viewings per month	Percent recalling "Resistance Skills" radio ads									
	Wave 1[1] %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 18										
0 _____	N/A	89.8	62.4	99.6	N/A	N/A	81.0	(79.3,82.5)	85.5	(84.4,86.5)
0.01 to .99_____	N/A	3.0	13.5	0.2	N/A	N/A	6.9	(5.8,8.1)	5.1	(4.5,5.7)
1 - 3.99 _____	N/A	6.3	19.3	0.2	N/A	N/A	9.8	(8.6,11.1)	7.8	(7.0,8.6)
4 - 11.99 _____	N/A	1.0	4.6	0.0	N/A	N/A	2.3	(1.8,2.9)	1.6	(1.3,2.0)
12 or more_____	N/A	0.0	0.2	0.0	N/A	N/A	0.1	(0.0,0.2)	0.1	(0.0,0.1)
Total _____	N/A	100.1	100.0	100.0	---	---	---	---	---	---
Mean_____	N/A	0.39	1.53	0.01	N/A	N/A	0.77	(0.69,0.85)	0.57	(0.51,0.63)
95% CI_____	N/A	(0.30,0.49)	(1.37,1.69)	(0.00,0.01)	---	---	---	---	---	---

[1]Wave 1 interviews asked respondents only about ads that had aired exclusively on the radio and did not ask about radio ads that were the soundtracks for television ads. During Wave 1 almost all ads were soundtracks so there were no meaningful estimates of radio exposure.

Table 3-21. Percent of parents[1] recalling having heard parent-targeted Campaign radio ads at least once per week, averaged[2] over aired ads, by gender, race/ethnicity, education, and age of child(ren)

	Percent recalling having heard radio ads at least once per week									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Avg %	Wave 2 Avg %	Wave 3 Avg %	Wave 4 Avg %	%	95% CI	%	95% CI	Est	95% CI
Overall	10.0	11.0	17.1	14.9	10.5	(9.0,12.2)	16.0	(14.2,17.9)	5.5	*(3.0,7.9)
Male	12.1	15.3	17.7	14.2	13.8	(11.2,16.9)	16.0	(13.3,19.2)	2.2	(-1.6,6.0)
Female	8.8	7.6	16.8	15.2	8.2	(6.6,10.1)	15.9	(13.8,18.3)	7.7	*(4.9,10.6)
White	9.3	12.6	14.7	13.7	10.9	(9.3,12.7)	14.2	(12.3,16.4)	3.3	*(0.8,5.8)
African American	8.6	9.2	24.9	19.9	8.9	(5.6,13.9)	22.4	(17.3,28.5)	13.5	*(6.0,20.9)
Hispanic	16.5	7.3	22.3	14.5	11.7	(8.1,16.6)	18.2	(13.6,23.9)	6.5	*(0.0,12.9)
Less than high school	19.6	10.7	25.7	17.7	15.2	(11.3,20.1)	21.5	(16.7,27.2)	6.3	*(0.3,12.3)
High school graduate	10.3	10.8	14.5	15.6	10.5	(8.0,13.7)	15.0	(12.1,18.6)	4.5	*(0.2,8.9)
Some college	10.0	11.8	22.3	18.0	11.0	(8.3,14.3)	20.0	(16.4,24.1)	9.0	*(4.0,13.9)
College graduate	4.6	10.7	12.5	9.2	7.6	(5.4,10.5)	10.9	(8.5,13.9)	3.3	(-0.3,6.9)
One or more child(ren)[3] aged:										
12 to 13	10.8	10.3	16.8	16.8	10.6	(8.9,12.6)	16.8	(14.8,19.1)	6.2	*(3.2,9.2)
14 to 18	9.9	10.9	17.5	14.3	10.4	(8.6,12.5)	15.9	(13.7,18.4)	5.5	*(2.4,8.6)
12 to 18	10.0	11.0	17.1	14.9	10.5	(9.0,12.2)	16.0	(14.2,17.9)	5.5	*(3.0,7.9)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]See Sections 2.2.5, 2.4.1, 3.2.2 and E.3 for guidance on interpretatic
Campaign-sponsored ad aimed at parents at least once per week can also be derived by summing the "'4-11.9" and "12 or more" lines of Table 3-22, except for rounding error.

[3]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-22. Summary of recall of radio ads among parents overall for all strategic platforms

	Recall for all radio platform ads									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Average for all waves	
Total recall	%	%	%	%	%	95% CI	%	95% CI	%	95% CI
Parents with one or more child(ren)[1] aged 12 to 18										
0	51.5	53.8	41.6	48.9	52.6	(50.2,55.0)	45.4	(42.5,48.3)	49.0	(47.1,50.8)
0.01 to .99	9.2	5.7	11.8	4.4	7.4	(6.5,8.5)	8.0	(6.7,9.5)	7.7	(7.0,8.5)
1 - 3.99	29.4	29.6	29.4	31.8	29.5	(27.5,31.6)	30.7	(28.2,33.2)	30.1	(28.4,31.8)
4 - 11.99	8.2	10.5	15.2	12.7	9.4	(8.0,10.9)	14.0	(12.2,15.9)	11.7	(10.5,13.0)
12 or more	1.7	0.4	1.9	2.1	1.1	(0.8,1.5)	2.0	(1.4,2.8)	1.6	(1.2,2.0)
Total	100.0	100.0	99.9	99.9	---	---	---	---	---	---
Mean	3.05	2.95	3.94	3.77	3.00	(2.75,3.25)	3.85	(3.54,4.16)	3.43	(3.24,3.62)
95% CI	(2.69,3.40)	(2.66,3.24)	(3.48,4.40)	(3.41,4.13)	---	---	---	---	---	---

[1]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-23. Summary of recall of radio ads among parents for the "Parenting Skills/Personal Efficacy" strategic platform ads

	Percent recalling "Parenting Skills/Personal Efficacy" radio ads									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Average for all waves	
Total recall	%	%	%	%	%	95% CI	%	95% CI	%	95% CI
Parents with one or more child(ren)[1] aged 12 to 18										
0	71.9	53.8	90.4	100.0	63.0	(60.8,65.1)	95.3	(93.6,96.5)	79.3	(77.1,81.3)
0.01 to .99	5.8	5.7	2.6	0.0	5.7	(4.8,6.8)	1.3	(0.9,1.9)	3.5	(3.0,4.1)
1 - 3.99	18.5	29.6	6.4	0.0	24.0	(22.1,26.0)	3.1	(2.2,4.4)	13.5	(12.0,15.1)
4 - 11.99	3.6	10.5	0.5	0.0	7.0	(5.9,8.4)	0.3	(0.1,0.7)	3.6	(3.0,4.3)
12 or more	0.2	0.4	0.1	0.0	0.3	(0.1,0.6)	0.1	(0.0,0.5)	0.2	(0.1,0.4)
Total	100.0	100.0	100.0	100.0	---	---	---	---	---	---
Mean	1.36	2.95	0.42	0.00	2.15	(1.97,2.33)	0.21	(0.13,0.28)	1.17	(1.03,1.31)
95% CI	(1.15,1.58)	(2.66,3.24)	(0.29,0.56)	(S)	---	---	---	---	---	---

[1]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-24. Summary of recall of radio ads among parents for the "Your Child at Risk" strategic platform ads

	Percent recalling "Your Child at Risk" radio ads									
	Wave 1	Wave 2[1]	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Average for all waves	
Total recall	%	%	%	%	%	95% CI	%	95% CI	%	95% CI
Parents with one or more child(ren)[2] aged 12 to 18										
0 _____	77.6	100.0	100.0	97.3	88.7	(87.3,90.0)	98.6	(97.4,99.3)	93.7	(92.7,94.6)
0.01 to .99_____	4.2	0.0	0.0	0.0	2.1	(1.6,2.8)	0.0	(0.0,0.2)	1.1	(0.8,1.4)
1 - 3.99 _____	13.3	0.0	0.0	1.9	6.7	(5.8,7.7)	1.0	(0.5,1.9)	3.8	(3.2,4.5)
4 - 11.99 _____	4.4	0.0	0.0	0.7	2.2	(1.6,3.0)	0.4	(0.2,0.9)	1.3	(1.0,1.7)
12 or more_____	0.5	0.0	0.0	0.0	0.3	(0.1,0.7)	0.0	(0.0,0.2)	0.1	(0.1,0.3)
Total _____	100.0	100.0	100.0	99.9	---	---	---	---	---	---
Mean_____	1.34	0.00	0.00	0.18	0.68	(0.56,0.80)	0.09	(0.03,0.15)	0.38	(0.31,0.46)
95% CI_____	(1.10,1.59)	(S)	(S)	(0.06,0.30)	---	---	---	---	---	---

[1]Radio ads for the "Your child at risk" strategic platform were not aired during Waves 2 and 3.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-25. Summary of recall of radio ads among parents for the "Perceptions of Harm" strategic platform ads

	Percent recalling "Perceptions of Harm/Marijuana" radio ads									
	Wave 1	Wave 2[1]	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Average for all waves	
Total recall	%	%	%	%	%	95% CI	%	95% CI	%	95% CI
Parents with one or more child(ren)[2] aged 12 to 18										
0 _____	91.0	100.0	52.9	81.5	95.5	(94.5,96.3)	67.5	(64.1,70.7)	81.3	(79.5,83.0)
0.01 to .99_____	2.5	0.0	9.8	3.9	1.3	(0.9,1.9)	6.8	(5.6,8.3)	4.1	(3.4,4.8)
1 - 3.99 _____	5.8	0.0	25.3	11.6	2.9	(2.3,3.7)	18.3	(16.4,20.4)	10.7	(9.7,11.8)
4 - 11.99 _____	0.6	0.0	10.4	2.7	0.3	(0.2,0.7)	6.5	(5.3,7.9)	3.4	(2.9,4.1)
12 or more_____	0.0	0.0	1.6	0.2	0.0	(0.0,0.3)	0.9	(0.5,1.7)	0.4	(0.2,0.9)
Total _____	99.9	100.0	100.0	99.9	---	---	---	---	---	---
Mean_____	0.34	0.00	3.00	0.97	0.17	(0.12,0.22)	1.96	(1.69,2.24)	1.08	(0.94,1.22)
95% CI_____	(0.25,0.43)	(S)	(2.56,3.45)	(0.79,1.14)	---	---	---	---	---	---

[1]Radio ads for the "Perceptions of Harm/Marijuana" strategic platform were not aired during Wave 2.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-26. Summary of recall of radio ads among parents on the topic of inhalants

	Recall for all inhalant radio ads									
	Wave 1	Wave 2[1]	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Average for all waves	
Total recall	%	%	%	%	%	95% CI	%	95% CI	%	95% CI
Parents with one or more child(ren)[2] aged 12 to 18										
0	91.0	100.0	63.2	99.0	95.5	(94.5,96.3)	81.4	(78.0,84.5)	88.4	(86.7,89.9)
0.01 to .99	2.5	0.0	9.8	0.0	1.3	(0.9,1.9)	4.8	(3.6,6.4)	3.1	(2.4,3.9)
1 - 3.99	5.8	0.0	21.0	0.5	2.9	(2.3,3.7)	10.6	(8.6,12.9)	6.8	(5.8,7.9)
4 - 11.99	0.6	0.0	5.9	0.4	0.3	(0.2,0.7)	3.1	(2.2,4.3)	1.7	(1.3,2.4)
12 or more	0.0	0.0	0.1	0.0	0.0	(0.0,0.3)	0.1	(0.0,0.4)	0.0	(0.0,0.2)
Total	99.9	100.0	100.0	99.9	---	---	---	---	---	---
Mean	0.34	0.00	1.75	0.09	0.17	(0.12,0.22)	0.90	(0.72,1.08)	0.54	(0.45,0.63)
95% CI	(0.25,0.43)	(S)	(1.48,2.02)	(0.02,0.15)	---	---	---	---	---	---

[1]Radio ads on the topic of inhalants were not aired during Wave 2.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-27. Recall of general anti-drug advertising among youth

Total recall Number of ad viewings per month	Percent recalling general anti-drug advertising									
	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Youth aged 12 to 13										
0 to .99 _____	9.6	7.2	7.3	11.6	8.4	(7.2,9.7)	9.4	(7.7,11.6)	8.9	(7.8,10.2)
1 - 3.99 _____	16.0	14.4	16.7	19.6	15.2	(13.0,17.6)	18.1	(16.0,20.5)	16.6	(14.9,18.5)
4 - 11.99 _____	23.7	25.3	21.8	23.9	24.6	(22.6,26.6)	22.8	(19.9,26.0)	23.7	(22.0,25.4)
12 or more _____	50.7	53.0	54.1	44.9	51.9	(49.1,54.7)	49.7	(47.0,52.3)	50.8	(48.6,52.9)
Total _____	100.0	99.9	99.9	100.0	---	---				
Mean_____	28.43	32.22	29.78	27.16	30.35	(28.21,32.49)	28.46	(26.31,30.61)	29.39	(27.89,30.89)
95% CI_____	(26.20,30.67)	(28.60,35.85)	(26.87,32.69)	(24.22,30.09)	---	---				
Youth aged 14 to 18										
0 to .99 _____	5.9	5.1	5.3	7.4	5.5	(4.3,6.9)	6.3	(5.1,7.8)	5.9	(5.0,7.0)
1 - 3.99 _____	17.5	15.4	17.8	18.9	16.4	(14.3,18.8)	18.4	(16.4,20.4)	17.4	(15.9,18.9)
4 - 11.99 _____	26.1	22.0	24.1	26.6	24.1	(21.6,26.6)	25.3	(23.1,27.7)	24.7	(23.0,26.4)
12 or more _____	50.6	57.6	52.8	47.0	54.1	(51.1,57.0)	50.0	(47.2,52.8)	52.0	(49.8,54.2)
Total _____	100.1	100.1	100.0	99.9	---	---				
Mean_____	26.56	32.83	28.57	25.93	29.68	(27.71,31.65)	27.25	(25.52,28.98)	28.45	(27.16,29.75)
95% CI_____	(24.49,28.62)	(29.52,36.13)	(26.06,31.08)	(23.78,28.08)	---	---	---	---	---	---

Table 3-28. Recall of general TV and radio advertising, by youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth reporting having seen or heard TV or radio ads at least weekly									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	53.0	53.3	53.6	53.8	53.2	(49.6,56.7)	53.7	(51.1,56.3)	0.5	(-3.2,4.3)
14 to 15	57.7	61.0	62.0	59.8	59.3	(54.9,63.6)	60.9	(57.3,64.4)	1.6	(-3.8,7.0)
16 to 18	52.9	62.4	54.1	54.6	57.6	(53.9,61.2)	54.3	(50.4,58.2)	-3.3	(-8.2,1.6)
14 to 18	55.0	61.8	57.8	56.9	58.4	(55.2,61.5)	57.3	(54.6,60.0)	-1.1	(-4.8,2.6)
12 to 18	54.4	59.3	56.5	56.0	56.9	(54.0,59.7)	56.3	(54.0,58.5)	-0.6	(-3.6,2.3)
Youth aged 12 to 18										
Males	54.5	60.2	55.0	54.7	57.4	(53.9,60.8)	54.8	(51.8,57.8)	-2.5	(-6.5,1.4)
Females	54.4	58.3	58.2	57.3	56.3	(52.9,59.8)	57.8	(55.0,60.4)	1.4	(-2.2,5.0)
White	55.4	59.6	55.5	55.1	57.5	(54.6,60.3)	55.3	(52.5,58.0)	-2.2	(-5.9,1.4)
African American	54.8	58.2	61.6	57.5	56.5	(49.7,63.2)	59.5	(54.3,64.6)	3.0	(-4.2,10.2)
Hispanic	45.3	61.0	58.6	56.0	53.2	(47.9,58.5)	57.3	(52.4,62.1)	4.1	(-2.6,10.8)
Risk score										
Higher risk	54.4	64.1	60.9	55.7	59.0	(54.7,63.1)	58.3	(54.3,62.1)	-0.7	(-5.9,4.4)
Lower risk	54.5	56.3	55.0	57.3	55.4	(51.7,59.0)	56.2	(53.6,58.7)	0.8	(-3.2,4.7)
Sensation seeking										
High	56.8	65.4	61.0	57.1	61.0	(58.2,63.7)	59.1	(56.1,61.9)	-1.9	(-5.4,1.6)
Low	50.7	52.4	50.7	54.1	51.6	(47.1,56.1)	52.5	(49.3,55.7)	0.9	(-3.5,5.3)

Table 3-29. Recall of newspaper and magazine advertising, by youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth reporting having seen newspaper or magazine ads at least weekly									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	25.4	30.0	25.5	22.5	27.8	(25.3,30.3)	24.0	(21.7,26.5)	-3.7	*(-7.1,-0.4)
14 to 15	27.6	32.0	28.8	23.2	29.8	(26.1,33.8)	26.1	(23.3,29.1)	-3.7	(-8.5,1.0)
16 to 18	21.8	30.1	26.1	20.6	25.9	(22.8,29.3)	23.2	(20.4,26.3)	-2.7	(-6.9,1.5)
14 to 18	24.4	31.0	27.4	21.7	27.7	(25.2,30.3)	24.5	(22.4,26.8)	-3.2	(-6.3,0.0)
12 to 18	24.7	30.7	26.8	21.9	27.7	(25.8,29.7)	24.4	(22.5,26.3)	-3.3	*(-5.9,-0.7)
Youth aged 12 to 18										
Males	25.1	30.6	27.0	21.3	27.9	(25.1,30.9)	24.2	(21.8,26.7)	-3.7	*(-6.9,-0.5)
Females	24.2	30.8	26.6	22.6	27.5	(24.8,30.3)	24.6	(22.0,27.4)	-2.9	(-6.5,0.7)
White	22.4	28.6	23.4	19.2	25.5	(22.9,28.1)	21.3	(19.0,23.8)	-4.1	*(-7.7,-0.5)
African American	30.1	37.2	36.3	29.9	33.7	(29.4,38.3)	33.1	(28.4,38.1)	-0.6	(-7.0,5.7)
Hispanic	29.8	34.4	33.6	25.9	32.1	(27.7,36.9)	29.7	(25.7,34.1)	-2.4	(-8.4,3.6)
Risk score										
Higher risk	26.8	34.6	28.9	22.3	30.5	(27.2,34.1)	25.6	(22.4,29.1)	-4.9	*(-9.5,-0.3)
Lower risk	24.1	30.0	25.5	21.2	27.1	(24.6,29.9)	23.3	(21.1,25.7)	-3.8	*(-7.4,-0.3)
Sensation seeking										
High	25.8	33.4	28.8	23.1	29.5	(26.8,32.4)	26.0	(23.4,28.8)	-3.5	(-7.2,0.2)
Low	23.7	27.4	24.3	20.1	25.6	(23.0,28.4)	22.2	(19.9,24.6)	-3.5	*(-6.9,0.0)

Table 3-30. Recall of movie theater and video rental advertising, by youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth reporting having seen movie theatre or video rental ads at least weekly									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	7.8	8.0	9.7	8.2	7.9	(6.6,9.5)	8.9	(7.2,11.0)	1.0	(-1.4,3.4)
14 to 15	6.2	6.8	6.0	8.1	6.5	(5.1,8.3)	7.0	(5.4,9.0)	0.5	(-1.8,2.8)
16 to 18	6.4	9.2	5.7	4.1	7.8	(6.0,10.0)	4.9	(3.5,6.8)	-2.9	*(-5.7,-0.1)
14 to 18	6.3	8.1	5.9	5.8	7.2	(6.0,8.6)	5.9	(4.7,7.3)	-1.3	(-3.3,0.6)
12 to 18	6.8	8.1	7.0	6.5	7.4	(6.4,8.6)	6.8	(5.8,7.9)	-0.6	(-2.3,1.0)
Youth aged 12 to 18										
Males	7.1	8.5	8.1	6.8	7.8	(6.2,9.8)	7.4	(6.2,8.9)	-0.4	(-2.6,1.9)
Females	6.4	7.6	5.8	6.3	7.0	(5.7,8.5)	6.1	(4.8,7.6)	-0.9	(-2.9,1.0)
White	5.5	6.0	4.3	4.8	5.8	(4.5,7.3)	4.6	(3.7,5.6)	-1.2	(-3.1,0.7)
African American	10.1	16.1	12.7	10.4	13.2	(9.9,17.4)	11.5	(8.8,15.0)	-1.7	(-7.0,3.6)
Hispanic	9.1	9.5	13.8	10.5	9.3	(7.0,12.3)	12.1	(8.7,16.7)	2.8	(-2.4,8.0)
Risk score										
Higher risk	7.4	11.4	7.3	6.2	9.3	(7.1,12.2)	6.7	(5.0,9.0)	-2.6	(-6.0,0.9)
Lower risk	6.4	5.9	6.8	6.4	6.1	(5.0,7.5)	6.6	(5.4,8.0)	0.4	(-1.4,2.2)
Sensation seeking										
High	6.9	8.8	7.1	6.2	7.8	(6.3,9.6)	6.6	(5.3,8.3)	-1.2	(-3.4,1.1)
Low	6.9	6.8	6.7	6.7	6.9	(5.2,9.0)	6.7	(5.4,8.3)	-0.2	(-2.5,2.2)

Table 3-31. Recall of billboard and other public posting advertising, by youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth reporting having seen billboard or other public posting ads at least weekly									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	27.0	30.0	26.5	25.4	28.5	(26.1,31.1)	25.9	(23.3,28.8)	-2.6	(-6.1,1.0)
14 to 15	31.2	23.5	28.7	29.4	27.3	(24.0,30.8)	29.0	(26.1,32.1)	1.8	(-2.6,6.2)
16 to 18	25.9	25.6	24.2	25.7	25.8	(22.7,29.1)	25.0	(21.7,28.5)	-0.8	(-5.5,4.0)
14 to 18	28.3	24.6	26.3	27.3	26.4	(24.1,28.9)	26.8	(24.4,29.3)	0.4	(-2.7,3.5)
12 to 18	27.9	26.2	26.4	26.7	27.0	(25.2,28.9)	26.5	(24.6,28.6)	-0.5	(-3.0,2.0)
Youth aged 12 to 18										
Males	29.0	28.6	25.5	27.1	28.8	(26.3,31.4)	26.3	(23.5,29.3)	-2.5	(-6.0,1.0)
Females	26.7	23.6	27.2	26.4	25.2	(22.6,28.0)	26.8	(24.4,29.4)	1.6	(-1.9,5.1)
White	24.7	23.5	23.3	23.7	24.1	(21.8,26.6)	23.5	(20.9,26.3)	-0.6	(-3.8,2.6)
African American	36.5	33.8	37.2	31.5	35.1	(29.6,41.1)	34.3	(29.7,39.3)	-0.8	(-8.4,6.7)
Hispanic	33.4	30.3	28.7	34.2	31.8	(27.2,36.9)	31.5	(27.0,36.3)	-0.4	(-6.6,5.8)
Risk score										
Higher risk	27.4	29.6	28.4	28.2	28.4	(25.5,31.5)	28.3	(24.6,32.3)	-0.1	(-4.8,4.6)
Lower risk	28.9	24.5	26.0	26.3	26.7	(24.2,29.3)	26.2	(24.0,28.4)	-0.5	(-3.8,2.8)
Sensation seeking										
High	29.1	27.2	27.1	27.9	28.2	(25.9,30.5)	27.5	(24.8,30.4)	-0.7	(-3.8,2.5)
Low	26.6	25.2	25.1	25.0	25.9	(22.8,29.3)	25.1	(22.7,27.6)	-0.9	(-5.0,3.2)

Table 3-32. Summary of recall of general anti-drug advertising among parents[1]

Total recall Number of ad viewings per month	Percent recalling general anti-drug advertising									
	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Average for all waves %	95% CI
Overall										
0 to .99	7.4	6.6	7.4	7.8	7.0	(5.9,8.3)	7.6	(6.6,8.9)	7.3	(6.5,8.3)
1 - 3.99	20.7	23.4	22.9	26.8	22.0	(20.0,24.2)	24.9	(22.8,27.1)	23.4	(22.0,25.0)
4 - 11.99	28.6	28.0	28.9	29.2	28.3	(26.4,30.3)	29.1	(26.6,31.7)	28.7	(27.2,30.3)
12 or more	43.3	42.0	40.7	36.1	42.7	(40.1,45.3)	38.4	(35.8,41.1)	40.6	(38.8,42.3)
Total	100.0	100.0	99.9	99.9	---	---				
Mean	21.98	20.21	21.11	19.63	21.11	(19.75,22.46)	20.36	(18.90,21.82)	20.73	(19.62,21.84)
95% CI	(20.48,23.48)	(18.16,22.26)	(18.94,23.29)	(17.84,21.43)	---	---	---	---	---	---

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

Table 3-33. Recall of general TV and radio advertising, by parents'[1] gender, race/ethnicity, education, and age of child(ren)

	Percent of parents reporting having seen or heard TV or radio ads at least weekly									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	51.4	47.8	49.1	48.5	49.6	(47.0,52.2)	48.8	(46.7,50.9)	-0.8	(-4.1,2.5)
Male	50.4	43.5	49.3	47.4	46.7	(42.7,50.7)	48.4	(44.8,52.0)	1.7	(-3.1,6.6)
Female	52.0	51.2	48.9	49.1	51.6	(48.4,54.9)	49.0	(46.2,51.8)	-2.6	(-6.6,1.4)
White	50.2	46.9	48.1	47.2	48.6	(45.6,51.6)	47.7	(45.3,50.0)	-0.9	(-4.8,2.9)
African American	56.5	54.5	56.6	55.8	55.5	(48.5,62.2)	56.2	(49.2,63.0)	0.8	(-8.8,10.3)
Hispanic	58.1	53.0	48.7	53.7	55.5	(49.7,61.2)	51.3	(45.0,57.5)	-4.2	(-12.7,4.2)
Less than high school	49.3	37.5	53.1	50.5	43.6	(37.8,49.6)	51.7	(44.4,59.0)	8.1	(-1.2,17.5)
High school graduate	55.3	49.6	50.1	53.4	52.6	(48.8,56.3)	51.8	(47.6,55.9)	-0.8	(-6.8,5.2)
Some college	53.2	56.7	53.7	52.1	55.1	(50.8,59.3)	52.8	(48.1,57.6)	-2.2	(-8.3,3.9)
College graduate	45.0	40.9	42.6	37.5	43.0	(38.6,47.6)	40.1	(36.5,43.9)	-2.9	(-8.4,2.7)
One or more child(ren)[2] aged:										
12 to 13	47.3	46.9	51.8	49.2	47.1	(44.3,50.0)	50.5	(47.6,53.4)	3.4	(-1.1,7.8)
14 to 18	52.9	49.1	47.7	48.7	51.0	(48.0,54.1)	48.2	(45.4,51.0)	-2.8	(-6.8,1.2)
12 to 18	51.4	47.8	49.1	48.5	49.6	(47.0,52.2)	48.8	(46.7,50.9)	-0.8	(-4.1,2.5)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-34. Recall of newspaper and magazine advertising, by parents[1] gender, race/ethnicity, education, and age of child(ren)

	Percent of parents reporting having seen newspaper or magazine ads at least weekly									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	22.6	20.5	21.4	18.4	21.6	(19.8,23.5)	19.8	(17.8,22.1)	-1.7	(-4.4,0.9)
Male	23.0	18.4	23.8	14.7	20.5	(17.9,23.5)	19.4	(16.3,23.0)	-1.1	(-5.1,2.9)
Female	22.4	22.3	19.7	20.5	22.3	(20.0,24.9)	20.1	(17.7,22.8)	-2.2	(-5.4,1.0)
White	19.0	16.3	18.8	15.4	17.7	(15.6,20.0)	17.1	(14.9,19.5)	-0.6	(-3.2,2.0)
African American	33.4	34.8	33.7	29.6	34.1	(27.9,40.9)	31.7	(25.6,38.4)	-2.5	(-11.3,6.3)
Hispanic	32.6	28.8	22.8	24.0	30.7	(25.0,37.0)	23.4	(19.3,28.2)	-7.2	(-15.3,0.8)
Less than high school	23.9	19.0	28.9	21.3	21.5	(17.4,26.3)	25.0	(19.3,31.6)	3.4	(-3.6,10.5)
High school graduate	26.6	23.3	21.8	21.6	25.0	(21.4,29.0)	21.7	(18.5,25.3)	-3.3	(-8.6,2.1)
Some college	21.8	21.3	26.2	18.7	21.5	(18.4,24.9)	22.1	(18.5,26.2)	0.6	(-4.2,5.5)
College graduate	17.7	16.9	13.7	12.6	17.3	(14.4,20.7)	13.2	(10.5,16.4)	-4.1	*(-8.1,-0.2)
One or more child(ren)[2] aged:										
12 to 13	21.4	17.5	22.8	16.5	19.4	(17.3,21.7)	19.7	(17.2,22.5)	0.3	(-3.4,3.9)
14 to 18	22.7	21.7	21.1	18.7	22.2	(19.9,24.7)	19.8	(17.4,22.6)	-2.4	(-5.5,0.8)
12 to 18	22.6	20.5	21.4	18.4	21.6	(19.8,23.5)	19.8	(17.8,22.1)	-1.7	(-4.4,0.9)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-35. Recall of movie theater and video rental advertising, by parents'[1] gender, race/ethnicity, education, and age of child(ren)

	Percent of parents reporting having seen movie theatre or video rental ads at least weekly									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	3.0	2.7	4.0	3.7	2.8	(2.3,3.4)	3.9	(3.0,5.0)	1.0	*(0.0,2.0)
Male	2.0	0.9	2.9	2.8	1.4	(0.9,2.3)	2.9	(1.9,4.3)	1.5	*(0.1,2.8)
Female	3.6	4.1	4.8	4.3	3.8	(3.1,4.7)	4.5	(3.3,6.1)	0.7	(-0.7,2.0)
White	1.0	0.8	2.4	1.5	0.9	(0.6,1.5)	1.9	(1.2,3.1)	1.0	*(0.0,2.0)
African American	7.1	7.2	7.4	9.3	7.1	(4.9,10.4)	8.4	(5.4,12.7)	1.2	(-2.8,5.2)
Hispanic	7.3	6.6	7.8	9.2	7.0	(4.6,10.5)	8.6	(5.6,12.9)	1.6	(-2.5,5.6)
Less than high school	9.7	5.4	10.8	5.6	7.6	(5.5,10.5)	8.1	(5.4,12.0)	0.5	(-3.3,4.3)
High school graduate	3.0	3.1	3.0	4.9	3.0	(2.0,4.6)	3.9	(2.6,5.9)	0.9	(-1.1,2.9)
Some college	1.5	2.3	4.8	3.2	1.9	(1.2,3.0)	4.0	(2.4,6.5)	2.1	(0.0,4.1)
College graduate	1.1	1.1	1.7	2.0	1.1	(0.6,1.9)	1.8	(1.0,3.4)	0.7	(-0.5,2.0)
One or more child(ren)[2] aged:										
12 to 13	2.7	2.6	5.8	5.1	2.7	(1.9,3.8)	5.4	(4.2,7.0)	2.8	*(1.2,4.3)
14 to 18	3.2	2.4	3.1	3.6	2.8	(2.2,3.6)	3.3	(2.4,4.7)	0.5	(-0.7,1.8)
12 to 18	3.0	2.7	4.0	3.7	2.8	(2.3,3.4)	3.9	(3.0,5.0)	1.0	*(0.0,2.0)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-36. Recall of billboard and other public posting advertising, by parents'[1] gender, race/ethnicity, education, and age of child(ren)

	Percent of parents reporting having seen billboard or other public posting ads at least weekly									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	23.3	24.0	22.7	23.4	23.6	(21.6,25.7)	23.1	(21.0,25.3)	-0.6	(-3.5,2.4)
Male	22.0	25.0	22.8	21.2	23.6	(20.4,27.2)	22.0	(19.1,25.2)	-1.6	(-5.8,2.6)
Female	24.0	23.2	22.7	24.7	23.6	(21.3,26.0)	23.7	(21.2,26.4)	0.1	(-3.2,3.5)
White	19.2	21.8	18.8	20.7	20.4	(18.3,22.7)	19.7	(17.5,22.2)	-0.7	(-3.9,2.5)
African American	32.6	31.9	34.9	30.8	32.2	(27.5,37.3)	32.9	(26.2,40.3)	0.6	(-7.2,8.5)
Hispanic	33.9	30.4	31.2	29.0	32.1	(26.2,38.8)	30.1	(25.2,35.5)	-2.1	(-10.1,5.9)
Less than high school	26.0	23.4	26.8	24.0	24.8	(19.9,30.3)	25.4	(20.9,30.4)	0.6	(-5.5,6.7)
High school graduate	23.9	24.1	21.3	25.4	24.0	(20.6,27.8)	23.3	(19.9,27.1)	-0.7	(-6.1,4.6)
Some college	26.0	23.7	26.3	25.0	24.7	(20.9,29.0)	25.6	(21.8,29.7)	0.8	(-4.7,6.4)
College graduate	19.2	24.4	19.4	19.0	21.7	(18.3,25.4)	19.2	(16.1,22.8)	-2.5	(-7.4,2.5)
One or more child(ren)[2] aged:										
12 to 13	23.8	22.7	25.3	24.2	23.2	(20.8,25.8)	24.7	(22.4,27.2)	1.5	(-2.2,5.2)
14 to 18	22.6	25.3	21.9	22.8	23.9	(21.6,26.4)	22.4	(19.7,25.3)	-1.5	(-5.1,2.1)
12 to 18	23.3	24.0	22.7	23.4	23.6	(21.6,25.7)	23.1	(21.0,25.3)	-0.6	(-3.5,2.4)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-37. Percent of youth using the Internet, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent using the Internet during previous 6 months									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	79.1	80.4	85.1	83.3	79.8	(77.2,82.1)	84.2	(81.6,86.5)	4.4	*(1.0,7.8)
14 to 15	86.4	87.3	93.4	90.5	86.9	(83.9,89.4)	92.0	(89.9,93.6)	5.1	*(1.7,8.5)
16 to 18	83.3	90.7	89.7	87.4	87.0	(84.2,89.4)	88.5	(85.7,90.8)	1.5	(-1.9,4.9)
14 to 18	84.7	89.1	91.4	88.7	86.9	(84.9,88.8)	90.1	(88.4,91.5)	3.1	*(0.7,5.5)
12 to 18	83.1	86.6	89.6	87.2	84.9	(83.3,86.3)	88.4	(86.9,89.7)	3.5	*(1.6,5.4)
Youth aged 12 to 18										
Males	84.7	85.5	90.1	87.9	85.1	(82.8,87.2)	89.0	(86.9,90.7)	3.8	*(1.1,6.6)
Females	81.4	87.7	89.0	86.4	84.6	(82.7,86.4)	87.7	(85.6,89.6)	3.1	*(0.5,5.8)
White	89.0	90.9	92.3	91.5	89.9	(88.2,91.4)	91.9	(90.3,93.2)	2.0	*(0.2,3.8)
African American	70.6	79.4	85.1	79.4	75.1	(70.4,79.3)	82.2	(77.7,86.0)	7.1	*(0.6,13.6)
Hispanic	65.8	75.1	81.0	74.5	70.5	(64.9,75.6)	77.8	(72.4,82.3)	7.2	*(1.2,13.2)
Risk score										
Higher risk	83.6	88.1	91.9	89.2	85.8	(82.9,88.2)	90.5	(88.3,92.4)	4.8	*(1.4,8.2)
Lower risk	83.9	85.9	88.8	87.1	84.9	(82.6,87.0)	87.9	(86.0,89.7)	3.0	*(0.2,5.9)
Sensation seeking										
High	86.4	90.2	92.8	88.9	88.3	(86.3,90.0)	90.9	(89.4,92.2)	2.6	*(0.5,4.7)
Low	78.7	82.6	85.7	85.3	80.7	(77.8,83.3)	85.5	(83.1,87.6)	4.8	*(1.5,8.1)

Table 3-38. Percent of youth visiting anti-drug Internet sites, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent visiting anti-drug Internet sites during previous 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	9.2	10.0	10.1	6.8	9.6	(8.0,11.6)	8.4	(7.1,10.0)	-1.2	(-3.6,1.2)
14 to 15	9.5	9.6	12.8	10.6	9.6	(7.5,12.2)	11.8	(9.5,14.5)	2.2	(-1.4,5.9)
16 to 18	10.9	8.0	9.4	10.1	9.4	(7.3,12.0)	9.8	(7.5,12.6)	0.4	(-2.3,3.0)
14 to 18	10.3	8.8	11.0	10.3	9.5	(8.0,11.2)	10.7	(9.0,12.6)	1.2	(-0.9,3.3)
12 to 18	10.0	9.1	10.7	9.3	9.5	(8.3,10.9)	10.0	(8.8,11.4)	0.5	(-1.2,2.2)
Youth aged 12 to 18										
Males	9.9	8.1	9.8	7.6	8.9	(7.2,11.0)	8.7	(7.1,10.6)	-0.2	(-2.6,2.2)
Females	10.1	10.2	11.7	11.1	10.1	(8.3,12.3)	11.4	(9.5,13.6)	1.3	(-1.4,4.0)
White	9.8	7.3	10.8	8.2	8.5	(7.2,9.8)	9.5	(8.0,11.2)	1.0	(-0.9,3.0)
African American	11.8	11.4	9.2	14.6	11.6	(8.1,16.2)	11.9	(8.4,16.7)	0.3	(-4.6,5.3)
Hispanic	8.1	15.2	10.7	9.0	11.9	(8.5,16.5)	9.9	(6.8,14.1)	-2.0	(-7.3,3.2)
Risk score										
Higher risk	10.3	9.8	11.8	11.2	10.1	(8.0,12.6)	11.5	(9.3,14.1)	1.5	(-1.7,4.7)
Lower risk	10.1	6.7	10.3	8.4	8.2	(6.9,9.8)	9.3	(7.9,11.0)	1.1	(-1.1,3.3)
Sensation seeking										
High	11.2	9.7	12.8	10.5	10.4	(8.6,12.5)	11.7	(9.8,13.8)	1.3	(-1.2,3.7)
Low	8.6	7.1	7.9	8.0	7.8	(6.2,9.7)	7.9	(6.4,9.7)	0.2	(-2.1,2.4)

Table 3-39. Percent of youth visiting pro-drug Internet sites, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent visiting pro-drug Internet sites during previous 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	3.2	2.4	2.7	1.8	2.8	(2.0,3.9)	2.3	(1.5,3.4)	-0.5	(-1.8,0.8)
14 to 15	6.2	3.8	8.3	4.0	4.9	(3.6,6.6)	6.3	(4.7,8.2)	1.3	(-1.1,3.8)
16 to 18	8.7	5.1	8.1	6.6	6.8	(5.2,8.8)	7.4	(5.7,9.5)	0.6	(-1.6,2.7)
14 to 18	7.6	4.5	8.2	5.5	5.9	(5.0,7.1)	6.9	(5.7,8.3)	0.9	(-0.7,2.5)
12 to 18	6.3	3.9	6.6	4.4	5.0	(4.3,5.9)	5.5	(4.7,6.6)	0.5	(-0.8,1.7)
Youth aged 12 to 18										
Males	8.3	4.3	7.2	5.3	6.2	(5.1,7.5)	6.2	(4.9,7.9)	0.1	(-1.9,2.1)
Females	4.3	3.5	6.0	3.6	3.9	(2.8,5.3)	4.8	(3.9,5.9)	0.9	(-0.4,2.3)
White	6.7	3.7	7.0	4.3	5.1	(4.2,6.3)	5.7	(4.6,6.9)	0.5	(-1.1,2.1)
African American	3.1	5.1	5.7	4.7	4.2	(2.5,6.9)	5.2	(3.3,8.1)	1.1	(-1.9,4.0)
Hispanic	5.1	2.5	5.2	4.4	3.7	(2.3,6.1)	4.8	(2.5,8.9)	1.1	(-2.1,4.2)
Risk score										
Higher risk	10.7	6.1	11.3	8.3	8.3	(6.6,10.5)	9.8	(8.0,11.9)	1.4	(-1.6,4.4)
Lower risk	3.0	2.1	3.7	1.9	2.5	(1.8,3.5)	2.8	(2.0,3.9)	0.3	(-1.0,1.6)
Sensation seeking										
High	9.4	5.2	9.7	7.3	7.2	(5.9,8.7)	8.5	(7.0,10.3)	1.3	(-0.8,3.4)
Low	2.7	1.9	2.6	1.0	2.3	(1.4,3.6)	1.8	(1.2,2.7)	-0.4	(-1.8,0.9)

Table 3-40. Percent of parents[1] using the Internet, by gender, race/ethnicity, education, and age of child(ren)

	Percent using the Internet during previous 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	60.8	67.8	69.4	70.2	64.3	(61.9,66.6)	69.8	(66.8,72.6)	5.5	*(1.9,9.1)
Male	65.1	68.7	68.8	70.2	67.1	(63.3,70.6)	69.5	(64.9,73.7)	2.4	(-3.0,7.8)
Female	58.2	67.1	69.9	70.1	62.4	(59.7,65.0)	70.0	(66.5,73.3)	7.6	*(3.5,11.8)
White	68.6	73.8	78.0	78.4	71.1	(68.6,73.6)	78.2	(75.7,80.5)	7.1	*(3.8,10.4)
African American	43.8	57.1	52.8	57.9	50.7	(43.6,57.6)	55.4	(48.8,61.8)	4.7	(-3.6,13.1)
Hispanic	34.9	44.8	38.4	39.5	39.9	(34.1,46.1)	39.0	(33.2,45.1)	-1.0	(-9.6,7.6)
Less than high school	28.2	31.9	19.7	31.9	30.0	(24.5,36.1)	26.1	(20.5,32.7)	-3.8	(-12.2,4.6)
High school graduate	44.4	61.9	63.6	59.0	52.8	(48.9,56.7)	61.3	(57.2,65.2)	8.5	*(3.1,13.9)
Some college	73.0	73.3	74.5	79.3	73.2	(69.2,76.8)	77.1	(73.0,80.8)	4.0	(-1.2,9.2)
College graduate	87.0	88.6	93.3	92.6	87.8	(84.2,90.6)	93.0	(90.3,95.0)	5.2	*(1.4,9.0)
One or more child(ren)[2] aged:										
12 to 13	61.3	70.6	68.7	70.9	66.0	(63.3,68.6)	69.8	(66.5,72.9)	3.7	(-0.5,8.0)
14 to 18	60.8	65.8	69.6	70.2	63.2	(60.4,66.0)	69.9	(66.5,73.1)	6.7	*(2.6,10.8)
12 to 18	60.8	67.8	69.4	70.2	64.3	(61.9,66.6)	69.8	(66.8,72.6)	5.5	*(1.9,9.1)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-41. Percent of parents[1] visiting anti-drug Internet sites, by gender, race/ethnicity, education, and age of child(ren)

	Percent visiting anti-drug Internet sites during previous 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	5.8	7.7	9.3	8.0	6.7	(5.7,7.8)	8.7	(7.5,10.0)	1.9	*(0.3,3.5)
Male	4.9	7.6	7.1	5.8	6.3	(4.7,8.5)	6.5	(4.9,8.5)	0.1	(-2.3,2.6)
Female	6.3	7.7	10.9	9.3	7.0	(5.8,8.4)	10.0	(8.5,11.8)	3.1	*(1.1,5.1)
White	5.4	6.9	9.4	6.8	6.1	(5.1,7.4)	8.1	(6.9,9.5)	2.0	*(0.3,3.6)
African American	9.1	10.9	8.0	16.1	10.0	(7.0,14.1)	12.0	(8.5,16.9)	2.0	(-3.6,7.6)
Hispanic	4.1	8.9	10.4	4.9	6.5	(3.6,11.8)	7.5	(4.9,11.4)	1.0	(-4.6,6.5)
Less than high school	2.4	3.2	4.3	2.3	2.8	(1.4,5.4)	3.2	(1.6,6.3)	0.5	(-2.5,3.5)
High school graduate	4.0	4.7	7.4	8.5	4.3	(3.1,6.0)	8.0	(6.3,10.1)	3.6	*(1.2,6.0)
Some college	8.3	11.3	14.0	9.7	9.9	(7.3,13.3)	11.7	(9.4,14.5)	1.8	(-2.0,5.6)
College graduate	7.5	9.6	9.8	8.3	8.5	(6.5,11.1)	9.0	(6.6,12.3)	0.5	(-3.3,4.3)
One or more child(ren)[2] aged:										
12 to 13	5.6	5.8	9.8	8.1	5.7	(4.6,7.0)	8.9	(7.6,10.5)	3.2	*(1.4,5.1)
14 to 18	5.7	8.4	8.5	8.1	7.0	(5.8,8.4)	8.3	(6.9,9.9)	1.2	(-0.7,3.2)
12 to 18	5.8	7.7	9.3	8.0	6.7	(5.7,7.8)	8.7	(7.5,10.0)	1.9	*(0.3,3.5)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-42. Percent of parents[1] visiting parenting skill Internet sites, by gender, race/ethnicity, education, and age of child(ren)

Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
Overall	6.7	8.7	9.8	9.0	7.7	(6.7,8.9)	9.4	(8.2,10.8)	1.7	(0.0,3.4)
Male	6.0	7.6	7.9	4.9	6.9	(5.2,9.0)	6.5	(4.8,8.7)	-0.4	(-3.0,2.2)
Female	7.2	9.6	11.0	11.4	8.3	(7.1,9.7)	11.2	(9.6,13.1)	2.9	*(0.8,5.1)
White	6.6	7.8	10.0	8.1	7.2	(6.1,8.5)	9.0	(7.7,10.5)	1.8	(0.0,3.7)
African American	8.7	12.3	8.5	15.9	10.6	(7.4,14.9)	12.2	(8.7,16.8)	1.6	(-4.2,7.5)
Hispanic	4.4	9.9	9.1	5.5	7.2	(4.1,12.2)	7.2	(4.7,10.9)	0.0	(-5.4,5.5)
Less than high school	2.1	3.6	3.7	2.3	2.8	(1.4,5.6)	3.0	(1.4,6.1)	0.1	(-2.9,3.2)
High school graduate	4.4	4.4	7.6	9.2	4.4	(3.1,6.2)	8.4	(6.6,10.7)	4.0	*(1.5,6.5)
Some college	9.3	12.4	14.0	10.2	11.0	(8.2,14.6)	12.0	(9.5,15.0)	1.0	(-3.1,5.1)
College graduate	9.8	12.5	11.3	10.7	11.1	(9.0,13.7)	11.0	(8.7,13.9)	-0.1	(-3.5,3.3)
One or more child(ren)[2] aged:										
12 to 13	6.9	8.4	10.6	9.9	7.7	(6.3,9.3)	10.3	(8.8,12.0)	2.6	*(0.3,4.9)
14 to 18	6.5	8.7	8.6	8.6	7.6	(6.3,9.1)	8.6	(7.2,10.3)	1.0	(-1.0,3.0)
12 to 18	6.7	8.7	9.8	9.0	7.7	(6.7,8.9)	9.4	(8.2,10.8)	1.7	(0.0,3.4)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-43. In-school drug education experience of youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent ever attending drug education class or program in school									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	83.9	83.2	82.4	78.8	83.5	(81.3,85.6)	80.6	(77.9,83.0)	-3.0	(-5.9,0.0)
14 to 15	76.0	84.1	76.6	75.7	80.1	(76.7,83.2)	76.2	(73.0,79.1)	-4.0	(-8.0,0.1)
16 to 18	76.8	74.2	69.6	71.9	75.5	(72.4,78.4)	70.8	(67.4,73.9)	-4.7	*(-8.9,-0.6)
14 to 18	76.5	78.7	72.9	73.5	77.6	(75.2,79.8)	73.2	(70.9,75.4)	-4.4	*(-6.9,-1.9)
12 to 18	78.6	80.0	75.7	75.1	79.3	(77.4,81.1)	75.4	(73.5,77.2)	-4.0	*(-6.1,-1.8)
Youth aged 12 to 18										
Males	75.1	78.6	74.6	72.5	76.9	(74.5,79.1)	73.5	(71.0,75.9)	-3.3	*(-6.2,-0.5)
Females	82.2	81.5	76.8	77.8	81.9	(79.4,84.1)	77.3	(74.7,79.7)	-4.6	*(-7.3,-1.8)
White	78.2	80.3	75.0	75.4	79.2	(77.0,81.3)	75.2	(72.7,77.5)	-4.0	*(-6.7,-1.4)
African American	83.8	78.7	83.5	82.1	81.2	(77.0,84.7)	82.8	(79.0,86.0)	1.6	(-3.6,6.8)
Hispanic	78.0	81.3	68.0	66.6	79.7	(74.3,84.2)	67.3	(62.4,71.8)	-12.4	*(-19.6,-5.2)
Risk score										
Higher risk	75.9	79.8	69.9	71.8	77.7	(74.9,80.3)	70.9	(67.3,74.2)	-6.8	*(-11.0,-2.6)
Lower risk	80.3	81.2	78.9	77.7	80.7	(78.1,83.1)	78.3	(75.9,80.5)	-2.5	(-5.8,0.9)
Sensation seeking										
High	76.8	80.9	73.2	74.3	78.8	(76.0,81.4)	73.7	(71.5,75.8)	-5.1	*(-8.4,-1.8)
Low	80.8	79.7	79.0	76.2	80.2	(77.2,82.9)	77.6	(74.4,80.5)	-2.6	(-6.0,0.8)

Table 3-44. Out-of-school drug education experience of youth by age, gender, race/ethnicity, risk score, and sensation seeking

Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
All youth aged 12 to 18										
12 to 13	10.1	9.9	9.2	7.7	10.0	(8.3,12.0)	8.5	(7.0,10.1)	-1.5	(-4.0,0.9)
14 to 15	10.4	12.0	11.3	9.1	11.2	(8.8,14.3)	10.2	(8.1,12.8)	-1.0	(-4.2,2.2)
16 to 18	15.9	10.7	9.4	14.1	13.3	(11.0,16.2)	11.8	(9.7,14.4)	-1.5	(-5.2,2.2)
14 to 18	13.4	11.3	10.3	11.9	12.4	(10.5,14.5)	11.1	(9.6,12.8)	-1.3	(-3.6,1.0)
12 to 18	12.5	10.9	10.0	10.7	11.7	(10.3,13.3)	10.3	(9.1,11.7)	-1.4	(-3.1,0.4)
Youth aged 12 to 18										
Males	13.7	12.5	10.3	10.3	13.1	(11.2,15.2)	10.3	(8.7,12.2)	-2.8	*(-5.0,-0.6)
Females	11.2	9.3	9.7	11.1	10.2	(8.4,12.4)	10.4	(8.6,12.4)	0.1	(-2.2,2.5)
White	11.5	9.8	9.3	9.0	10.7	(8.9,12.8)	9.1	(7.8,10.7)	-1.5	(-3.6,0.6)
African American	17.5	16.7	16.2	17.4	17.1	(13.4,21.5)	16.8	(12.9,21.7)	-0.3	(-6.6,6.1)
Hispanic	10.7	11.2	6.3	11.7	10.9	(7.1,16.4)	9.0	(6.8,11.9)	-1.9	(-7.2,3.4)
Risk score										
Higher risk	15.8	12.8	10.9	14.9	14.3	(11.5,17.7)	12.9	(10.5,15.8)	-1.4	(-4.8,1.9)
Lower risk	10.5	9.3	8.8	7.7	9.8	(8.3,11.7)	8.3	(6.9,9.8)	-1.6	(-3.6,0.5)
Sensation seeking										
High	13.8	10.7	9.2	11.4	12.3	(10.5,14.3)	10.3	(8.6,12.2)	-2.1	(-4.5,0.4)
Low	11.1	10.3	11.0	10.0	10.7	(8.7,13.1)	10.5	(8.8,12.5)	-0.2	(-2.8,2.3)

Table 3-45. Recent in-school drug education experience of youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent attending drug education class or program in school in the past 12 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	75.9	74.9	76.0	71.3	75.4	(72.5,78.1)	73.6	(70.3,76.7)	-1.8	(-5.7,2.2)
14 to 15	65.2	72.5	69.0	67.5	68.6	(63.5,73.3)	68.3	(64.0,72.3)	-0.3	(-6.0,5.4)
16 to 18	59.7	51.1	50.1	58.7	55.5	(51.4,59.5)	54.7	(50.4,58.9)	-0.8	(-6.7,5.1)
14 to 18	62.4	61.1	59.7	62.7	61.8	(58.4,65.1)	61.2	(58.0,64.4)	-0.6	(-4.5,3.4)
12 to 18	66.6	65.6	64.6	65.3	66.1	(63.4,68.7)	65.0	(62.3,67.5)	-1.2	(-4.4,2.1)
Youth aged 12 to 18										
Males	62.3	61.5	62.7	62.6	61.9	(58.8,65.0)	62.6	(59.0,66.1)	0.7	(-3.5,5.0)
Females	71.2	69.4	66.7	68.2	70.3	(66.9,73.5)	67.5	(63.9,70.8)	-2.9	(-7.1,1.3)
White	66.7	67.9	64.1	66.7	67.2	(64.3,70.1)	65.4	(62.2,68.6)	-1.8	(-5.4,1.8)
African American	73.2	63.3	74.5	71.9	68.4	(63.4,73.0)	73.3	(68.4,77.6)	4.8	(-2.1,11.8)
Hispanic	60.4	58.7	53.8	52.5	59.5	(50.7,67.8)	53.1	(46.9,59.2)	-6.4	(-16.9,4.1)
Risk score										
Higher risk	62.1	61.5	58.8	59.4	61.8	(57.9,65.6)	59.1	(54.4,63.5)	-2.8	(-8.8,3.2)
Lower risk	69.1	69.2	68.5	69.3	69.2	(65.7,72.5)	68.9	(65.7,72.0)	-0.3	(-4.8,4.3)
Sensation seeking										
High	64.6	67.2	61.6	64.5	65.8	(61.8,69.6)	63.1	(59.8,66.2)	-2.8	(-7.8,2.3)
Low	68.9	63.9	68.5	66.2	66.5	(62.2,70.4)	67.3	(63.3,71.2)	0.9	(-3.9,5.6)

Table 3-46. Recent out-of-school drug education experience of youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent attending drug education class or program outside of school in the past 12 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	6.3	7.3	5.3	4.6	6.8	(5.5,8.4)	4.9	(3.9,6.2)	-1.9	(-3.7,0.0)
14 to 15	6.9	7.9	6.1	4.8	7.5	(5.4,10.3)	5.5	(4.2,7.1)	-2.0	(-4.6,0.6)
16 to 18	9.7	5.3	5.3	7.9	7.6	(6.0,9.5)	6.7	(5.2,8.6)	-0.9	(-3.1,1.3)
14 to 18	8.5	6.5	5.7	6.5	7.5	(6.0,9.3)	6.1	(5.1,7.4)	-1.4	(-3.1,0.3)
12 to 18	7.9	6.8	5.6	6.0	7.3	(6.1,8.7)	5.8	(4.9,6.8)	-1.5	*(-2.8,-0.2)
Youth aged 12 to 18										
Males	7.7	7.9	5.7	5.4	7.8	(6.4,9.4)	5.5	(4.5,6.8)	-2.3	*(-3.9,-0.6)
Females	8.0	5.6	5.5	6.6	6.8	(5.2,8.8)	6.1	(4.8,7.5)	-0.7	(-2.5,1.1)
White	7.1	6.0	4.7	5.0	6.6	(5.0,8.5)	4.9	(3.9,6.1)	-1.7	(-3.5,0.1)
African American	12.3	10.2	11.5	9.2	11.2	(8.5,14.7)	10.3	(7.4,14.1)	-0.9	(-5.4,3.6)
Hispanic	6.5	7.0	3.1	7.6	6.8	(4.1,11.0)	5.4	(3.6,7.9)	-1.4	(-5.3,2.5)
Risk score										
Higher risk	9.8	8.5	6.8	7.6	9.2	(7.0,12.0)	7.2	(5.4,9.5)	-2.0	(-4.5,0.6)
Lower risk	6.5	5.7	5.3	4.4	6.1	(4.9,7.5)	4.9	(3.9,6.1)	-1.2	(-2.9,0.4)
Sensation seeking										
High	8.5	7.0	4.6	6.8	7.8	(6.2,9.7)	5.6	(4.4,7.2)	-2.2	*(-4.1,-0.2)
Low	7.3	5.9	7.2	4.9	6.6	(5.1,8.5)	6.0	(4.8,7.5)	-0.6	(-2.4,1.3)

Table 3-47. Youth conversations with friends about drugs, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who never had conversation with friends about drugs in the past 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	36.7	37.3	40.3	43.6	37.0	(34.2,39.8)	42.0	(39.3,44.7)	5.0	*(1.4,8.6)
14 to 15	18.5	30.4	22.5	22.6	24.6	(21.3,28.3)	22.5	(19.7,25.6)	-2.1	(-6.7,2.5)
16 to 18	18.6	18.4	18.9	18.8	18.5	(16.2,21.1)	18.8	(16.7,21.2)	0.3	(-3.1,3.8)
14 to 18	18.5	24.0	20.6	20.4	21.3	(19.3,23.4)	20.5	(18.7,22.4)	-0.8	(-3.6,2.0)
12 to 18	23.8	27.8	26.4	27.3	25.8	(24.2,27.5)	26.8	(25.4,28.3)	1.0	(-1.1,3.1)
Youth aged 12 to 18										
Males	27.0	31.5	29.3	30.5	29.3	(26.7,32.1)	29.9	(27.5,32.4)	0.5	(-3.2,4.3)
Females	20.5	23.9	23.3	23.9	22.2	(20.3,24.2)	23.6	(21.3,26.0)	1.4	(-1.4,4.3)
White	22.6	26.8	25.2	25.3	24.7	(22.7,26.7)	25.2	(23.4,27.1)	0.6	(-1.8,3.0)
African American	30.8	30.6	32.0	30.5	30.7	(25.7,36.3)	31.3	(26.0,37.0)	0.5	(-5.7,6.8)
Hispanic	23.5	28.4	24.8	29.7	26.0	(21.3,31.4)	27.2	(23.1,31.8)	1.3	(-5.3,7.8)
Risk score										
Higher risk	12.3	12.8	10.4	14.8	12.5	(10.3,15.1)	12.6	(10.2,15.4)	0.0	(-3.6,3.7)
Lower risk	32.0	35.3	36.7	34.1	33.7	(31.4,36.1)	35.4	(33.2,37.6)	1.7	(-1.2,4.5)
Sensation seeking										
High	15.5	17.0	16.2	19.5	16.2	(14.2,18.4)	17.8	(15.9,20.0)	1.6	(-1.5,4.8)
Low	34.7	39.3	40.3	36.0	37.1	(34.1,40.1)	38.1	(35.4,40.8)	1.0	(-2.5,4.6)

Table 3-48. Young people's conversations with friends about drugs, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who had two or more conversations with friends about drugs in the past 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	44.4	43.8	39.1	39.5	44.1	(41.4,46.9)	39.3	(36.8,41.9)	-4.8	*(-8.6,-1.0)
14 to 15	69.4	51.9	65.1	65.1	60.4	(56.3,64.3)	65.1	(61.6,68.3)	4.7	(-0.7,10.1)
16 to 18	67.6	71.1	70.1	71.3	69.4	(66.3,72.3)	70.7	(68.2,73.1)	1.4	(-2.5,5.2)
14 to 18	68.4	62.2	67.7	68.6	65.3	(62.8,67.7)	68.2	(65.9,70.4)	2.9	(-0.4,6.1)
12 to 18	61.5	56.9	59.3	60.0	59.2	(57.4,60.9)	59.7	(57.8,61.5)	0.5	(-1.9,2.9)
Youth aged 12 to 18										
Males	58.7	52.9	55.9	57.2	55.7	(52.9,58.6)	56.5	(54.1,58.9)	0.8	(-3.0,4.5)
Females	64.3	61.2	63.0	63.0	62.7	(60.2,65.2)	63.0	(60.1,65.8)	0.3	(-3.1,3.6)
White	62.7	59.6	61.2	61.4	61.2	(58.8,63.5)	61.3	(59.3,63.3)	0.1	(-2.7,2.9)
African American	50.6	52.0	51.3	56.6	51.3	(46.2,56.4)	54.0	(47.7,60.2)	2.7	(-4.4,9.8)
Hispanic	67.2	54.6	59.3	59.4	60.8	(55.4,65.9)	59.3	(54.3,64.2)	-1.5	(-8.6,5.7)
Risk score										
Higher risk	76.1	78.0	77.8	76.8	77.0	(74.1,79.7)	77.3	(73.9,80.4)	0.3	(-3.9,4.5)
Lower risk	51.0	44.7	47.4	51.0	47.8	(45.3,50.2)	49.2	(46.9,51.5)	1.5	(-1.6,4.5)
Sensation seeking										
High	72.4	70.0	71.9	69.6	71.2	(68.9,73.4)	70.8	(68.3,73.1)	-0.5	(-3.9,2.9)
Low	47.4	42.4	43.0	49.4	44.8	(41.6,48.1)	46.2	(43.3,49.2)	1.4	(-2.1,5.0)

Table 3-49. Types of conversations among youth with friends about drugs, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who had conversation with friend that "Marijuana use isn't so bad," in the past 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	10.3	9.7	8.0	6.8	10.0	(8.2,12.1)	7.4	(6.2,8.8)	-2.6	*(-4.8,-0.3)
14 to 15	23.1	16.1	22.6	20.4	19.5	(16.1,23.4)	21.5	(18.5,24.9)	2.0	(-2.9,6.9)
16 to 18	32.3	34.2	34.7	34.2	33.3	(29.9,36.8)	34.5	(30.9,38.2)	1.2	(-4.3,6.7)
14 to 18	28.2	25.9	29.0	28.2	27.0	(24.9,29.3)	28.6	(26.2,31.1)	1.6	(-1.9,5.0)
12 to 18	23.0	21.1	22.9	22.0	22.1	(20.4,23.9)	22.4	(20.6,24.3)	0.3	(-2.3,2.9)
Youth aged 12 to 18										
Males	24.9	24.2	24.7	22.1	24.6	(22.2,27.1)	23.4	(20.9,26.0)	-1.2	(-4.8,2.4)
Females	21.1	17.9	20.9	21.8	19.5	(17.2,22.0)	21.4	(18.9,24.1)	1.9	(-1.2,5.0)
White	22.3	22.9	23.2	22.3	22.6	(20.5,24.8)	22.8	(20.5,25.2)	0.2	(-3.0,3.4)
African American	22.6	18.8	17.9	22.8	20.6	(16.1,26.0)	20.5	(16.2,25.5)	-0.2	(-6.6,6.2)
Hispanic	27.7	18.7	24.2	20.4	23.2	(18.9,28.2)	22.3	(17.8,27.5)	-0.9	(-7.3,5.5)
Risk score										
Higher risk	40.5	42.8	44.1	42.2	41.6	(37.8,45.5)	43.2	(39.4,47.0)	1.6	(-4.3,7.5)
Lower risk	10.6	7.8	9.2	9.4	9.2	(7.5,11.2)	9.3	(7.9,10.9)	0.1	(-2.3,2.6)
Sensation seeking										
High	31.8	31.7	32.8	32.3	31.8	(29.5,34.1)	32.6	(29.8,35.4)	0.8	(-3.3,4.9)
Low	12.0	9.3	9.4	9.8	10.6	(8.3,13.4)	9.6	(8.1,11.4)	-1.0	(-3.9,2.0)

Table 3-50. Types of conversations among youth with friends about drugs, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who had conversation with friend about "Specific things I could do to stay away from drugs," in the past 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	33.1	32.2	29.5	29.0	32.6	(30.2,35.2)	29.2	(26.8,31.8)	-3.4	(-7.0,0.1)
14 to 15	31.5	29.6	27.9	32.6	30.5	(27.1,34.2)	30.2	(27.5,33.0)	-0.3	(-4.5,3.8)
16 to 18	28.5	25.8	29.4	26.1	27.2	(24.1,30.5)	27.7	(24.2,31.5)	0.5	(-4.4,5.5)
14 to 18	29.8	27.6	28.7	29.0	28.7	(26.7,30.8)	28.8	(26.7,31.1)	0.1	(-3.0,3.3)
12 to 18	30.8	28.9	28.9	29.0	29.8	(28.2,31.5)	28.9	(27.2,30.8)	-0.9	(-3.4,1.6)
Youth aged 12 to 18										
Males	28.4	26.7	28.2	25.7	27.6	(25.2,30.1)	27.0	(24.7,29.4)	-0.6	(-3.9,2.7)
Females	33.2	31.3	29.6	32.4	32.2	(29.9,34.6)	31.0	(28.5,33.7)	-1.2	(-4.6,2.2)
White	27.1	25.8	23.7	26.1	26.4	(24.7,28.3)	24.9	(22.8,27.1)	-1.6	(-4.4,1.3)
African American	37.2	33.6	44.3	34.4	35.4	(30.6,40.4)	39.2	(34.6,44.1)	3.9	(-2.9,10.6)
Hispanic	41.6	38.9	36.5	37.7	40.2	(35.5,45.1)	37.1	(31.6,43.0)	-3.1	(-11.3,5.2)
Risk score										
Higher risk	30.9	25.2	30.2	26.0	28.1	(25.4,31.0)	28.1	(24.7,31.8)	-0.1	(-4.8,4.7)
Lower risk	31.3	30.8	27.5	31.9	31.0	(28.7,33.5)	29.7	(27.5,32.1)	-1.3	(-4.3,1.7)
Sensation seeking										
High	29.1	28.2	25.6	25.4	28.7	(26.4,31.1)	25.5	(23.0,28.1)	-3.2	(-6.5,0.0)
Low	33.6	29.7	33.6	34.0	31.6	(29.0,34.3)	33.8	(31.1,36.7)	2.2	(-1.9,6.3)

Table 3-51. Types of conversations among youth with friends about drugs, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who had conversation with friend about "Bad things that happen if you use drugs," in the past 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	46.2	46.2	43.6	40.1	46.2	(43.9,48.6)	41.9	(39.4,44.3)	-4.4	*(-7.8,-1.0)
14 to 15	54.9	47.6	49.4	54.1	51.1	(47.0,55.3)	51.7	(48.1,55.2)	0.5	(-5.0,6.0)
16 to 18	54.1	54.9	56.7	55.9	54.5	(50.8,58.1)	56.3	(52.9,59.6)	1.8	(-3.4,7.0)
14 to 18	54.4	51.5	53.2	55.1	53.0	(50.3,55.6)	54.2	(51.9,56.4)	1.2	(-2.4,4.9)
12 to 18	52.1	50.0	50.4	50.7	51.0	(48.9,53.1)	50.6	(48.9,52.3)	-0.4	(-3.1,2.3)
Youth aged 12 to 18										
Males	46.9	44.4	47.0	47.0	45.7	(42.8,48.5)	47.0	(44.2,49.9)	1.4	(-2.7,5.4)
Females	57.4	55.9	54.0	54.7	56.6	(53.4,59.8)	54.4	(51.7,57.0)	-2.3	(-6.3,1.7)
White	50.5	48.7	49.4	50.1	49.6	(47.0,52.2)	49.8	(47.7,51.9)	0.2	(-2.9,3.2)
African American	51.2	48.3	54.5	50.9	49.7	(44.5,54.9)	52.7	(47.4,57.9)	2.9	(-3.7,9.6)
Hispanic	56.3	56.2	51.5	55.0	56.3	(51.3,61.2)	53.3	(47.7,58.8)	-3.0	(-11.3,5.2)
Risk score										
Higher risk	55.7	53.4	56.1	54.2	54.6	(50.8,58.3)	55.1	(51.6,58.6)	0.6	(-5.1,6.2)
Lower risk	49.3	48.6	45.9	49.7	48.9	(46.3,51.5)	47.8	(45.6,50.0)	-1.1	(-4.3,2.1)
Sensation seeking										
High	54.7	54.2	52.7	51.3	54.5	(51.2,57.7)	52.1	(49.2,54.9)	-2.4	(-6.9,2.0)
Low	48.9	46.0	47.5	50.5	47.4	(44.1,50.8)	49.1	(46.3,51.8)	1.7	(-2.8,6.1)

Table 3-52. Young people's conversations with parents about drugs, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who never had conversation with parents about drugs in the past 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	21.8	22.9	28.1	30.0	22.3	(20.0,24.9)	29.1	(26.8,31.5)	6.8	*(3.3,10.2)
14 to 15	21.4	27.0	27.7	28.4	24.2	(21.1,27.7)	28.0	(24.6,31.8)	3.8	(-0.8,8.3)
16 to 18	29.9	25.7	27.1	29.7	27.8	(25.4,30.4)	28.4	(25.3,31.8)	0.6	(-3.3,4.5)
14 to 18	26.1	26.3	27.4	29.1	26.2	(24.2,28.3)	28.3	(25.9,30.8)	2.1	(-0.6,4.7)
12 to 18	24.9	25.3	27.6	29.4	25.1	(23.5,26.8)	28.5	(26.6,30.5)	3.4	*(1.1,5.7)
Youth aged 12 to 18										
Males	27.2	25.1	32.0	31.6	26.1	(23.8,28.5)	31.8	(29.1,34.7)	5.7	*(1.9,9.5)
Females	22.5	25.5	22.9	27.0	24.0	(21.5,26.6)	25.0	(22.6,27.6)	1.0	(-1.9,3.9)
White	25.9	25.8	27.2	29.8	25.8	(23.9,27.9)	28.5	(26.2,30.9)	2.6	(0.0,5.3)
African American	25.5	25.0	30.0	26.6	25.2	(21.0,29.9)	28.3	(23.8,33.3)	3.1	(-2.7,8.8)
Hispanic	17.8	22.9	25.5	29.0	20.4	(16.0,25.6)	27.3	(23.2,31.7)	6.9	*(1.0,12.8)
Risk score										
Higher risk	26.8	24.1	25.4	29.3	25.5	(22.7,28.5)	27.3	(24.3,30.6)	1.8	(-2.5,6.2)
Lower risk	22.1	26.8	27.9	27.6	24.5	(22.2,27.0)	27.8	(25.5,30.2)	3.3	(-0.3,6.8)
Sensation seeking										
High	27.5	25.0	26.1	31.2	26.3	(24.4,28.2)	28.6	(25.9,31.5)	2.4	(-0.7,5.4)
Low	21.1	25.7	29.1	26.7	23.5	(20.6,26.7)	27.9	(25.3,30.6)	4.4	*(0.5,8.3)

Table 3-53. Young people's conversations with parents about drugs, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who had two or more conversations with parents about drugs in the past 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	59.2	56.2	53.0	51.1	57.7	(54.6,60.8)	52.0	(49.3,54.7)	-5.7	*(-9.8,-1.7)
14 to 15	58.4	52.1	53.1	50.2	55.2	(51.2,59.2)	51.7	(48.1,55.3)	-3.5	(-8.6,1.7)
16 to 18	48.4	51.7	44.7	47.8	50.0	(46.4,53.7)	46.4	(42.8,50.0)	-3.7	(-8.6,1.2)
14 to 18	52.8	51.9	48.7	48.9	52.4	(49.5,55.2)	48.8	(46.3,51.3)	-3.6	*(-6.7,-0.5)
12 to 18	54.7	53.1	50.0	49.5	53.9	(51.6,56.2)	49.7	(47.8,51.7)	-4.2	*(-6.8,-1.5)
Youth aged 12 to 18										
Males	53.4	53.2	45.2	47.8	53.3	(50.5,56.1)	46.5	(43.8,49.2)	-6.8	*(-10.5,-3.2)
Females	56.0	53.1	55.0	51.3	54.5	(51.4,57.7)	53.2	(50.1,56.2)	-1.4	(-5.1,2.4)
White	53.7	52.3	50.1	48.0	53.0	(50.5,55.6)	49.0	(46.5,51.6)	-4.0	*(-7.1,-0.8)
African American	60.1	52.8	51.4	55.0	56.3	(50.3,62.2)	53.2	(47.4,59.0)	-3.1	(-10.7,4.5)
Hispanic	57.5	58.5	49.6	51.2	58.0	(52.5,63.3)	50.4	(45.4,55.4)	-7.6	*(-14.7,-0.4)
Risk score										
Higher risk	52.4	54.8	50.2	48.9	53.6	(49.9,57.2)	49.6	(46.1,53.0)	-4.0	(-9.1,1.1)
Lower risk	58.0	51.4	50.8	51.1	54.6	(51.8,57.5)	50.9	(48.2,53.6)	-3.7	(-7.4,0.0)
Sensation seeking										
High	50.6	51.1	49.7	45.5	50.9	(48.1,53.6)	47.6	(44.6,50.8)	-3.2	(-6.8,0.4)
Low	60.3	55.0	50.2	54.7	57.6	(54.1,61.0)	52.5	(49.8,55.2)	-5.1	*(-9.5,-0.7)

Table 3-54. Young people's conversations with parents or friends about drugs, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who had four or more conversations with parents or friends about drugs in the past 6 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	42.8	41.7	37.5	34.9	42.2	(39.3,45.2)	36.2	(33.4,39.0)	-6.0	*(-10.2,-1.9)
14 to 15	55.0	40.4	52.1	49.9	47.6	(43.8,51.3)	51.0	(48.0,54.1)	3.5	(-1.2,8.1)
16 to 18	53.4	56.8	54.4	53.6	55.1	(51.8,58.3)	54.0	(50.5,57.4)	-1.1	(-5.9,3.7)
14 to 18	54.1	49.3	53.3	52.0	51.7	(49.3,54.1)	52.6	(50.3,55.0)	0.9	(-2.3,4.2)
12 to 18	50.8	47.1	48.7	46.9	49.0	(47.1,50.8)	47.8	(45.8,49.8)	-1.2	(-4.0,1.7)
Youth aged 12 to 18										
Males	49.2	45.8	47.8	44.9	47.5	(44.5,50.5)	46.3	(43.7,49.0)	-1.2	(-5.3,3.0)
Females	52.5	48.5	49.7	49.0	50.5	(48.0,52.9)	49.3	(46.3,52.3)	-1.1	(-5.2,2.9)
White	52.5	48.6	50.3	47.3	50.6	(48.4,52.7)	48.8	(46.5,51.1)	-1.8	(-4.9,1.3)
African American	41.7	40.8	41.1	45.5	41.2	(36.4,46.3)	43.4	(37.6,49.3)	2.1	(-6.2,10.5)
Hispanic	54.8	49.3	50.1	46.7	52.0	(45.9,58.0)	48.4	(43.6,53.1)	-3.6	(-10.3,3.1)
Risk score										
Higher risk	61.0	64.3	62.3	60.1	62.5	(59.6,65.4)	61.2	(57.3,64.9)	-1.4	(-6.3,3.6)
Lower risk	43.7	36.4	40.1	39.8	40.0	(37.4,42.5)	40.0	(37.5,42.4)	0.0	(-3.7,3.7)
Sensation seeking										
High	58.2	55.4	57.4	53.0	56.8	(54.1,59.5)	55.3	(52.4,58.1)	-1.5	(-5.6,2.6)
Low	41.2	37.3	36.5	40.3	39.2	(36.2,42.3)	38.4	(35.2,41.8)	-0.8	(-5.5,4.0)

Table 3-55. Young people's conversations about anti-drug ads, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who talked with parents/caregivers about anti-drug ads in recent months									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	40.1	37.4	36.8	35.1	38.7	(36.1,41.3)	35.9	(33.3,38.6)	-2.8	(-6.6,1.0)
14 to 15	30.8	30.0	28.5	27.4	30.4	(27.0,34.1)	28.0	(24.9,31.3)	-2.4	(-7.4,2.5)
16 to 18	21.2	16.3	20.0	22.4	18.7	(15.8,22.1)	21.2	(18.4,24.4)	2.5	(-2.0,7.0)
14 to 18	25.5	22.6	24.0	24.6	24.0	(22.0,26.2)	24.3	(22.0,26.8)	0.3	(-3.1,3.6)
12 to 18	29.6	26.8	27.7	27.7	28.2	(26.5,30.0)	27.7	(25.9,29.5)	-0.5	(-3.1,2.0)
Youth aged 12 to 18										
Males	28.0	25.6	24.6	25.9	26.8	(24.6,29.2)	25.3	(23.0,27.7)	-1.6	(-5.3,2.2)
Females	31.2	28.1	30.8	29.6	29.6	(26.9,32.6)	30.2	(27.5,33.0)	0.5	(-3.4,4.4)
White	27.0	25.2	28.1	25.1	26.1	(24.1,28.2)	26.5	(24.5,28.7)	0.4	(-2.6,3.5)
African American	37.2	30.3	31.1	36.5	33.7	(28.8,39.1)	33.9	(28.9,39.4)	0.2	(-6.5,6.9)
Hispanic	37.6	33.3	20.3	31.5	35.4	(31.0,40.1)	26.1	(22.5,30.1)	-9.3	*(-15.3,-3.3)
Risk score										
Higher risk	20.8	18.4	19.1	21.6	19.6	(16.9,22.7)	20.4	(17.5,23.5)	0.7	(-3.0,4.5)
Lower risk	37.4	30.9	32.8	32.5	34.1	(31.8,36.4)	32.6	(30.4,35.0)	-1.4	(-4.8,1.9)
Sensation seeking										
High	22.4	20.1	20.9	21.6	21.3	(19.2,23.6)	21.2	(18.9,23.7)	-0.1	(-3.1,3.0)
Low	39.3	34.6	37.4	35.3	36.9	(34.0,39.9)	36.3	(33.6,39.1)	-0.6	(-4.7,3.5)

Table 3-56. Young people's conversations about anti-drug ads, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent who talked with others (friends, other adults, etc.) about anti-drug ads in recent months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	39.7	44.5	39.4	37.5	42.1	(39.0,45.4)	38.4	(35.3,41.6)	-3.7	(-8.0,0.6)
14 to 15	45.0	39.9	41.7	41.9	42.4	(38.5,46.5)	41.8	(38.5,45.1)	-0.7	(-6.0,4.7)
16 to 18	45.6	34.5	39.1	36.6	40.1	(36.2,44.1)	37.8	(34.4,41.3)	-2.3	(-7.4,2.8)
14 to 18	45.3	37.0	40.3	38.9	41.1	(38.5,43.8)	39.6	(37.0,42.3)	-1.6	(-5.0,1.9)
12 to 18	43.7	39.1	40.0	38.5	41.4	(39.3,43.6)	39.3	(37.0,41.5)	-2.2	(-4.9,0.6)
Youth aged 12 to 18										
Males	40.3	34.6	35.5	31.4	37.4	(34.9,40.0)	33.4	(30.8,36.2)	-4.0	*(-7.7,-0.2)
Females	47.3	43.8	44.6	45.9	45.5	(42.8,48.3)	45.3	(41.9,48.7)	-0.2	(-4.6,4.1)
White	42.6	38.6	39.8	36.2	40.6	(38.1,43.1)	38.0	(35.4,40.6)	-2.6	(-5.9,0.6)
African American	48.8	40.9	39.7	45.6	44.8	(39.6,50.1)	42.8	(37.7,48.0)	-2.0	(-8.5,4.5)
Hispanic	42.9	41.5	39.1	37.8	42.2	(37.1,47.4)	38.4	(33.0,44.2)	-3.7	(-11.9,4.5)
Risk score										
Higher risk	46.5	41.3	35.8	39.1	44.0	(40.4,47.7)	37.4	(33.6,41.4)	-6.6	*(-11.8,-1.4)
Lower risk	41.9	36.9	41.7	39.1	39.4	(36.6,42.2)	40.3	(37.7,43.0)	1.0	(-2.5,4.4)
Sensation seeking										
High	43.8	41.6	40.5	37.7	42.7	(40.1,45.3)	39.1	(36.4,42.0)	-3.6	(-7.3,0.2)
Low	44.3	35.0	39.8	39.6	39.5	(36.0,43.1)	39.7	(36.6,42.8)	0.2	(-3.8,4.2)

Table 3-57. Recall of stories on TV news or radio news about drugs among youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent recalling stories on TV or radio news at least once a week in recent months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	30.6	32.7	29.1	24.3	31.7	(28.8,34.6)	26.7	(24.0,29.6)	-4.9	*(-8.8,-1.1)
14 to 15	32.3	31.5	33.8	24.1	31.9	(28.2,35.9)	29.1	(26.3,32.0)	-2.9	(-7.5,1.8)
16 to 18	32.0	33.2	36.0	24.9	32.6	(28.9,36.7)	30.2	(26.6,34.2)	-2.4	(-7.9,3.2)
14 to 18	32.2	32.5	35.0	24.5	32.3	(29.5,35.2)	29.7	(27.2,32.4)	-2.6	(-6.5,1.3)
12 to 18	31.7	32.5	33.3	24.5	32.1	(29.8,34.5)	28.8	(26.8,31.0)	-3.3	*(-6.5,0.0)
Youth aged 12 to 18										
Males	31.9	31.2	30.9	23.9	31.6	(28.6,34.7)	27.4	(24.4,30.6)	-4.2	(-8.5,0.1)
Females	31.5	33.9	35.8	25.1	32.7	(29.9,35.6)	30.4	(27.8,33.2)	-2.3	(-6.2,1.6)
White	30.9	32.7	30.9	23.3	31.7	(29.2,34.4)	27.1	(24.5,29.8)	-4.6	*(-8.3,-1.0)
African American	36.1	34.0	40.6	24.9	35.0	(29.8,40.6)	32.6	(27.6,38.1)	-2.4	(-9.6,4.8)
Hispanic	31.4	33.3	34.1	30.1	32.4	(26.9,38.4)	32.1	(27.0,37.6)	-0.3	(-8.9,8.3)
Risk score										
Higher risk	32.4	38.6	33.9	24.7	35.4	(31.6,39.3)	29.3	(26.2,32.7)	-6.0	*(-10.9,-1.2)
Lower risk	31.5	29.4	31.4	24.9	30.5	(27.6,33.5)	28.1	(25.9,30.4)	-2.3	(-6.3,1.6)
Sensation seeking										
High	32.9	36.5	33.1	23.6	34.6	(31.4,37.9)	28.4	(25.9,31.1)	-6.2	*(-10.4,-2.0)
Low	30.7	27.4	33.9	25.8	29.0	(25.8,32.4)	29.8	(26.6,33.2)	0.8	(-4.4,6.0)

Table 3-58. Recall of stories in TV movies, sitcoms, or dramas about drugs among youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent recalling stories about drugs in TV movies, sitcoms, or dramas at least once a week in recent months									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	18.0	20.2	18.0	15.1	19.1	(16.9,21.5)	16.5	(14.3,19.0)	-2.6	(-5.9,0.7)
14 to 15	26.7	22.8	26.3	24.0	24.8	(22.0,27.7)	25.2	(22.4,28.2)	0.4	(-3.9,4.8)
16 to 18	25.2	24.9	26.8	23.0	25.0	(21.9,28.5)	24.8	(21.7,28.2)	-0.2	(-4.6,4.2)
14 to 18	25.9	23.9	26.6	23.5	24.9	(22.9,27.0)	25.0	(22.5,27.7)	0.1	(-3.3,3.5)
12 to 18	23.6	22.8	24.1	21.0	23.2	(21.6,25.0)	22.6	(20.5,24.7)	-0.7	(-3.4,2.0)
Youth aged 12 to 18										
Males	23.5	20.4	21.4	20.8	21.9	(19.7,24.3)	21.1	(18.7,23.7)	-0.8	(-4.1,2.5)
Females	23.8	25.4	26.9	21.3	24.6	(22.2,27.2)	24.1	(21.3,27.1)	-0.5	(-4.4,3.5)
White	22.2	22.1	23.6	20.8	22.2	(20.1,24.4)	22.2	(19.8,24.8)	0.1	(-2.9,3.0)
African American	31.4	24.7	28.6	23.3	28.0	(23.7,32.7)	25.9	(21.7,30.6)	-2.1	(-8.9,4.7)
Hispanic	22.9	24.0	21.2	21.6	23.5	(18.9,28.7)	21.4	(17.4,26.0)	-2.0	(-8.7,4.6)
Risk score										
Higher risk	26.6	28.6	26.4	22.7	27.6	(24.6,30.8)	24.6	(21.0,28.5)	-3.0	(-7.5,1.5)
Lower risk	22.3	19.9	21.4	20.6	21.0	(19.1,23.1)	21.0	(18.7,23.4)	-0.1	(-3.2,3.1)
Sensation seeking										
High	26.0	23.7	24.9	20.9	24.9	(22.4,27.6)	22.9	(20.2,26.0)	-2.0	(-5.9,2.0)
Low	20.8	21.7	23.1	21.5	21.3	(18.5,24.3)	22.3	(19.6,25.2)	1.0	(-2.9,4.9)

Table 3-59. Recall of stories on TV talk shows about drugs among youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent recalling stories about drugs on TV talk shows at least once a week in recent months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	16.9	15.8	16.4	14.1	16.3	(14.4,18.5)	15.3	(13.3,17.5)	-1.1	(-3.8,1.7)
14 to 15	20.2	25.4	20.1	19.7	22.9	(19.9,26.1)	19.9	(17.2,22.9)	-3.0	(-7.2,1.3)
16 to 18	26.3	24.1	26.8	22.5	25.2	(22.1,28.6)	24.5	(21.0,28.4)	-0.7	(-5.7,4.4)
14 to 18	23.6	24.7	23.6	21.3	24.1	(21.9,26.5)	22.4	(20.2,24.8)	-1.7	(-4.7,1.3)
12 to 18	21.7	22.1	21.5	19.2	21.9	(20.1,23.8)	20.4	(18.6,22.3)	-1.5	(-4.0,1.0)
Youth aged 12 to 18										
Males	17.4	19.2	19.1	17.6	18.3	(15.9,21.0)	18.3	(16.0,21.0)	0.0	(-3.4,3.5)
Females	26.1	25.2	24.1	20.9	25.6	(23.2,28.3)	22.5	(20.2,24.9)	-3.1	(-6.5,0.2)
White	19.9	19.9	20.5	18.9	19.9	(17.6,22.3)	19.7	(17.6,22.0)	-0.2	(-3.3,2.9)
African American	28.7	30.7	27.4	23.6	29.7	(25.6,34.3)	25.5	(20.6,31.0)	-4.3	(-11.0,2.4)
Hispanic	24.2	25.5	20.6	17.4	24.9	(19.7,30.8)	19.0	(14.7,24.2)	-5.9	(-13.4,1.7)
Risk score										
Higher risk	25.7	26.4	23.5	25.6	26.0	(23.0,29.2)	24.6	(21.4,28.0)	-1.4	(-5.9,3.0)
Lower risk	19.2	19.1	18.3	16.2	19.1	(16.9,21.6)	17.2	(15.3,19.4)	-1.9	(-5.2,1.4)
Sensation seeking										
High	23.4	24.1	22.6	20.9	23.7	(21.2,26.5)	21.8	(19.2,24.5)	-1.9	(-5.4,1.5)
Low	20.1	19.4	20.2	17.6	19.7	(17.3,22.4)	18.9	(16.4,21.7)	-0.9	(-4.6,2.9)

Table 3-60. Recall of stories in movies (theater/rental) about drugs among youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent recalling stories about drugs in movies (theater/rental) at least once a week in recent months									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	11.4	13.2	14.4	10.7	12.4	(10.7,14.3)	12.6	(10.4,15.2)	0.2	(-2.5,3.0)
14 to 15	15.8	18.9	20.8	19.5	17.4	(14.8,20.3)	20.2	(17.5,23.2)	2.8	(-0.4,6.0)
16 to 18	22.0	23.2	24.5	16.5	22.6	(19.4,26.1)	20.4	(17.3,23.8)	-2.3	(-6.7,2.2)
14 to 18	19.3	21.3	22.8	17.8	20.3	(18.1,22.6)	20.3	(18.0,22.8)	0.0	(-2.9,2.9)
12 to 18	17.0	18.9	20.4	15.8	18.0	(16.5,19.6)	18.1	(16.3,20.0)	0.1	(-2.2,2.3)
Youth aged 12 to 18										
Males	18.8	21.3	20.2	16.6	20.1	(18.0,22.3)	18.4	(16.1,20.9)	-1.7	(-4.8,1.4)
Females	15.2	16.4	20.6	14.9	15.8	(13.8,18.0)	17.7	(15.3,20.5)	1.9	(-1.1,5.0)
White	15.5	17.0	18.3	14.5	16.2	(14.5,18.1)	16.4	(14.5,18.4)	0.1	(-2.0,2.3)
African American	22.9	22.8	30.2	19.9	22.8	(18.9,27.3)	25.0	(21.0,29.5)	2.2	(-4.5,8.8)
Hispanic	19.4	22.3	21.0	17.1	20.9	(16.7,25.7)	19.0	(14.8,24.1)	-1.9	(-8.0,4.3)
Risk score										
Higher risk	23.9	27.0	24.8	21.1	25.4	(22.2,28.8)	23.0	(20.2,26.0)	-2.4	(-6.5,1.7)
Lower risk	11.6	12.3	16.4	12.4	11.9	(10.3,13.7)	14.4	(12.6,16.3)	2.4	(-0.1,5.0)
Sensation seeking										
High	20.2	22.5	22.8	18.3	21.3	(19.0,23.9)	20.6	(18.2,23.2)	-0.7	(-3.9,2.4)
Low	13.3	13.6	17.0	12.3	13.5	(11.4,15.9)	14.6	(12.3,17.1)	1.1	(-2.2,4.4)

Table 3-61. Recall of stories in magazines about drugs among youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent recalling stories about drugs in magazines at least once a week in recent months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	10.3	10.1	9.7	6.9	10.2	(8.8,11.8)	8.3	(6.7,10.2)	-1.9	(-4.2,0.4)
14 to 15	12.0	14.0	10.2	9.6	13.0	(10.6,15.9)	9.9	(8.0,12.2)	-3.1	(-6.6,0.3)
16 to 18	11.0	14.2	12.7	9.5	12.6	(10.3,15.3)	11.0	(8.9,13.6)	-1.6	(-4.9,1.8)
14 to 18	11.4	14.1	11.5	9.5	12.8	(10.9,14.9)	10.5	(9.0,12.2)	-2.3	(-4.8,0.3)
12 to 18	11.1	12.9	11.0	8.7	12.0	(10.6,13.6)	9.9	(8.6,11.2)	-2.2	*(-4.1,-0.2)
Youth aged 12 to 18										
Males	8.3	11.6	9.5	7.7	10.0	(8.2,12.0)	8.6	(7.1,10.4)	-1.3	(-3.9,1.3)
Females	14.0	14.3	12.5	9.8	14.2	(12.2,16.4)	11.2	(9.5,13.1)	-3.0	*(-5.7,-0.3)
White	10.9	11.9	10.1	8.2	11.4	(9.6,13.6)	9.2	(7.8,10.8)	-2.3	(-4.7,0.2)
African American	14.3	14.8	16.7	10.0	14.6	(11.2,18.7)	13.3	(10.1,17.4)	-1.2	(-6.7,4.2)
Hispanic	7.1	15.4	10.2	8.9	11.3	(8.4,15.1)	9.6	(6.9,13.3)	-1.7	(-6.4,2.9)
Risk score										
Higher risk	13.8	14.8	12.7	10.9	14.3	(11.7,17.2)	11.8	(9.8,14.1)	-2.5	(-6.1,1.2)
Lower risk	9.6	11.0	9.9	7.5	10.3	(8.9,12.0)	8.7	(7.3,10.3)	-1.6	(-3.7,0.4)
Sensation seeking										
High	11.5	13.8	10.7	10.4	12.6	(10.7,14.7)	10.6	(8.8,12.7)	-2.0	(-4.8,0.8)
Low	11.1	11.4	11.6	6.6	11.3	(9.4,13.5)	9.1	(7.5,10.9)	-2.2	(-5.1,0.7)

Table 3-62. Weekly recall of drug themes in at least one media outlet among youth by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent recalling stories at least once a week in recent months in at least one venue									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	45.4	47.1	44.8	35.8	46.2	(43.3,49.2)	40.3	(37.4,43.4)	-5.9	*(-10.2,-1.6)
14 to 15	53.2	55.4	52.0	45.1	54.3	(50.6,58.1)	48.7	(45.3,52.1)	-5.7	*(-10.5,-0.9)
16 to 18	54.5	54.4	60.6	50.0	54.5	(50.9,58.0)	55.1	(51.2,58.9)	0.6	(-4.4,5.7)
14 to 18	53.9	54.9	56.6	47.9	54.4	(51.9,56.9)	52.2	(49.3,55.1)	-2.2	(-5.6,1.2)
12 to 18	51.5	52.6	53.1	44.4	52.0	(49.9,54.2)	48.8	(46.4,51.1)	-3.3	*(-6.4,-0.2)
Youth aged 12 to 18										
Males	49.8	49.9	49.1	43.0	49.8	(46.9,52.8)	46.1	(42.8,49.4)	-3.8	(-8.4,0.9)
Females	53.2	55.5	57.4	45.8	54.4	(51.4,57.3)	51.6	(48.8,54.5)	-2.7	(-6.6,1.2)
White	49.8	51.6	50.0	43.9	50.7	(48.1,53.3)	46.9	(44.0,49.8)	-3.8	*(-7.3,-0.3)
African American	58.6	57.3	65.0	47.6	58.0	(52.3,63.4)	56.2	(50.8,61.5)	-1.7	(-9.3,5.9)
Hispanic	53.3	53.2	52.9	44.2	53.3	(46.5,59.9)	48.5	(42.8,54.2)	-4.8	(-14.8,5.3)
Risk score										
Higher risk	57.0	60.6	56.4	51.5	58.7	(54.8,62.5)	53.9	(50.2,57.6)	-4.8	(-10.0,0.4)
Lower risk	47.9	47.7	48.5	41.0	47.8	(45.1,50.5)	44.7	(42.1,47.3)	-3.1	(-6.9,0.7)
Sensation seeking										
High	55.3	57.0	54.5	46.0	56.2	(52.9,59.4)	50.3	(47.3,53.4)	-5.8	*(-9.9,-1.7)
Low	47.2	47.5	51.5	43.1	47.4	(43.9,50.8)	47.2	(43.6,50.9)	-0.2	(-5.1,4.8)

Table 3-63. Parents'[1] recall of TV or radio news programs with drug themes in recent months, by gender, race/ethnicity, education, and age of child(ren)

	dealing with drug use among young people at least weekly									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	52.5	48.3	49.8	45.4	50.4	(48.2,52.6)	47.5	(45.5,49.6)	-2.9	*(-5.7,-0.1)
Males	52.3	48.0	47.1	43.7	50.0	(46.1,53.9)	45.5	(41.6,49.4)	-4.5	(-9.7,0.6)
Females	52.6	48.5	51.6	46.4	50.7	(47.8,53.5)	48.9	(45.9,51.8)	-1.8	(-6.0,2.4)
White	51.6	46.7	47.2	43.6	49.2	(46.7,51.7)	45.4	(42.9,47.8)	-3.8	*(-7.1,-0.6)
African American	52.9	60.0	52.7	48.7	56.6	(49.9,63.1)	50.7	(45.7,55.7)	-5.9	(-14.4,2.6)
Hispanic	57.6	50.7	62.2	53.5	54.1	(48.2,59.8)	57.6	(51.0,64.0)	3.5	(-5.5,12.6)
Less than high school	52.8	60.5	56.7	50.2	56.6	(51.0,61.9)	53.3	(47.0,59.5)	-3.3	(-10.5,3.9)
High school graduate	51.5	45.1	46.0	48.2	48.4	(43.9,53.0)	47.1	(43.3,51.0)	-1.3	(-7.5,4.8)
Some college	55.0	44.1	49.3	46.3	49.2	(44.9,53.5)	47.7	(43.6,51.8)	-1.5	(-7.0,4.1)
College graduate	49.7	50.7	51.2	38.8	50.2	(45.7,54.7)	45.1	(40.7,49.6)	-5.0	(-10.5,0.5)
One or more child(ren)[2] aged:										
12 to 13	50.1	46.2	51.5	43.7	48.1	(45.2,51.0)	47.7	(44.8,50.5)	-0.4	(-4.6,3.7)
14 to 18	52.8	49.9	49.0	46.0	51.4	(49.0,53.8)	47.4	(45.0,49.9)	-4.0	*(-7.2,-0.8)
12 to 18	52.5	48.3	49.8	45.4	50.4	(48.2,52.6)	47.5	(45.5,49.6)	-2.9	*(-5.7,-0.1)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-64. Parents'[1] recall of TV movies, sitcoms, or dramas with drug themes in recent months, by gender, race/ethnicity, education, and age of child(ren)

	dealing with drug use among young people at least weekly									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	30.9	26.2	33.7	31.4	28.6	(26.5,30.8)	32.5	(30.4,34.7)	3.9	*(1.2,6.6)
Males	30.8	26.5	33.3	30.8	28.5	(24.9,32.3)	32.1	(28.4,36.0)	3.6	(-1.4,8.6)
Females	31.0	26.0	34.0	31.8	28.7	(26.3,31.2)	32.8	(29.8,35.9)	4.1	*(0.5,7.7)
White	28.7	26.2	31.2	30.3	27.5	(25.2,30.0)	30.7	(28.2,33.4)	3.2	*(0.2,6.3)
African American	37.8	30.7	40.2	31.3	34.2	(27.5,41.6)	35.7	(28.1,44.1)	1.5	(-8.4,11.4)
Hispanic	38.9	25.1	42.2	38.4	32.0	(26.3,38.4)	40.2	(33.8,47.1)	8.2	(-0.8,17.2)
Less than high school	31.1	31.9	36.8	32.0	31.5	(25.4,38.2)	34.3	(28.3,40.9)	2.9	(-6.8,12.5)
High school graduate	33.8	25.6	32.5	34.9	29.9	(26.7,33.2)	33.7	(30.2,37.4)	3.8	(-0.7,8.4)
Some college	33.2	23.2	37.8	31.8	27.9	(24.3,31.9)	34.6	(30.3,39.0)	6.6	*(1.7,11.5)
College graduate	25.4	27.2	29.6	26.3	26.3	(22.7,30.2)	28.0	(23.8,32.5)	1.7	(-3.7,7.1)
One or more child(ren)[2] aged:										
12 to 13	30.9	25.1	36.7	29.5	28.0	(25.9,30.1)	33.1	(29.7,36.8)	5.2	*(1.0,9.3)
14 to 18	30.5	26.7	31.8	31.8	28.7	(26.1,31.4)	31.8	(29.4,34.3)	3.1	(-0.1,6.3)
12 to 18	30.9	26.2	33.7	31.4	28.6	(26.5,30.8)	32.5	(30.4,34.7)	3.9	*(1.2,6.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-65. Parents'[1] recall of TV talk shows or TV news magazine programs with drug themes in recent months, by gender, race/ethnicity, education, and age of child(ren)

	Percent reporting having noticed stories on TV talk shows or TV news magazine programs dealing with drug use among young people at least weekly									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	24.6	20.8	23.0	19.9	22.7	(20.9,24.6)	21.4	(19.3,23.6)	-1.3	(-3.8,1.1)
Males	20.7	19.6	24.9	18.9	20.1	(17.3,23.3)	22.0	(18.7,25.7)	1.9	(-2.4,6.2)
Females	26.9	21.8	21.6	20.5	24.5	(22.1,27.2)	21.0	(18.4,23.8)	-3.5	*(-7.0,0.0)
White	21.4	17.5	19.5	17.2	19.5	(17.7,21.5)	18.3	(16.2,20.7)	-1.2	(-3.6,1.3)
African American	32.2	33.6	38.1	27.9	32.9	(27.5,38.9)	33.0	(26.9,39.7)	0.1	(-8.2,8.4)
Hispanic	35.7	25.2	29.4	25.0	30.3	(24.7,36.6)	27.1	(21.0,34.3)	-3.2	(-13.0,6.6)
Less than high school	30.7	27.1	31.9	26.4	28.9	(24.4,33.9)	29.0	(23.1,35.6)	0.1	(-7.1,7.3)
High school graduate	26.8	23.8	24.0	22.3	25.3	(21.9,29.2)	23.2	(20.0,26.6)	-2.2	(-7.0,2.6)
Some college	25.0	18.8	26.3	18.7	21.7	(18.5,25.3)	22.2	(18.3,26.5)	0.4	(-4.8,5.7)
College graduate	17.9	16.1	14.9	15.0	17.0	(14.2,20.2)	14.9	(12.0,18.5)	-2.1	(-6.2,2.1)
One or more child(ren)[2] aged:										
12 to 13	22.9	20.0	24.7	19.1	21.4	(19.0,24.1)	21.9	(18.9,25.3)	0.5	(-3.8,4.8)
14 to 18	25.4	21.4	22.2	20.4	23.4	(21.3,25.7)	21.3	(18.9,23.8)	-2.1	(-5.1,0.8)
12 to 18	24.6	20.8	23.0	19.9	22.7	(20.9,24.6)	21.4	(19.3,23.6)	-1.3	(-3.8,1.1)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-66. Parents'[1] recall of non-news radio programs with drug themes in recent months, by gender, race/ethnicity, education, and age of child(ren)

	dealing with drug use among young people at least weekly									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	14.3	12.0	14.5	14.7	13.2	(11.6,14.8)	14.6	(13.0,16.4)	1.5	(-0.7,3.6)
Males	17.6	9.8	12.8	16.5	13.4	(11.2,16.0)	14.6	(12.3,17.2)	1.2	(-2.2,4.5)
Females	12.3	13.8	15.7	13.7	13.0	(11.3,14.9)	14.6	(12.6,16.9)	1.7	(-0.8,4.1)
White	11.6	9.0	11.6	10.8	10.4	(8.8,12.2)	11.2	(9.7,12.8)	0.8	(-1.1,2.8)
African American	23.5	23.3	23.6	21.0	23.4	(17.5,30.5)	22.3	(16.3,29.8)	-1.1	(-10.6,8.5)
Hispanic	22.8	18.8	22.0	27.4	20.8	(15.6,27.2)	24.8	(20.0,30.4)	4.0	(-3.6,11.6)
Less than high school	19.7	16.9	21.6	20.8	18.3	(14.5,22.9)	21.2	(16.1,27.4)	2.9	(-4.4,10.2)
High school graduate	15.4	11.9	14.0	18.8	13.7	(11.3,16.5)	16.4	(13.4,19.9)	2.7	(-1.5,6.9)
Some college	14.7	11.0	18.4	11.6	12.7	(10.4,15.5)	14.7	(11.4,18.8)	2.0	(-2.4,6.4)
College graduate	9.4	10.6	8.5	10.1	10.0	(7.8,12.6)	9.3	(7.4,11.7)	-0.7	(-3.9,2.5)
One or more child(ren)[2] aged:										
12 to 13	12.3	12.6	15.2	15.2	12.4	(10.7,14.4)	15.2	(12.8,18.0)	2.8	(0.0,5.6)
14 to 18	14.4	11.9	14.4	14.2	13.1	(11.4,15.1)	14.3	(12.5,16.3)	1.2	(-1.4,3.8)
12 to 18	14.3	12.0	14.5	14.7	13.2	(11.6,14.8)	14.6	(13.0,16.4)	1.5	(-0.7,3.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-67. Parents'[1] recall of movies seen in theaters or rental videos with drug themes in recent months, by gender, race/ethnicity, education, and age of child(ren)

	dealing with drug use among young people at least weekly									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	10.1	8.6	10.4	8.8	9.4	(8.2,10.7)	9.5	(8.2,11.1)	0.2	(-1.7,2.0)
Males	10.8	8.0	9.3	7.2	9.3	(7.3,11.8)	8.3	(6.5,10.4)	-1.0	(-4.1,2.0)
Females	9.7	9.1	11.1	9.7	9.4	(8.1,11.0)	10.3	(8.5,12.5)	0.9	(-1.2,3.1)
White	7.7	6.3	8.5	7.4	7.0	(5.8,8.5)	7.9	(6.4,9.8)	0.9	(-1.2,3.0)
African American	16.5	16.4	14.4	13.6	16.4	(12.2,21.8)	14.0	(10.2,18.9)	-2.4	(-8.2,3.3)
Hispanic	16.5	13.0	17.1	11.7	14.7	(10.6,20.1)	14.3	(10.0,19.9)	-0.5	(-7.2,6.3)
Less than high school	15.8	11.0	14.7	12.9	13.5	(10.2,17.7)	13.8	(10.9,17.3)	0.3	(-4.9,5.4)
High school graduate	11.5	7.9	8.9	10.6	9.8	(8.0,11.9)	9.8	(7.7,12.3)	0.0	(-3.1,3.1)
Some college	8.4	9.9	16.4	8.0	9.2	(7.0,12.0)	11.8	(8.9,15.6)	2.7	(-1.3,6.6)
College graduate	7.3	6.4	4.8	5.2	6.9	(5.1,9.3)	5.0	(3.9,6.5)	-1.9	(-4.2,0.4)
One or more child(ren)[2] aged:										
12 to 13	9.7	7.7	12.2	9.5	8.7	(7.2,10.4)	10.8	(9.2,12.8)	2.2	*(0.1,4.2)
14 to 18	10.7	9.0	9.4	8.6	9.9	(8.5,11.5)	9.0	(7.5,10.9)	-0.9	(-3.1,1.4)
12 to 18	10.1	8.6	10.4	8.8	9.4	(8.2,10.7)	9.5	(8.2,11.1)	0.2	(-1.7,2.0)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-68. Parents'[1] recall of magazine articles with drug themes in recent months, by gender, race/ethnicity, education, and age of child(ren)

	Percent reporting having noticed stories in magazine articles dealing with drug use among young people at least weekly									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	8.1	8.3	8.1	7.2	8.2	(6.8,9.9)	7.6	(6.5,8.9)	-0.6	(-2.4,1.2)
Males	8.4	7.5	6.6	5.4	7.9	(6.0,10.4)	6.0	(4.6,7.9)	-1.9	(-4.6,0.8)
Females	7.9	9.0	9.2	8.2	8.4	(6.7,10.4)	8.6	(7.1,10.5)	0.3	(-1.8,2.3)
White	6.2	5.8	7.1	5.3	6.0	(4.6,7.7)	6.2	(5.1,7.5)	0.2	(-1.6,2.0)
African American	17.2	10.1	15.3	13.3	13.5	(9.6,18.8)	14.3	(10.4,19.3)	0.8	(-5.0,6.5)
Hispanic	10.3	16.4	8.2	10.6	13.4	(8.8,19.9)	9.4	(6.8,13.0)	-3.9	(-10.5,2.6)
Less than high school	10.4	8.0	14.6	8.8	9.2	(6.4,13.1)	11.5	(7.3,17.7)	2.3	(-3.5,8.2)
High school graduate	8.5	6.5	7.9	8.2	7.6	(5.4,10.4)	8.1	(6.3,10.3)	0.5	(-2.6,3.6)
Some college	6.7	8.2	7.7	8.6	7.5	(5.6,10.0)	8.2	(6.0,11.0)	0.7	(-2.3,3.8)
College graduate	6.8	10.4	5.9	3.7	8.6	(6.0,12.1)	4.8	(3.3,7.0)	-3.8	*(-7.1,-0.4)
One or more child(ren)[2] aged:										
12 to 13	7.0	7.1	9.2	7.6	7.1	(5.8,8.6)	8.4	(6.9,10.2)	1.4	(-0.8,3.6)
14 to 18	8.3	8.6	7.8	7.3	8.4	(6.8,10.5)	7.5	(6.1,9.2)	-0.9	(-3.1,1.3)
12 to 18	8.1	8.3	8.1	7.2	8.2	(6.8,9.9)	7.6	(6.5,8.9)	-0.6	(-2.4,1.2)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-69. Parents'[1] recall of newspaper articles with drug themes in recent months, by gender, race/ethnicity, education, and age of child(ren)

	Percent reporting having noticed stories in newspaper articles dealing with drug use among young people at least weekly									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	34.8	30.7	33.8	28.9	32.8	(30.4,35.2)	31.3	(29.0,33.7)	-1.5	(-4.7,1.7)
Males	36.9	30.2	34.6	26.2	33.3	(29.7,37.0)	30.5	(27.0,34.3)	-2.8	(-7.4,1.8)
Females	33.5	31.1	33.2	30.5	32.4	(29.7,35.2)	31.8	(28.8,34.9)	-0.6	(-4.6,3.3)
White	34.7	30.3	33.0	30.2	32.5	(30.0,35.1)	31.6	(28.8,34.5)	-0.9	(-4.5,2.7)
African American	38.2	39.8	35.5	33.2	39.0	(30.7,48.0)	34.3	(27.9,41.4)	-4.7	(-16.0,6.5)
Hispanic	32.8	26.6	38.6	20.4	29.7	(24.3,35.7)	29.0	(22.6,36.3)	-0.7	(-9.4,8.0)
Less than high school	25.9	24.8	33.8	26.8	25.4	(20.9,30.5)	30.1	(24.1,36.8)	4.7	(-3.6,13.1)
High school graduate	35.0	23.2	33.1	29.6	29.3	(26.2,32.6)	31.4	(27.0,36.0)	2.1	(-3.1,7.3)
Some college	37.6	34.0	37.1	29.2	35.7	(31.6,40.0)	32.8	(29.2,36.7)	-2.9	(-8.1,2.3)
College graduate	36.5	39.3	31.5	28.8	37.9	(33.7,42.2)	30.2	(26.3,34.4)	-7.7	*(-13.4,-1.9)
One or more child(ren)[2] aged:										
12 to 13	32.7	31.1	34.2	26.1	31.9	(29.6,34.3)	30.2	(27.3,33.3)	-1.7	(-5.7,2.3)
14 to 18	35.1	31.1	33.8	30.0	33.1	(30.4,36.0)	31.8	(29.0,34.8)	-1.3	(-5.2,2.6)
12 to 18	34.8	30.7	33.8	28.9	32.8	(30.4,35.2)	31.3	(29.0,33.7)	-1.5	(-4.7,1.7)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-70. Weekly recall of drug themes in at least one media outlet among parents',[1] by gender, race/ethnicity, education, and age of child(ren)

	Percent saying they heard a weekly story in at least one medium in the past 12 months									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	65.6	62.4	64.8	61.5	64.0	(62.1,65.9)	63.1	(61.1,65.1)	-0.9	(-3.6,1.8)
Males	65.2	64.1	63.3	62.4	64.6	(61.0,68.1)	62.9	(59.8,65.9)	-1.7	(-6.5,3.1)
Females	65.9	61.0	65.8	60.9	63.6	(61.2,66.0)	63.2	(60.1,66.3)	-0.4	(-4.2,3.5)
White	63.5	59.7	61.4	60.1	61.7	(59.4,63.8)	60.7	(58.3,63.1)	-0.9	(-4.1,2.2)
African American	70.1	78.2	73.9	67.8	74.3	(68.4,79.4)	70.8	(65.0,76.1)	-3.4	(-11.6,4.8)
Hispanic	71.7	62.8	75.7	64.3	67.2	(61.0,72.8)	69.7	(61.9,76.5)	2.5	(-6.8,11.8)
Less than high school	64.0	71.9	69.9	72.2	67.8	(61.7,73.4)	71.1	(64.9,76.6)	3.3	(-4.3,10.9)
High school graduate	65.8	57.5	63.3	63.6	61.8	(58.4,65.1)	63.5	(59.4,67.4)	1.7	(-3.5,6.9)
Some college	68.5	60.3	65.8	60.5	64.2	(60.2,67.9)	62.9	(59.4,66.3)	-1.2	(-5.7,3.2)
College graduate	62.8	65.9	63.4	54.7	64.3	(60.0,68.4)	59.1	(55.2,62.9)	-5.2	(-10.5,0.1)
One or more child(ren)[2] aged:										
12 to 13	63.2	61.4	65.2	59.6	62.3	(59.6,64.9)	62.5	(59.5,65.3)	0.2	(-4.1,4.4)
14 to 18	66.2	63.3	64.3	62.4	64.8	(62.4,67.0)	63.3	(61.0,65.6)	-1.4	(-4.7,1.9)
12 to 18	65.6	62.4	64.8	61.5	64.0	(62.1,65.9)	63.1	(61.1,65.1)	-0.9	(-3.6,1.8)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-71. Parents'[1] awareness of drug activities/controversies in their community in the past 12 months, by gender, race/ethnicity, education, and age of child(ren)

	community centers in their community in the past 12 months									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	31.1	37.7	31.0	29.4	34.4	(31.9,36.9)	30.2	(28.0,32.4)	-4.2	*(-7.3,-1.2)
Males	27.6	34.1	27.7	25.2	31.1	(27.3,35.1)	26.5	(23.2,30.1)	-4.6	*(-9.1,-0.1)
Females	33.3	40.6	33.3	31.9	36.7	(33.9,39.5)	32.5	(29.8,35.3)	-4.1	*(-7.8,-0.5)
White	31.6	38.6	31.1	29.0	35.0	(31.9,38.2)	30.0	(27.5,32.7)	-5.0	*(-8.6,-1.4)
African American	29.2	36.8	29.7	31.8	33.1	(26.0,41.1)	30.8	(25.4,36.8)	-2.3	(-11.4,6.7)
Hispanic	33.3	32.7	32.1	30.3	33.0	(27.7,38.8)	31.2	(25.5,37.5)	-1.8	(-10.9,7.2)
Less than high school	29.0	27.4	32.1	22.5	28.2	(22.9,34.2)	27.0	(21.0,34.1)	-1.2	(-10.4,8.0)
High school graduate	24.7	30.3	23.0	27.6	27.4	(23.8,31.3)	25.3	(21.9,29.1)	-2.1	(-6.8,2.7)
Some college	31.5	40.7	33.0	27.1	36.4	(32.4,40.6)	29.8	(25.9,34.0)	-6.6	*(-12.3,-0.8)
College graduate	38.7	48.9	38.1	37.3	43.7	(39.3,48.2)	37.7	(32.7,43.0)	-6.0	*(-11.8,-0.2)
One or more child(ren)[2] aged:										
12 to 13	35.9	41.6	35.6	30.7	38.8	(35.9,41.7)	33.2	(30.4,36.1)	-5.6	*(-9.3,-1.9)
14 to 18	29.4	36.0	29.8	29.2	32.7	(29.7,35.7)	29.5	(26.9,32.3)	-3.1	(-6.9,0.6)
12 to 18	31.1	37.7	31.0	29.4	34.4	(31.9,36.9)	30.2	(28.0,32.4)	-4.2	*(-7.3,-1.2)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-72. Parents'[1] awareness of drug activities/controversies in their community in the past 12 months, by gender, race/ethnicity, education, and age of child(ren)

	Percent saying they heard a lot about speeches about drugs by public officials in their community in the past 12 months									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	14.8	15.5	13.2	13.7	15.2	(13.2,17.4)	13.4	(11.9,15.2)	-1.7	(-4.5,1.1)
Males	16.3	16.4	14.0	14.8	16.4	(13.0,20.3)	14.4	(12.0,17.1)	-2.0	(-6.4,2.4)
Females	13.9	14.8	12.6	13.0	14.3	(12.5,16.4)	12.8	(10.7,15.3)	-1.5	(-4.6,1.7)
White	11.9	14.3	10.3	9.1	13.1	(11.2,15.2)	9.7	(8.0,11.6)	-3.4	*(-5.9,-0.9)
African American	19.3	20.8	19.1	25.0	20.1	(15.1,26.1)	22.0	(17.2,27.8)	2.0	(-5.3,9.3)
Hispanic	24.5	18.2	22.3	22.9	21.3	(15.7,28.2)	22.6	(17.7,28.4)	1.3	(-8.0,10.5)
Less than high school	22.7	13.2	23.2	15.7	18.1	(13.7,23.5)	19.3	(14.4,25.3)	1.2	(-7.3,9.7)
High school graduate	10.8	12.2	6.5	15.3	11.4	(9.0,14.5)	10.8	(8.5,13.8)	-0.6	(-4.3,3.1)
Some college	13.0	16.8	12.4	11.0	15.0	(12.0,18.7)	11.6	(9.0,15.0)	-3.4	(-7.7,0.9)
College graduate	16.0	19.0	17.5	13.5	17.5	(14.1,21.5)	15.5	(12.4,19.4)	-1.9	(-6.8,3.0)
One or more child(ren)[2] aged:										
12 to 13	13.6	15.3	13.8	15.2	14.5	(12.3,17.1)	14.5	(12.3,17.0)	0.0	(-3.1,3.1)
14 to 18	15.0	16.3	13.1	13.7	15.6	(13.3,18.3)	13.4	(11.6,15.5)	-2.2	(-5.6,1.2)
12 to 18	14.8	15.5	13.2	13.7	15.2	(13.2,17.4)	13.4	(11.9,15.2)	-1.7	(-4.5,1.1)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-73. Parents'[1] awareness of drug activities/controversies in their community in the past 12 months, by gender, race/ethnicity, education, and age of child(ren)

	local governments in their community in the past 12 months									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	15.7	19.9	16.2	16.6	17.8	(16.1,19.6)	16.4	(14.8,18.2)	-1.4	(-3.5,0.8)
Males	20.7	18.4	19.4	19.9	19.5	(16.6,22.7)	19.6	(16.7,22.9)	0.1	(-3.7,4.0)
Females	12.6	21.2	13.9	14.7	16.6	(14.8,18.6)	14.3	(12.4,16.6)	-2.3	(-4.8,0.3)
White	12.9	16.5	14.7	13.5	14.7	(12.7,16.9)	14.1	(12.2,16.3)	-0.6	(-3.2,2.0)
African American	26.7	32.9	19.8	24.4	29.9	(24.5,35.9)	22.1	(16.6,28.9)	-7.8	(-15.7,0.1)
Hispanic	20.9	25.8	20.5	23.9	23.3	(18.1,29.5)	22.3	(18.0,27.2)	-1.1	(-9.2,7.0)
Less than high school	22.2	18.9	16.2	20.6	20.6	(16.3,25.6)	18.5	(13.9,24.3)	-2.1	(-9.3,5.2)
High school graduate	11.6	16.8	11.1	18.2	14.1	(11.9,16.6)	14.6	(12.1,17.6)	0.5	(-3.4,4.5)
Some college	14.3	22.1	17.7	14.0	18.4	(15.2,22.1)	15.7	(13.0,18.8)	-2.7	(-6.8,1.3)
College graduate	17.2	21.6	20.7	15.5	19.4	(16.0,23.3)	18.1	(14.4,22.5)	-1.3	(-6.3,3.8)
One or more child(ren)[2] aged:										
12 to 13	15.2	16.0	15.2	16.7	15.6	(13.6,17.9)	16.0	(13.4,18.8)	0.4	(-2.6,3.3)
14 to 18	15.1	21.5	16.2	16.8	18.2	(16.2,20.4)	16.5	(14.6,18.6)	-1.7	(-4.3,1.0)
12 to 18	15.7	19.9	16.2	16.6	17.8	(16.1,19.6)	16.4	(14.8,18.2)	-1.4	(-3.5,0.8)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-74. Parents'[1] awareness of drug activities/controversies in their community in the past 12 months, by gender, race/ethnicity, education, and age of child(ren)

	Percent saying they heard a lot about police crackdowns on drug use or sales in their community in the past 12 months									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Overall	45.6	45.7	41.7	45.8	45.6	(42.3,49.0)	43.8	(41.2,46.4)	-1.8	(-5.0,1.3)
Males	48.6	46.6	42.6	47.2	47.5	(42.8,52.2)	44.8	(40.7,48.9)	-2.7	(-7.6,2.2)
Females	43.8	44.9	41.2	45.0	44.3	(40.7,47.9)	43.2	(40.1,46.3)	-1.1	(-5.2,3.0)
White	46.6	41.8	41.8	45.8	44.3	(40.2,48.4)	43.8	(40.5,47.2)	-0.5	(-4.1,3.2)
African American	52.1	65.7	46.3	53.1	59.1	(51.7,66.1)	49.7	(43.1,56.3)	-9.4	(-19.3,0.6)
Hispanic	39.1	48.9	41.6	42.0	44.1	(38.3,50.2)	41.8	(35.7,48.2)	-2.3	(-11.0,6.3)
Less than high school	46.9	48.2	42.0	41.8	47.5	(41.3,53.9)	41.9	(33.8,50.4)	-5.7	(-17.3,5.9)
High school graduate	44.0	44.2	35.5	40.1	44.1	(39.3,48.9)	37.8	(34.0,41.7)	-6.3	*(-11.5,-1.0)
Some college	44.8	47.8	45.1	51.1	46.4	(42.0,50.8)	48.4	(43.8,53.0)	2.0	(-3.6,7.6)
College graduate	46.9	43.8	46.2	49.2	45.4	(39.9,51.0)	47.6	(42.8,52.5)	2.3	(-4.2,8.7)
One or more child(ren)[2] aged:										
12 to 13	43.4	41.9	42.8	43.4	42.6	(39.2,46.2)	43.1	(39.6,46.6)	0.4	(-4.4,5.3)
14 to 18	46.2	47.2	42.2	46.7	46.7	(42.9,50.5)	44.5	(41.5,47.6)	-2.1	(-5.6,1.3)
12 to 18	45.6	45.7	41.7	45.8	45.6	(42.3,49.0)	43.8	(41.2,46.4)	-1.8	(-5.0,1.3)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-75. Parents'[1] awareness of drug activities/controversies in their community in the past 12 months, by gender, race/ethnicity, education, and age of child(ren)

Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
Overall	5.8	10.0	8.9	7.1	7.8	(6.6,9.3)	8.0	(6.7,9.4)	0.1	(-1.8,2.0)
Males	7.2	8.1	10.7	7.4	7.7	(5.9,9.9)	9.1	(7.0,11.8)	1.4	(-1.5,4.4)
Females	4.9	11.5	7.6	6.9	8.0	(6.5,9.7)	7.2	(5.9,8.8)	-0.7	(-2.9,1.4)
White	3.8	6.6	7.0	5.9	5.2	(4.1,6.5)	6.5	(5.0,8.2)	1.3	(-0.6,3.2)
African American	10.1	16.7	13.7	12.1	13.5	(9.0,19.8)	12.9	(9.5,17.2)	-0.6	(-6.8,5.6)
Hispanic	10.6	14.9	13.9	8.8	12.8	(8.8,18.1)	11.2	(8.1,15.3)	-1.6	(-7.1,4.0)
Less than high school	12.9	16.5	8.1	9.6	14.6	(11.2,18.7)	8.9	(5.5,14.1)	-5.7	(-11.8,0.4)
High school graduate	4.1	7.9	7.0	9.3	5.9	(4.3,8.1)	8.2	(6.1,10.9)	2.2	(-1.1,5.6)
Some college	4.2	10.5	10.2	4.1	7.5	(5.1,11.0)	6.9	(4.9,9.5)	-0.6	(-4.3,3.1)
College graduate	5.9	8.1	10.3	6.3	7.0	(4.9,9.9)	8.4	(6.3,11.0)	1.4	(-1.8,4.6)
One or more child(ren)[2] aged:										
12 to 13	6.2	6.8	8.2	6.9	6.5	(5.3,7.9)	7.6	(6.0,9.4)	1.1	(-1.0,3.1)
14 to 18	5.4	11.3	9.4	7.3	8.3	(6.7,10.1)	8.3	(6.8,10.1)	0.1	(-2.3,2.4)
12 to 18	5.8	10.0	8.9	7.1	7.8	(6.6,9.3)	8.0	(6.7,9.4)	0.1	(-1.8,2.0)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 3-76. Parental[1] attendance at drug abuse prevention programs[2], by age, gender, and race/ethnicity of child(ren)

	Percent attending a drug abuse prevention program									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	31.0	35.2	33.0	32.1	33.1	(30.1,36.3)	32.5	(29.9,35.3)	-0.6	(-4.7,3.6)
14 to 15	29.3	35.0	27.3	31.7	32.2	(28.2,36.4)	29.4	(25.8,33.2)	-2.8	(-7.5,1.9)
16 to 18	27.1	26.4	29.3	27.1	26.7	(23.7,30.0)	28.1	(24.4,32.2)	1.4	(-3.1,5.9)
14 to 18	28.1	30.4	28.3	29.1	29.2	(26.9,31.7)	28.7	(25.8,31.8)	-0.5	(-3.9,2.8)
12 to 18	28.9	31.8	29.7	30.0	30.4	(28.2,32.6)	29.8	(27.5,32.3)	-0.5	(-3.4,2.3)
Youth aged 12 to 18[3]										
Males	29.4	31.8	27.7	29.7	30.6	(27.5,33.9)	28.7	(25.6,32.1)	-1.9	(-5.7,1.9)
Females	28.5	31.9	31.8	30.3	30.1	(27.0,33.5)	31.1	(28.1,34.2)	0.9	(-3.2,5.0)
White	28.3	32.6	30.9	30.0	30.4	(27.8,33.1)	30.4	(27.7,33.3)	0.1	(-3.2,3.3)
African American	30.9	34.7	35.7	33.7	32.9	(27.9,38.3)	34.7	(29.5,40.3)	1.9	(-5.6,9.3)
Hispanic	29.7	30.1	19.5	23.6	29.9	(25.2,35.1)	21.6	(16.8,27.3)	-8.3	*(-16.1,-0.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

[3]Wave 1, 2 and 3 race/ethnicity estimates do not match those in previous reports due to an error in previous reports.

Table 3-77. Parental[1] attendance at parent effectiveness programs[2], by age, gender, and race/ethnicity of child(ren)

	Percent attending parent effectiveness programs									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	29.0	29.9	29.5	30.3	29.5	(26.5,32.6)	29.9	(27.1,32.9)	0.5	(-2.6,3.5)
14 to 15	28.5	30.4	30.7	29.6	29.5	(25.3,34.1)	30.2	(26.4,34.1)	0.7	(-4.6,5.9)
16 to 18	25.3	30.1	25.8	24.5	27.6	(24.2,31.4)	25.1	(21.4,29.3)	-2.5	(-7.1,2.1)
14 to 18	26.7	30.2	28.2	26.7	28.5	(25.6,31.6)	27.5	(24.5,30.6)	-1.0	(-4.4,2.4)
12 to 18	27.4	30.2	28.6	27.8	28.8	(26.3,31.4)	28.2	(25.7,30.8)	-0.6	(-3.3,2.1)
Youth aged 12 to 18[3]										
Males	27.8	31.3	29.3	29.1	29.6	(26.3,33.0)	29.2	(25.9,32.7)	-0.4	(-4.2,3.4)
Females	26.9	28.9	27.8	26.4	27.9	(24.9,31.1)	27.1	(24.5,29.9)	-0.8	(-3.9,2.3)
White	27.8	29.2	26.2	28.6	28.5	(25.7,31.5)	27.4	(24.3,30.7)	-1.1	(-4.6,2.4)
African American	28.2	36.1	43.2	34.4	32.2	(26.8,38.2)	38.7	(32.2,45.7)	6.5	(-0.9,13.9)
Hispanic	24.0	28.5	24.3	15.9	26.2	(20.9,32.3)	20.0	(14.3,27.3)	-6.2	(-12.7,0.3)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

[3]Wave 1, 2 and 3 race/ethnicity estimates do not match those in previous reports due to an error in previous reports.

Table 4-1. Youth reporting ever having used marijuana, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting marijuana use ever									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	5.1	4.7	3.4	4.8	4.9	(3.8,6.4)	4.1	(3.1,5.5)	-0.8	(-2.4,0.8)
14 to 15	16.5	13.8	20.6	17.0	15.1	(12.1,18.6)	18.9	(16.2,21.9)	3.8	(-0.3,7.8)
16 to 18	40.0	40.7	39.7	40.1	40.3	(36.2,44.6)	39.9	(36.3,43.6)	-0.4	(-5.4,4.6)
14 to 18	29.5	28.2	30.7	30.1	28.8	(26.3,31.5)	30.4	(27.6,33.3)	1.5	(-1.7,4.8)
12 to 18	22.4	21.3	22.7	22.6	21.9	(20.0,23.8)	22.6	(20.6,24.8)	0.8	(-1.7,3.2)
Youth aged 12 to 13										
Males	6.1	5.0	4.4	5.0	5.6	(4.1,7.4)	4.7	(3.1,7.1)	-0.9	(-3.4,1.7)
Females	4.1	4.4	2.4	4.7	4.2	(2.9,6.3)	3.5	(2.5,5.0)	-0.7	(-2.6,1.2)
White	4.6	3.8	2.1	4.9	4.2	(3.0,5.9)	3.5	(2.4,5.1)	-0.7	(-2.4,1.1)
African American	3.2	7.6	1.8	2.9	5.5	(2.8,10.3)	2.3	(1.0,5.1)	-3.2	(-7.3,1.0)
Hispanic	7.6	6.2	10.1	6.8	6.9	(3.9,12.0)	8.4	(4.7,14.6)	1.5	(-4.8,7.8)
Risk score										
Higher risk	28.2	S	18.0	25.9	34.1	(24.9,44.6)	22.4	(14.2,33.4)	-11.7	(-24.7,1.3)
Lower Risk	2.3	2.0	1.6	2.5	2.1	(1.3,3.4)	2.1	(1.4,3.1)	-0.1	(-1.3,1.2)
Sensation seeking										
High	8.8	10.1	6.1	9.8	9.5	(7.1,12.6)	7.9	(5.5,11.3)	-1.5	(-5.0,2.0)
Low	2.5	0.7	1.8	1.5	1.6	(0.9,2.7)	1.7	(1.0,2.7)	0.1	(-1.2,1.3)

Table 4-1. Youth reporting ever having used marijuana, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent reporting marijuana use ever									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	30.2	30.9	34.1	30.4	30.6	(26.6,34.9)	32.3	(28.5,36.2)	1.7	(-3.6,7.0)
Females	28.7	25.3	27.1	29.7	27.0	(23.8,30.5)	28.4	(25.0,32.1)	1.4	(-3.0,5.7)
White	29.7	29.9	32.4	30.5	29.8	(26.7,33.0)	31.4	(28.0,35.1)	1.7	(-2.7,6.0)
African American	25.5	25.8	25.1	22.9	25.7	(20.5,31.7)	24.0	(18.6,30.4)	-1.7	(-9.9,6.5)
Hispanic	31.5	25.3	31.7	32.7	28.3	(22.1,35.6)	32.2	(24.3,41.2)	3.9	(-4.1,11.8)
Risk score										
Higher risk	48.6	50.0	52.5	51.5	49.3	(45.6,53.0)	52.0	(47.9,56.1)	2.7	(-2.3,7.7)
Lower risk	6.4	4.2	6.1	7.6	5.3	(3.7,7.4)	6.9	(5.2,9.1)	1.6	(-0.9,4.1)
Sensation seeking										
High	38.4	39.3	38.5	37.3	38.8	(35.4,42.3)	37.9	(34.3,41.7)	-0.9	(-5.9,4.1)
Low	15.1	13.8	16.5	18.8	14.4	(11.1,18.5)	17.7	(14.8,21.0)	3.3	(-0.9,7.5)

Table 4-2. Youth reporting using marijuana in the past year, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting marijuana use in the past year									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	3.3	3.2	2.0	3.2	3.3	(2.4,4.4)	2.6	(1.7,3.9)	-0.6	(-2.1,0.8)
14 to 15	11.2	11.5	14.4	13.1	11.3	(8.7,14.6)	13.8	(11.4,16.5)	2.5	(-1.0,5.9)
16 to 18	28.9	29.3	27.6	26.1	29.1	(25.6,32.8)	26.8	(23.6,30.3)	-2.3	(-6.9,2.3)
14 to 18	21.0	21.0	21.3	20.5	21.0	(18.9,23.3)	20.9	(18.6,23.4)	-0.1	(-3.1,2.9)
12 to 18	15.9	15.8	15.6	15.3	15.8	(14.3,17.5)	15.5	(13.8,17.3)	-0.3	(-2.5,1.9)
Youth aged 12 to 13										
Males	3.5	3.4	1.9	3.2	3.5	(2.5,4.8)	2.6	(1.4,4.7)	-0.9	(-2.8,1.0)
Females	3.1	3.0	2.1	3.2	3.0	(1.9,4.8)	2.7	(1.7,4.2)	-0.4	(-2.2,1.4)
White	2.6	2.1	1.1	3.4	2.4	(1.5,3.7)	2.2	(1.4,3.7)	-0.1	(-1.6,1.4)
African American	1.9	6.6	0.2	1.4	4.3	(1.9,9.3)	0.8	(0.2,3.3)	-3.5	*(-6.9,0.0)
Hispanic	5.4	4.7	6.8	4.3	5.1	(2.7,9.2)	5.5	(2.4,12.3)	0.5	(-5.0,5.9)
Risk score										
Higher risk	15.8	S	14.5	21.5	23.0	(16.2,31.6)	18.4	(11.2,28.7)	-4.6	(-16.0,6.7)
Lower risk	1.8	1.2	1.1	1.5	1.5	(0.9,2.6)	1.3	(0.7,2.3)	-0.2	(-1.3,0.8)
Sensation seeking										
High	5.2	7.6	3.9	6.8	6.4	(4.6,8.9)	5.4	(3.3,8.6)	-1.1	(-4.1,2.0)
Low	1.8	0.0	0.8	0.7	0.9	(0.5,1.7)	0.8	(0.3,1.7)	-0.1	(-0.9,0.7)

Table 4-2. Youth reporting using marijuana in the past year, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent reporting marijuana use in the past year									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	23.1	24.0	22.9	20.5	23.6	(19.8,27.7)	21.7	(18.7,25.0)	-1.9	(-7.0,3.2)
Females	18.9	17.8	19.7	20.4	18.4	(15.8,21.2)	20.1	(17.0,23.6)	1.7	(-2.3,5.7)
White	22.0	23.5	23.1	21.7	22.7	(20.0,25.6)	22.4	(19.4,25.7)	-0.3	(-4.4,3.8)
African American	15.8	19.8	14.9	16.2	17.9	(13.2,23.7)	15.6	(11.5,20.8)	-2.3	(-8.9,4.3)
Hispanic	20.8	12.9	22.6	16.7	16.8	(12.2,22.6)	19.6	(14.4,26.1)	2.8	(-4.1,9.7)
Risk score										
Higher risk	36.0	38.5	37.6	34.5	37.2	(33.9,40.7)	36.0	(32.3,40.0)	-1.2	(-6.2,3.8)
Lower risk	3.6	3.3	4.0	5.8	3.4	(2.2,5.4)	4.9	(3.4,7.0)	1.5	(-0.6,3.6)
Sensation seeking										
High	29.5	30.6	28.5	26.4	30.0	(27.1,33.1)	27.5	(24.2,30.9)	-2.6	(-7.0,1.9)
Low	7.4	8.3	8.5	11.3	7.9	(5.7,10.8)	9.9	(7.7,12.8)	2.1	(-1.0,5.1)

Table 4-3. Youth reporting using marijuana in the past month, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting marijuana use in the past month									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	1.8	1.0	0.7	1.4	1.4	(0.9,2.1)	1.1	(0.5,2.3)	-0.3	(-1.2,0.7)
14 to 15	3.1	4.0	6.6	7.8	3.6	(2.3,5.4)	7.2	(5.4,9.6)	3.6	*(0.9,6.3)
16 to 18	13.3	16.0	13.4	14.6	14.6	(12.4,17.2)	14.0	(11.3,17.2)	-0.6	(-4.3,3.0)
14 to 18	8.7	10.4	10.2	11.7	9.6	(8.1,11.3)	10.9	(9.1,13.0)	1.3	(-1.0,3.7)
12 to 18	6.7	7.6	7.4	8.6	7.2	(6.1,8.4)	8.0	(6.7,9.5)	0.8	(-0.9,2.5)
Youth aged 12 to 13										
Males	1.9	1.9	1.0	1.9	1.9	(1.1,3.1)	1.5	(0.6,3.7)	-0.4	(-2.0,1.2)
Females	1.7	0.0	0.5	0.9	0.8	(0.4,1.7)	0.7	(0.3,1.7)	-0.1	(-1.0,0.7)
White	1.5	0.8	0.4	0.9	1.2	(0.6,2.1)	0.6	(0.2,1.7)	-0.5	(-1.4,0.4)
African American	1.6	S	0.2	1.4	1.6	(0.5,5.6)	0.8	(0.2,3.3)	-0.8	(-2.8,1.3)
Hispanic	2.3	S	2.4	3.4	1.9	(0.7,5.2)	2.9	(0.8,10.2)	1.0	(-3.2,5.3)
Risk score										
Higher risk	8.8	14.9	3.5	8.3	11.3	(6.5,18.7)	6.2	(2.2,16.2)	-5.1	(-13.8,3.6)
Lower risk	0.8	0.0	0.6	0.7	0.4	(0.2,0.9)	0.6	(0.3,1.5)	0.2	(-0.3,0.8)
Sensation seeking										
High	2.5	2.3	1.8	2.8	2.4	(1.4,4.1)	2.3	(1.0,5.1)	-0.1	(-2.4,2.1)
Low	1.1	0.0	0.1	0.4	0.5	(0.2,1.2)	0.2	(0.1,0.9)	-0.3	(-0.7,0.1)

Table 4-3. Youth reporting using marijuana in the past month, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent reporting marijuana use in the past month									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	10.7	12.4	11.2	11.0	11.6	(9.0,14.8)	11.1	(8.6,14.1)	-0.5	(-4.0,3.1)
Females	6.7	8.4	9.1	12.4	7.5	(5.6,10.1)	10.7	(8.5,13.4)	3.2	*(0.0,6.4)
White	8.2	11.2	11.9	12.4	9.7	(7.9,11.9)	12.2	(9.9,14.8)	2.5	(-0.8,5.7)
African American	7.0	9.9	7.8	8.5	8.5	(5.1,13.8)	8.1	(5.2,12.5)	-0.3	(-5.4,4.7)
Hispanic	12.3	7.7	S	10.8	10.0	(6.7,14.7)	7.9	(4.2,14.5)	-2.1	(-8.0,3.9)
Risk score										
Higher risk	16.2	19.6	18.0	20.0	17.8	(15.0,21.0)	18.9	(15.9,22.5)	1.1	(-3.7,5.9)
Lower risk	0.8	1.2	2.3	2.5	1.0	(0.5,1.9)	2.4	(1.3,4.4)	1.4	(-0.1,2.9)
Sensation seeking										
High	13.1	15.5	12.9	15.8	14.3	(11.8,17.2)	14.3	(11.7,17.4)	0.0	(-3.8,3.9)
Low	1.9	3.3	5.4	5.2	2.6	(1.5,4.5)	5.3	(3.8,7.4)	2.6	*(0.4,4.9)

Table 4-4. Youth reporting regular marijuana use[1], by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting regular marijuana use									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	0.6	0.5	0.2	0.3	0.5	(0.3,1.0)	0.3	(0.1,0.8)	-0.3	(-0.7,0.2)
14 to 15	2.1	2.2	5.6	5.3	2.2	(1.4,3.3)	5.4	(3.9,7.6)	3.3	*(1.1,5.4)
16 to 18	10.8	14.0	12.1	11.3	12.4	(10.3,14.9)	11.7	(9.3,14.6)	-0.7	(-4.1,2.7)
14 to 18	6.9	8.5	9.0	8.7	7.7	(6.5,9.1)	8.8	(7.3,10.7)	1.1	(-1.0,3.2)
12 to 18	5.1	6.2	6.4	6.2	5.6	(4.8,6.6)	6.3	(5.2,7.6)	0.7	(-0.8,2.1)
Youth aged 14 to 18										
Males	8.5	11.2	11.1	10.6	9.9	(7.8,12.4)	10.9	(8.6,13.7)	1.0	(-2.4,4.4)
Females	5.4	5.7	6.8	6.6	5.5	(3.9,7.8)	6.7	(5.1,8.8)	1.2	(-1.3,3.7)
White	7.2	10.3	11.4	9.3	8.7	(7.1,10.7)	10.4	(8.4,12.7)	1.6	(-1.4,4.7)
African American	2.9	5.3	1.8	5.5	4.1	(2.1,7.8)	3.7	(2.0,6.7)	-0.5	(-3.7,2.8)
Hispanic	7.7	4.1	S	8.1	5.8	(3.2,10.5)	7.4	(3.8,14.0)	1.6	(-3.4,6.6)
Risk score										
Higher risk	12.7	16.8	14.6	15.1	14.7	(12.4,17.3)	14.9	(12.3,17.8)	0.2	(-3.6,4.0)
Lower risk	0.5	0.3	2.5	1.3	0.4	(0.2,1.0)	1.8	(0.9,3.8)	1.5	*(0.2,2.8)
Sensation seeking										
High	10.8	12.5	12.7	12.6	11.6	(9.6,13.9)	12.7	(10.3,15.4)	1.1	(-2.3,4.4)
Low	1.1	3.4	2.4	2.7	2.3	(1.2,4.5)	2.5	(1.7,3.8)	0.2	(-1.6,2.1)

[1]Regular use = Used 10 or more times in past year.

Table 4-5. Proportion of youth who have tried marijuana, by various ages in different years

Year	Marijuana										
	Percent with some use by age										
	08	09	10	11	12	13	14	15	16	17	18
1992	0.1	S	S								
1993	0.0	0.7	S	S							
1994	0.2	0.5	1.0	0.6	S						
1995	0.1	0.3	1.0	2.1	2.0	S					
1996	0.5	0.8	0.5	2.2	3.7	4.9	S				
1997	0.1	0.8	1.3	1.7	4.2	10.5	17.2	S			
1998	0.2	0.4	1.1	2.0	5.1	10.0	19.2	27.8	S		
1999	0.1	0.3	0.7	1.4	5.3	8.9	17.9	29.5	37.9	S	
2000	0.0	0.4	0.5	1.2	8.1	13.6	16.5	25.6	40.4	S	

NOTE: These data give retrospective estimates of usage by a given age as of a certain year. For example, the table shows that 2.0% of 12-year-olds in 1995 had already used marijuana. This compares with 8.1% of 12-year-olds in 2000 who had already used. The youth who turned 12 in 1995 turned 18 in 2001. All interviews were conducted between July 2000 and December 2001 (waves 2, 3 and 4).

Table 4-6. Youth never receiving offers of marijuana, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting never receiving offers of marijuana									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	81.3	82.1	80.2	85.5	81.7	(79.4,83.8)	82.9	(80.8,84.8)	1.2	(-1.6,3.9)
14 to 15	52.0	55.4	54.1	55.8	53.8	(50.2,57.2)	54.9	(50.7,59.0)	1.2	(-4.6,6.9)
16 to 18	28.0	30.8	31.7	27.6	29.4	(26.0,33.0)	29.6	(26.7,32.7)	0.2	(-4.1,4.5)
14 to 18	38.7	42.3	42.2	39.9	40.5	(37.6,43.4)	41.0	(38.3,43.9)	0.6	(-3.4,4.5)
12 to 18	51.0	54.0	53.4	53.4	52.5	(50.3,54.6)	53.4	(51.2,55.6)	0.9	(-2.1,3.9)
Youth aged 12 to 13										
Males	80.3	82.0	82.4	82.8	81.1	(77.6,84.2)	82.6	(79.7,85.1)	1.4	(-2.6,5.5)
Females	82.4	82.2	78.0	88.3	82.3	(79.3,85.0)	83.2	(79.4,86.5)	0.9	(-3.7,5.5)
White	84.5	84.2	82.9	86.5	84.4	(82.0,86.5)	84.7	(82.1,86.9)	0.3	(-2.9,3.5)
African American	77.0	79.3	77.0	92.9	78.2	(70.6,84.2)	85.1	(79.7,89.3)	7.0	(-1.1,15.0)
Hispanic	72.4	72.6	74.2	73.0	72.5	(65.0,78.8)	73.6	(67.3,79.0)	1.1	(-7.1,9.3)
Risk score										
Higher risk	41.9	30.1	31.2	42.4	37.2	(28.4,47.0)	37.4	(27.1,49.0)	0.2	(-13.8,14.2)
Lower risk	86.8	85.2	85.2	90.6	86.0	(83.6,88.1)	87.9	(85.8,89.7)	1.9	(-0.9,4.7)
Sensation seeking										
High	71.7	70.9	67.5	75.6	71.3	(67.4,74.9)	71.5	(67.3,75.5)	0.3	(-4.8,5.4)
Low	88.8	90.2	89.4	91.6	89.5	(87.0,91.5)	90.5	(88.2,92.4)	1.1	(-1.6,3.7)

Table 4-6. Youth never receiving offers of marijuana, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent reporting never receiving offers of marijuana									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	35.8	38.7	36.9	37.6	37.3	(33.8,40.8)	37.2	(33.4,41.3)	0.0	(-5.2,5.2)
Females	41.6	46.0	47.8	42.3	43.8	(39.2,48.5)	45.1	(41.0,49.2)	1.3	(-4.4,7.0)
White	40.3	42.5	42.9	42.2	41.4	(38.3,44.6)	42.6	(39.3,45.9)	1.2	(-2.8,5.1)
African American	38.5	35.6	41.4	37.3	37.0	(30.8,43.7)	39.3	(32.7,46.4)	2.3	(-7.9,12.6)
Hispanic	28.8	40.4	37.3	32.7	34.7	(26.6,43.7)	35.0	(28.1,42.7)	0.4	(-9.0,9.7)
Risk Score										
Higher Risk	19.9	21.3	21.5	16.8	20.6	(17.9,23.5)	19.1	(16.6,22.0)	-1.4	(-5.5,2.7)
Lower risk	61.6	64.9	67.6	62.9	63.3	(58.2,68.1)	65.1	(60.7,69.3)	1.8	(-4.4,8.1)
Sensation seeking										
High	29.6	32.7	32.7	30.1	31.1	(28.0,34.4)	31.4	(28.3,34.8)	0.4	(-4.4,5.1)
Low	52.8	54.0	59.7	55.1	53.4	(48.1,58.7)	57.3	(52.2,62.2)	3.9	(-2.8,10.6)

Table 4-7. Youth receiving offers of marijuana one or more times in the past 30 days, by age, gender, race/ethnicity, risk score, and sensation seeking

Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
All youth aged 12 to 18										
12 to 13	9.9	9.8	9.9	8.2	9.8	(8.4,11.6)	9.0	(7.6,10.7)	-0.8	(-2.9,1.3)
14 to 15	29.9	23.5	29.1	26.5	26.6	(23.0,30.5)	27.8	(24.3,31.7)	1.2	(-4.2,6.7)
16 to 18	48.3	45.0	46.6	46.5	46.7	(42.9,50.5)	46.6	(42.7,50.5)	-0.1	(-5.2,4.9)
14 to 18	40.1	35.0	38.4	37.8	37.6	(34.9,40.3)	38.1	(35.2,41.0)	0.5	(-3.1,4.2)
12 to 18	31.3	27.7	30.0	29.1	29.5	(27.5,31.6)	29.5	(27.4,31.7)	0.1	(-2.6,2.7)
Youth aged 12 to 13										
Males	10.7	9.8	8.0	8.0	10.2	(8.1,12.9)	8.0	(6.3,10.1)	-2.2	(-5.2,0.8)
Females	9.0	9.9	11.9	8.4	9.5	(7.7,11.6)	10.1	(7.7,13.2)	0.7	(-2.9,4.2)
White	7.2	8.1	7.9	8.0	7.7	(6.1,9.6)	7.9	(6.2,10.2)	0.3	(-2.4,2.9)
African American	10.7	12.1	9.4	2.4	11.4	(7.4,17.1)	5.9	(3.1,10.9)	-5.6	*(-10.6,-0.5)
Hispanic	18.4	17.5	16.1	15.7	17.9	(13.0,24.2)	15.9	(11.8,21.0)	-2.0	(-9.8,5.8)
Risk score										
Higher risk	37.2	47.0	38.8	41.5	41.2	(33.0,49.8)	40.3	(29.8,51.8)	-0.9	(-14.4,12.6)
Lower risk	6.5	7.2	8.0	4.6	6.8	(5.5,8.5)	6.3	(5.0,7.9)	-0.5	(-2.5,1.5)
Sensation seeking										
High	15.4	17.0	17.7	15.7	16.2	(13.4,19.4)	16.7	(13.6,20.3)	0.5	(-3.7,4.7)
Low	5.9	4.5	4.5	3.7	5.2	(3.8,7.1)	4.1	(2.9,5.7)	-1.1	(-3.1,0.8)

Table 4-7. Youth receiving offers of marijuana one or more times in the past 30 days, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
Youth aged 14 to 18										
Males	42.1	37.6	39.2	37.8	39.9	(36.1,43.7)	38.5	(34.3,42.9)	-1.3	(-6.4,3.8)
Females	38.1	32.3	37.5	37.8	35.2	(31.1,39.5)	37.7	(34.3,41.1)	2.5	(-2.7,7.6)
White	37.6	36.5	37.6	36.1	37.1	(33.8,40.4)	36.9	(33.3,40.6)	-0.2	(-4.5,4.2)
African American	43.8	36.3	33.9	35.2	40.0	(34.5,45.9)	34.6	(28.5,41.2)	-5.5	(-14.2,3.3)
Hispanic	49.0	31.1	46.3	48.3	39.8	(33.0,47.1)	47.3	(39.8,54.9)	7.5	(-0.5,15.4)
Risk score										
Higher risk	56.9	53.6	56.3	57.1	55.3	(51.2,59.4)	56.7	(52.6,60.7)	1.4	(-4.5,7.3)
Lower risk	20.2	15.1	18.8	18.1	17.6	(14.4,21.3)	18.4	(15.3,22.1)	0.9	(-4.1,5.8)
Sensation seeking										
High	49.8	44.9	45.2	45.9	47.4	(44.2,50.7)	45.5	(41.7,49.4)	-1.9	(-7.0,3.2)
Low	24.9	22.1	26.6	24.9	23.5	(19.7,27.7)	25.7	(21.8,30.0)	2.2	(-2.8,7.2)

Table 4-8. Youth reporting ever having used inhalants, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting inhalant use ever									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	1.9	0.7	2.0	1.3	1.3	(0.9,1.9)	1.7	(1.1,2.5)	0.4	(-0.4,1.2)
14 to 15	5.3	6.1	4.1	3.0	5.7	(3.8,8.4)	3.6	(2.5,5.0)	-2.1	(-4.7,0.4)
16 to 18	8.8	6.8	6.4	5.3	7.8	(6.3,9.6)	5.8	(4.5,7.6)	-1.9	(-4.3,0.4)
14 to 18	7.2	6.5	5.3	4.3	6.8	(5.6,8.3)	4.8	(3.9,6.0)	-2.0	*(-3.7,-0.4)
12 to 18	5.7	4.8	4.4	3.4	5.2	(4.4,6.2)	3.9	(3.2,4.8)	-1.3	*(-2.5,-0.2)
Youth aged 12 to 13										
Males	2.1	0.8	0.9	1.2	1.4	(0.9,2.3)	1.1	(0.5,2.3)	-0.4	(-1.4,0.7)
Females	1.7	0.5	3.2	1.4	1.1	(0.6,2.1)	2.3	(1.3,3.9)	1.2	(-0.2,2.6)
White	2.1	0.6	1.9	1.4	1.4	(0.9,2.1)	1.6	(1.0,2.7)	0.2	(-0.8,1.2)
African American	0.4	S	0.9	0.8	0.7	(0.1,3.6)	0.9	(0.2,3.5)	0.1	(-1.5,1.8)
Hispanic	2.1	0.5	3.3	1.8	1.3	(0.5,3.1)	2.6	(1.1,5.8)	1.3	(-1.1,3.6)
Risk score										
Higher risk	8.5	9.7	11.1	10.3	9.0	(5.3,14.6)	10.7	(6.1,18.0)	1.7	(-5.6,9.0)
Lower risk	1.2	0.0	1.2	0.2	0.6	(0.3,1.0)	0.7	(0.3,1.5)	0.1	(-0.5,0.8)
Sensation seeking										
High	4.1	1.5	2.8	2.5	2.8	(1.9,4.1)	2.7	(1.7,4.1)	-0.1	(-1.6,1.3)
Low	0.1	0.0	1.6	0.4	0.1	(0.0,0.4)	1.0	(0.4,2.3)	0.9	*(0.0,1.8)

Table 4-8. Youth reporting ever having used inhalants, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent reporting inhalant use ever									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	8.6	9.2	6.6	4.1	8.9	(6.6,11.9)	5.3	(3.8,7.5)	-3.6	*(-6.5,-0.6)
Females	5.8	3.7	3.9	4.6	4.7	(3.5,6.3)	4.3	(3.2,5.7)	-0.5	(-2.1,1.2)
White	7.6	7.6	6.2	4.5	7.6	(6.0,9.7)	5.4	(4.3,6.7)	-2.3	*(-4.5,-0.1)
African American	0.7	2.1	2.8	0.5	1.4	(0.5,3.8)	1.6	(0.8,3.5)	0.2	(-1.6,2.1)
Hispanic	13.6	2.4	4.4	7.6	7.9	(5.0,12.1)	6.0	(3.4,10.2)	-1.9	(-6.4,2.7)
Risk score										
Higher risk	12.3	12.1	10.0	8.1	12.2	(10.1,14.7)	9.0	(7.2,11.3)	-3.2	(-6.4,0.1)
Lower risk	1.5	1.2	0.9	0.5	1.4	(0.7,2.7)	0.7	(0.4,1.1)	-0.7	(-1.7,0.4)
Sensation seeking										
High	11.2	10.9	7.4	5.5	11.0	(9.1,13.4)	6.5	(5.1,8.3)	-4.5	*(-7.2,-1.9)
Low	0.9	0.3	1.6	2.5	0.6	(0.3,1.2)	2.1	(1.2,3.7)	1.5	*(0.5,2.6)

Table 4-9. Youth reporting using inhalant in the past year, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting inhalant use in the past year									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	1.1	0.6	1.4	0.9	0.8	(0.5,1.4)	1.1	(0.7,2.0)	0.3	(-0.4,1.0)
14 to 15	2.4	2.8	2.9	0.8	2.6	(1.7,4.0)	1.9	(1.1,3.2)	-0.7	(-2.4,0.9)
16 to 18	3.1	3.1	3.2	1.4	3.1	(1.9,4.8)	2.3	(1.3,3.9)	-0.8	(-2.7,1.1)
14 to 18	2.8	2.9	3.1	1.1	2.9	(2.1,3.9)	2.1	(1.4,3.1)	-0.8	(-2.0,0.5)
12 to 18	2.3	2.2	2.6	1.0	2.3	(1.7,3.0)	1.8	(1.3,2.5)	-0.5	(-1.4,0.4)
Youth aged 12 to 13										
Males	0.8	0.8	0.3	0.9	0.8	(0.3,1.8)	0.6	(0.2,1.8)	-0.2	(-1.0,0.7)
Females	1.4	0.3	2.6	0.8	0.9	(0.4,1.8)	1.7	(0.9,3.2)	0.8	(-0.4,2.0)
White	1.2	0.6	1.5	0.9	0.9	(0.5,1.7)	1.2	(0.6,2.3)	0.2	(-0.7,1.2)
African American	S	S	S	0.8	0.5	(0.1,4.1)	0.4	(0.0,3.3)	-0.1	(-1.5,1.3)
Hispanic	2.1	S	3.3	S	1.0	(0.4,2.7)	2.1	(0.8,5.3)	1.1	(-1.0,3.3)
Risk score										
Higher risk	4.3	8.5	6.9	7.2	6.0	(2.9,12.0)	7.0	(3.2,14.9)	1.0	(-5.9,8.0)
Lower risk	0.7	0.0	1.0	0.0	0.3	(0.2,0.7)	0.5	(0.2,1.2)	0.2	(-0.4,0.7)
Sensation seeking										
High	2.3	1.4	1.7	1.9	1.8	(1.1,3.1)	1.8	(1.0,3.3)	0.0	(-1.5,1.4)
Low	0.0	0.0	1.3	0.0	0.0	(0.0,0.8)	0.7	(0.2,2.0)	0.7	(0.0,1.4)

Table 4-9. Youth reporting using inhalants in the past year, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent reporting inhalant use in the past year									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	2.2	4.6	4.2	1.2	3.4	(2.1,5.4)	2.7	(1.6,4.5)	-0.7	(-2.8,1.4)
Females	3.4	1.2	1.9	1.0	2.3	(1.5,3.5)	1.4	(0.9,2.3)	-0.9	(-2.0,0.3)
White	3.1	3.5	3.9	1.4	3.3	(2.2,4.8)	2.6	(1.7,4.1)	-0.6	(-2.4,1.1)
African American	0.2	S	1.1	S	0.1	(0.0,0.8)	0.5	(0.1,2.4)	0.4	(-0.4,1.3)
Hispanic	4.2	S	1.1	1.1	2.0	(1.0,4.3)	1.1	(0.6,2.2)	-0.9	(-2.6,0.8)
Risk score										
Higher risk	4.4	6.5	5.7	2.1	5.4	(3.9,7.5)	3.9	(2.6,6.0)	-1.5	(-4.2,1.1)
Lower risk	0.8	0.0	0.9	0.3	0.4	(0.1,1.1)	0.6	(0.3,1.0)	0.2	(-0.4,0.7)
Sensation seeking										
High	4.1	5.0	4.3	1.4	4.5	(3.2,6.2)	2.9	(1.8,4.5)	-1.6	(-3.7,0.5)
Low	0.8	0.3	0.9	0.7	0.5	(0.2,1.1)	0.8	(0.4,1.4)	0.3	(-0.4,0.9)

Table 4-10. Youth reporting using inhalants in the past month, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting inhalant use in the past month									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	0.4	0.0	0.4	0.5	0.2	(0.1,0.5)	0.4	(0.2,1.1)	0.2	(-0.2,0.6)
14 to 15	0.5	0.1	1.2	0.4	0.3	(0.1,0.6)	0.8	(0.4,1.8)	0.5	(-0.2,1.2)
16 to 18	1.0	0.7	0.3	0.5	0.9	(0.4,1.9)	0.4	(0.2,1.0)	-0.4	(-1.2,0.3)
14 to 18	0.8	0.4	0.7	0.4	0.6	(0.3,1.1)	0.6	(0.4,1.0)	0.0	(-0.5,0.5)
12 to 18	0.7	0.3	0.6	0.4	0.5	(0.3,0.8)	0.5	(0.3,0.8)	0.1	(-0.3,0.4)
Youth aged 12 to 13										
Males	0.3	0.0	0.3	0.6	0.2	(0.0,0.7)	0.5	(0.1,1.6)	0.3	(-0.3,0.9)
Females	0.6	0.0	0.5	0.3	0.3	(0.1,0.8)	0.4	(0.1,1.3)	0.1	(-0.4,0.7)
White	0.4	0.0	0.4	0.5	0.2	(0.1,0.5)	0.5	(0.2,1.3)	0.3	(-0.2,0.8)
African American	S	S	S	S	S	(S)	S	(S)	S	(S)
Hispanic	1.4	S	0.7	S	0.7	(0.2,2.8)	0.9	(0.2,4.0)	0.2	(-1.5,1.8)
Risk score										
Higher risk	0.7	S	S	S	0.4	(0.0,3.5)	2.9	(0.7,10.4)	2.4	(-1.5,6.3)
Lower risk	0.5	0.0	0.3	0.0	0.2	(0.1,0.6)	0.2	(0.0,0.8)	-0.1	(-0.4,0.3)
Sensation seeking										
High	1.1	S	0.3	1.2	0.5	(0.2,1.2)	0.7	(0.2,2.3)	0.2	(-0.7,1.1)
Low	0.0	0.0	0.5	0.0	0.0	(0.0,0.8)	0.2	(0.1,1.1)	0.2	(-0.1,0.6)

Table 4-10. Youth reporting using inhalants in the past month, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent reporting inhalant use in the past month									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	0.4	0.8	0.5	0.3	0.6	(0.2,1.8)	0.4	(0.1,1.1)	-0.2	(-1.0,0.6)
Females	1.1	0.0	1.0	0.6	0.6	(0.3,1.0)	0.8	(0.4,1.3)	0.2	(-0.3,0.8)
White	1.0	0.1	0.7	0.7	0.5	(0.3,0.9)	0.7	(0.4,1.2)	0.1	(-0.4,0.7)
African American	0.2	S	1.1	S	0.1	(0.0,0.8)	0.5	(0.1,2.4)	0.4	(-0.4,1.3)
Hispanic	S	S	0.6	S	0.0	(0.0,2.5)	0.3	(0.1,0.9)	0.3	(0.0,0.6)
Risk score										
Higher risk	1.6	0.9	1.4	0.8	1.3	(0.7,2.4)	1.1	(0.6,2.0)	-0.1	(-1.2,0.9)
Lower risk	0.0	0.0	0.2	0.1	0.0	(0.0,0.9)	0.1	(0.1,0.4)	0.1	(0.0,0.3)
Sensation seeking										
High	1.2	0.7	1.2	0.5	1.0	(0.5,1.8)	0.8	(0.4,1.6)	-0.1	(-1.0,0.7)
Low	0.2	0.0	S	0.3	0.1	(0.0,0.4)	0.2	(0.0,0.8)	0.1	(-0.2,0.4)

Table 4-11. Youth reporting regular inhalant use,[1] by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting regular inhalant use									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	0.0	0.2	0.0	0.0	0.1	(0.0,0.6)	0.0	(0.0,0.5)	-0.1	(-0.3,0.1)
14 to 15	0.2	0.3	0.5	0.0	0.2	(0.0,1.1)	0.2	(0.1,0.9)	0.0	(-0.5,0.5)
16 to 18	0.4	0.5	0.4	0.3	0.4	(0.2,0.9)	0.4	(0.2,0.8)	-0.1	(-0.4,0.2)
14 to 18	0.3	0.4	0.4	0.2	0.3	(0.2,0.6)	0.3	(0.1,0.6)	0.0	(-0.3,0.2)
12 to 18	0.2	0.3	0.3	0.1	0.3	(0.2,0.4)	0.2	(0.1,0.4)	-0.1	(-0.2,0.1)
Youth aged 14 to 18										
Males	0.3	0.8	0.4	0.4	0.6	(0.3,1.1)	0.4	(0.1,0.9)	-0.2	(-0.7,0.3)
Females	0.2	0.0	0.5	0.0	0.1	(0.1,0.3)	0.2	(0.1,0.6)	0.1	(-0.1,0.3)
White	0.4	0.6	0.5	0.2	0.5	(0.3,0.9)	0.4	(0.2,0.9)	-0.2	(-0.5,0.2)
African American	S	S	S	S	0.0	(0.0,2.5)	0.0	(0.0,2.6)	S	(S)
Hispanic	S	S	0.6	0.2	0.0	(0.0,2.5)	0.4	(0.1,1.1)	0.4	(0.0,0.8)
Risk score										
Higher risk	0.5	0.9	0.7	0.4	0.7	(0.4,1.3)	0.6	(0.2,1.2)	-0.1	(-0.7,0.4)
Lower risk	0.1	0.0	0.2	0.0	0.0	(0.0,0.2)	0.1	(0.0,0.3)	0.1	(-0.1,0.2)
Sensation seeking										
High	0.5	0.7	0.6	0.3	0.6	(0.3,1.0)	0.5	(0.2,1.0)	-0.1	(-0.5,0.3)
Low	0.0	0.0	S	0.0	0.0	(0.0,1.0)	0.0	(0.0,0.9)	S	(S)

[1]Regular use = Used 10 or more times in past year.

Table 5-1. Nonusers'[1] intentions to use marijuana[2] even once or twice in the next 12 months, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent definitely not intending to try marijuana									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	91.7	92.9	90.1	91.6	92.3	(90.6,93.7)	90.9	(89.0,92.5)	-1.4	(-3.8,0.9)
14 to 15	83.3	86.8	85.4	82.2	85.1	(82.3,87.6)	83.8	(80.9,86.4)	-1.3	(-5.2,2.7)
16 to 18	82.1	87.3	80.8	86.0	84.7	(81.5,87.4)	83.5	(79.3,86.9)	-1.2	(-5.7,3.4)
14 to 18	82.7	87.0	83.3	84.0	84.9	(82.9,86.7)	83.7	(81.2,85.9)	-1.2	(-4.1,1.6)
12 to 18	85.9	89.1	85.8	86.8	87.5	(86.1,88.8)	86.3	(84.6,87.9)	-1.2	(-3.3,0.8)
Youth aged 12 to 18										
Males	84.8	88.6	87.2	87.1	86.7	(84.4,88.7)	87.1	(84.6,89.4)	0.4	(-2.6,3.5)
Females	87.0	89.7	84.4	86.5	88.4	(86.2,90.2)	85.5	(83.2,87.4)	-2.9	*(-5.5,-0.3)
White	86.0	89.0	85.9	87.5	87.5	(85.7,89.1)	86.7	(84.5,88.6)	-0.8	(-3.3,1.7)
African American	86.2	88.1	84.6	86.1	87.2	(82.9,90.5)	85.4	(81.1,88.8)	-1.8	(-7.6,4.0)
Hispanic	84.2	90.5	89.0	85.4	87.5	(83.2,90.9)	87.1	(82.7,90.5)	-0.4	(-5.3,4.5)
Risk score										
Higher risk	74.4	76.1	67.2	73.2	75.2	(71.1,78.9)	70.3	(64.8,75.2)	-5.0	(-11.1,1.2)
Lower risk	90.7	93.7	91.6	91.6	92.2	(90.5,93.6)	91.6	(89.9,93.0)	-0.6	(-2.7,1.4)
Sensation seeking										
High	78.9	82.5	78.9	79.2	80.6	(78.1,83.0)	79.0	(76.5,81.4)	-1.6	(-4.6,1.4)
Low	92.9	95.1	93.1	94.1	94.1	(92.1,95.5)	93.6	(91.4,95.2)	-0.5	(-2.7,1.8)

[1]Nonusers are those who have never used marijuana in the past.

[2]All youth, regardless of current or prior marijuana usage, were asked about their confidence to say no to marijuana if they really wanted to.

Table 5-2. Nonusers'[1] personal beliefs about outcomes and attitudes toward marijuana use[2], by age, gender, race/ethnicity, risk score, and sensation seeking

	Beliefs about outcomes of marijuana use									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	Mean	Mean	Mean	Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	122.02	136.26	117.42	125.62	129.24	(122.89,135.59)	121.47	(116.40,126.54)	-7.77	*(-14.77,-0.77)
14 to 15	89.87	113.84	105.53	96.05	102.34	(94.70,109.98)	100.85	(93.16,108.55)	-1.48	(-11.65,8.68)
16 to 18	85.87	97.41	78.31	91.50	91.53	(81.53,101.54)	85.13	(74.91,95.36)	-6.40	(-20.15,7.35)
14 to 18	87.99	106.57	92.99	93.85	97.40	(90.61,104.19)	93.42	(86.90,99.95)	-3.98	(-12.59,4.64)
12 to 18	100.00	117.07	101.90	105.13	108.65	(103.23,114.07)	103.52	(98.80,108.24)	-5.13	(-11.36,1.10)
Youth aged 12 to 18										
Males	95.52	110.31	104.04	100.97	103.00	(96.48,109.51)	102.47	(96.41,108.53)	-0.52	(-7.98,6.94)
Females	104.54	123.82	99.82	109.52	114.34	(107.33,121.34)	104.59	(97.71,111.46)	-9.75	*(-18.53,-0.97)
White	103.29	120.49	103.45	108.76	111.84	(105.65,118.03)	106.13	(99.93,112.32)	-5.71	(-13.50,2.08)
African American	89.84	110.63	88.85	101.32	100.44	(89.48,111.40)	95.17	(84.85,105.49)	-5.27	(-18.23,7.69)
Hispanic	92.34	111.63	121.15	97.33	102.46	(90.70,114.21)	109.00	(97.56,120.44)	6.54	(-9.74,22.83)
Risk score										
Higher risk	58.86	66.78	47.14	51.36	62.54	(50.85,74.23)	49.27	(36.48,62.06)	-13.27	(-29.66,3.12)
Lower risk	117.42	132.31	121.78	122.11	125.14	(119.32,130.96)	121.95	(117.81,126.08)	-3.19	(-8.92,2.53)
Sensation seeking										
High	73.49	90.70	78.38	73.95	81.91	(73.74,90.07)	76.20	(68.77,83.63)	-5.71	(-16.13,4.71)
Low	126.37	138.99	126.89	135.91	132.94	(125.60,140.29)	131.46	(125.82,137.10)	-1.48	(-9.06,6.09)

[1]Nonusers are those who have never used marijuana in the past.

[2]Measurement of this construct is detailed in Appendix E.

Table 5-3. Nonusers'[1] perceptions of social norms regarding marijuana use[2], by age, gender, race/ethnicity, risk score, and sensation seeking

	Mean score on anti-marijuana social norm index									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	131.52	142.30	131.49	127.46	136.98	(132.39,141.58)	129.50	(124.10,134.90)	-7.48	*(-14.56,-0.41)
14 to 15	87.94	106.40	105.99	90.25	97.54	(90.37,104.71)	98.22	(89.74,106.71)	0.68	(-10.59,11.95)
16 to 18	76.88	91.60	68.04	73.09	84.10	(74.44,93.77)	70.65	(61.22,80.08)	-13.45	*(-25.75,-1.15)
14 to 18	82.73	99.85	88.51	81.94	91.40	(85.65,97.16)	85.19	(78.91,91.48)	-6.21	(-14.54,2.12)
12 to 18	99.96	114.86	104.19	98.11	107.51	(103.36,111.66)	101.14	(96.69,105.60)	-6.36	*(-12.18,-0.54)
Youth aged 12 to 18										
Males	91.60	105.72	97.02	93.26	98.73	(92.56,104.91)	95.10	(88.72,101.48)	-3.63	(-12.87,5.60)
Females	108.42	123.99	111.21	103.22	116.33	(109.76,122.91)	107.29	(100.52,114.05)	-9.04	*(-16.87,-1.21)
White	104.46	121.22	108.75	105.81	112.79	(107.27,118.31)	107.27	(102.09,112.45)	-5.52	(-12.80,1.76)
African American	79.60	86.46	81.65	66.57	83.09	(74.17,92.02)	74.01	(65.35,82.67)	-9.08	(-21.16,2.99)
Hispanic	96.99	110.67	119.22	96.35	104.16	(93.07,115.26)	107.55	(94.65,120.45)	3.39	(-12.51,19.28)
Risk score										
Higher risk	53.22	60.33	41.21	40.92	56.52	(44.65,68.40)	41.07	(30.99,51.15)	-15.46	(-31.13,0.22)
Lower risk	117.28	130.58	125.07	118.49	124.17	(120.29,128.06)	121.76	(116.86,126.66)	-2.41	(-7.79,2.96)
Sensation seeking										
High	75.99	92.01	81.40	69.89	83.82	(77.31,90.34)	75.74	(69.41,82.07)	-8.08	(-16.79,0.62)
Low	122.86	133.39	127.16	126.66	128.34	(123.43,133.26)	126.90	(120.69,133.12)	-1.44	(-8.72,5.84)

[1]Nonusers are those who have never used marijuana in the past.

[2]Measurement of this construct is detailed in Appendix E.

Table 5-4. Nonusers'[1] self-efficacy to refuse marijuana[2], by age, gender, race/ethnicity, risk score, and sensation seeking

	Mean score on self-efficacy to refuse marijuana index									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	99.83	102.63	94.85	107.14	101.25	(96.21,106.29)	100.93	(95.66,106.19)	-0.32	(-7.10,6.45)
14 to 15	89.21	103.32	113.84	110.01	96.55	(86.79,106.31)	111.95	(105.56,118.34)	15.40	*(3.14,27.66)
16 to 18	112.16	109.62	92.11	124.25	110.92	(102.02,119.82)	108.73	(98.17,119.30)	-2.18	(-15.53,11.16)
14 to 18	100.04	106.11	103.83	116.90	103.11	(96.42,109.81)	110.43	(104.42,116.44)	7.32	(-1.97,16.61)
12 to 18	99.96	104.88	100.56	113.44	102.45	(97.62,107.29)	107.01	(102.78,111.24)	4.55	(-1.69,10.80)
Youth aged 12 to 18										
Males	91.50	103.19	104.88	109.36	97.41	(90.98,103.84)	107.17	(101.78,112.55)	9.76	*(1.95,17.57)
Females	108.52	106.57	96.33	117.74	107.53	(100.59,114.47)	106.85	(100.44,113.26)	-0.68	(-9.09,7.72)
White	105.48	116.54	104.41	118.39	110.98	(105.75,116.21)	111.46	(107.28,115.65)	0.48	(-6.35,7.31)
African American	84.44	86.00	88.82	113.13	85.23	(73.21,97.25)	101.14	(88.20,114.09)	15.91	(-1.81,33.63)
Hispanic	89.20	86.32	102.60	93.76	87.69	(74.03,101.35)	98.09	(83.33,112.84)	10.40	(-7.49,28.29)
Risk score										
Higher risk	81.16	109.21	70.73	97.92	94.18	(83.90,104.46)	84.46	(72.89,96.02)	-9.73	(-24.97,5.52)
Lower risk	107.61	105.61	110.91	121.34	106.58	(101.26,111.89)	116.16	(111.90,120.42)	9.58	*(2.77,16.40)
Sensation seeking										
High	80.53	96.04	81.22	96.79	88.11	(80.73,95.49)	88.88	(82.45,95.30)	0.76	(-9.13,10.66)
Low	119.51	114.44	121.11	130.51	116.87	(110.91,122.83)	125.87	(120.96,130.77)	9.00	*(2.76,15.24)

[1]Nonusers are those who have never used marijuana in the past.

[2]Measurement of this construct is detailed in Appendix E.

Table DT 5-5 has been intentionally deleted

Table 5-6. Beliefs about possible outcomes of using marijuana even once or twice among nonusing[1] youth aged 12 to 18, by age

	Percent holding strong anti-drug beliefs[2]									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Outcome by Age	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Upset my parents/caregivers										
12 to 13	82.9	82.3	77.2	82.5	82.6	(79.1,85.6)	79.6	(75.6,83.2)	-3.0	(-7.8,1.8)
14 to 18	81.2	79.7	83.3	85.6	80.5	(76.5,83.9)	84.5	(81.1,87.3)	4.0	(-0.4,8.5)
12 to 18	81.8	80.7	81.0	84.6	81.2	(78.6,83.6)	82.7	(80.1,85.1)	1.5	(-1.9,4.9)
Get in trouble with the law										
12 to 13	45.2	45.4	39.4	43.8	45.3	(41.5,49.2)	41.4	(36.8,46.2)	-3.9	(-9.6,1.8)
14 to 18	32.0	43.6	37.9	37.8	37.6	(32.9,42.5)	37.8	(33.5,42.4)	0.3	(-5.4,6.0)
12 to 18	36.7	44.3	38.5	39.8	40.4	(37.2,43.6)	39.1	(35.6,42.7)	-1.2	(-5.3,2.9)
Lose control of myself										
12 to 13	34.1	33.8	32.3	33.3	34.0	(30.6,37.4)	32.8	(28.7,37.1)	-1.2	(-6.7,4.4)
14 to 18	22.9	36.0	28.0	29.3	29.1	(25.4,33.2)	28.7	(24.7,33.0)	-0.5	(-5.7,4.7)
12 to 18	26.8	35.2	29.6	30.7	30.9	(28.0,33.9)	30.2	(27.0,33.6)	-0.7	(-4.8,3.4)
Start using stronger drugs										
12 to 13	12.2	10.2	13.8	16.0	11.2	(9.0,13.9)	14.8	(11.7,18.6)	3.6	(-0.9,8.1)
14 to 18	13.1	15.0	14.6	15.5	14.0	(11.5,16.9)	15.1	(12.0,18.7)	1.1	(-2.9,5.0)
12 to 18	12.8	13.2	14.3	15.7	13.0	(11.2,15.1)	15.0	(12.7,17.6)	2.0	(-1.0,4.9)
Be more relaxed										
12 to 13	55.6	53.6	51.4	53.2	54.6	(49.8,59.3)	52.2	(47.0,57.4)	-2.4	(-7.6,2.9)
14 to 18	39.9	48.5	41.9	40.2	44.0	(39.7,48.4)	41.0	(36.1,46.0)	-3.0	(-9.0,3.0)
12 to 18	45.4	50.3	45.5	44.6	47.8	(44.8,50.8)	45.1	(41.4,48.7)	-2.7	(-6.6,1.2)
Have a good time with friends										
12 to 13	50.9	49.4	46.0	48.4	50.1	(46.2,54.0)	47.1	(42.1,52.1)	-3.0	(-8.5,2.5)
14 to 18	37.4	46.3	39.1	40.3	41.6	(37.6,45.8)	39.7	(35.1,44.5)	-1.9	(-7.1,3.2)
12 to 18	42.1	47.4	41.7	43.0	44.7	(41.8,47.6)	42.3	(38.6,46.2)	-2.3	(-5.9,1.2)

Table 5-6. Beliefs about possible outcomes of using marijuana even once or twice among nonusing[1] youth aged 12 to 18, by age (continued)

	Percent holding strong anti-drug beliefs[2]									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Outcome by Age	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Feel better										
12 to 13	60.9	61.0	58.0	61.8	60.9	(56.0,65.7)	59.7	(54.3,64.9)	-1.2	(-7.1,4.6)
14 to 18	52.8	63.4	52.7	50.7	57.9	(53.1,62.6)	51.7	(47.0,56.3)	-6.2	*(-12.3,-0.2)
12 to 18	55.7	62.5	54.7	54.4	59.0	(55.1,62.8)	54.6	(50.7,58.4)	-4.4	(-8.9,0.1)
Be like the coolest kids										
12 to 13	64.1	68.5	60.9	60.6	66.3	(61.9,70.3)	60.8	(56.5,64.9)	-5.5	*(-10.7,-0.2)
14 to 18	62.7	64.4	60.4	60.7	63.6	(59.8,67.2)	60.6	(56.0,64.9)	-3.0	(-8.3,2.3)
12 to 18	63.2	65.9	60.6	60.7	64.5	(61.7,67.2)	60.6	(57.0,64.2)	-3.9	*(-7.7,-0.1)

[1]Nonusers are those who have never used marijuana in the past.

[2]Percentages displayed for negative outcomes ("Upset my parents" through "Start using stronger drugs") are those who answered "Very likely." For positive outcomes, ("Be more relaxed" through "Be like the coolest kids") percentages reported are those who answered "Very unlikely."

Table 5-7. Nonusers'[1] perceptions of friends' use of marijuana even once or twice in the past 12 months, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying none or a few friends use even once or twice									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	93.6	92.0	91.4	93.3	92.8	(91.0,94.3)	92.3	(89.6,94.4)	-0.5	(-3.3,2.3)
14 to 15	70.6	77.2	78.4	78.7	74.0	(69.4,78.1)	78.5	(73.8,82.6)	4.6	(-1.5,10.6)
16 to 18	67.6	67.0	73.2	62.0	67.3	(59.4,74.3)	67.7	(61.3,73.5)	0.4	(-8.4,9.2)
14 to 18	69.2	73.1	75.8	70.8	71.0	(67.0,74.8)	73.3	(69.5,76.7)	2.2	(-2.1,6.5)
12 to 18	77.9	80.1	81.8	78.8	79.0	(76.2,81.4)	80.3	(77.7,82.7)	1.4	(-1.8,4.5)
Youth aged 12 to 18										
Males	75.7	79.0	86.9	79.4	77.3	(73.4,80.8)	83.2	(79.8,86.2)	5.9	*(1.6,10.2)
Females	80.2	81.1	76.4	78.3	80.6	(77.3,83.6)	77.4	(74.0,80.4)	-3.3	(-7.2,0.7)
White	79.3	81.5	81.7	80.4	80.3	(76.9,83.3)	81.1	(77.6,84.1)	0.8	(-3.3,4.8)
African American	76.1	70.9	87.5	79.0	73.8	(66.5,80.0)	83.0	(77.1,87.6)	9.2	*(1.2,17.3)
Hispanic	71.9	75.2	78.5	69.1	73.6	(65.6,80.2)	73.9	(65.0,81.2)	0.4	(-9.3,10.0)
Risk score										
Higher risk	54.5	59.3	70.1	53.5	56.6	(49.9,63.1)	61.7	(54.2,68.7)	5.1	(-3.7,13.9)
Lower risk	85.8	85.3	86.0	87.8	85.5	(82.2,88.3)	86.9	(84.2,89.2)	1.4	(-2.0,4.8)
Sensation seeking										
High	68.2	71.4	75.6	69.8	69.7	(64.9,74.2)	72.7	(67.9,77.1)	3.0	(-3.0,8.9)
Low	86.2	87.6	87.2	87.0	86.9	(83.5,89.6)	87.1	(83.9,89.7)	0.2	(-3.6,4.1)

[1]Nonusers are those who have never used marijuana in the past.

Table 5-8. Nonusers'[1] perceptions of others' use of marijuana even once or twice in the past 12 months, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying none or a few other kids of the same age[2] use even once or twice									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	74.7	76.7	73.8	80.9	75.7	(73.2,78.1)	77.3	(74.4,79.9)	1.6	(-1.7,4.8)
14 to 15	36.5	40.4	41.0	36.4	38.6	(34.5,42.8)	38.7	(34.3,43.3)	0.2	(-6.4,6.7)
16 to 18	21.5	17.4	22.4	18.2	19.5	(15.8,23.8)	20.2	(15.1,26.5)	0.7	(-5.1,6.5)
14 to 18	29.5	30.3	32.4	27.5	29.9	(26.8,33.1)	29.9	(26.2,33.9)	0.0	(-4.7,4.8)
12 to 18	45.0	46.5	47.3	46.0	45.8	(43.7,48.0)	46.6	(43.9,49.3)	0.8	(-2.4,4.0)
Youth aged 12 to 18										
Males	48.2	50.2	53.7	49.2	49.2	(46.0,52.4)	51.4	(47.5,55.2)	2.2	(-2.8,7.2)
Females	41.8	42.8	41.0	42.5	42.3	(39.7,45.1)	41.7	(38.6,45.0)	-0.6	(-4.6,3.4)
White	43.7	44.8	44.9	46.3	44.3	(41.7,46.8)	45.6	(42.2,49.0)	1.3	(-2.6,5.3)
African American	47.1	47.9	46.1	39.9	47.5	(42.6,52.5)	43.0	(37.9,48.3)	-4.5	(-10.9,1.9)
Hispanic	48.0	47.6	61.6	49.5	47.8	(42.0,53.7)	55.4	(46.7,63.8)	7.6	(-1.0,16.2)
Risk score										
Higher risk	22.2	19.3	20.8	16.7	20.9	(17.3,25.0)	18.7	(14.6,23.7)	-2.2	(-7.1,2.8)
Lower risk	54.3	54.2	56.6	54.8	54.3	(51.7,56.8)	55.7	(52.6,58.8)	1.4	(-2.3,5.1)
Sensation seeking										
High	35.3	35.7	35.0	37.2	35.5	(32.3,38.9)	36.1	(32.2,40.2)	0.6	(-4.3,5.4)
Low	54.3	55.0	59.6	54.0	54.7	(51.8,57.4)	56.8	(53.3,60.2)	2.1	(-2.0,6.2)

[1]Nonusers are those who have never used marijuana in the past.

[2]If respondent is currently in school, question wording referred to "kids in your grade at school."

Table 5-9. Nonusers'[1] attitudes[2] toward trial marijuana use, by age, gender, race/ethnicity, risk score, and sensation seeking

	Attitude 1=strong pro-drug 7=strong anti-drug									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	Mean	Mean	Mean	Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	6.60	6.74	6.56	6.62	6.67	(6.58,6.76)	6.59	(6.49,6.68)	-0.08	(-0.23,0.06)
14 to 15	6.41	6.52	6.52	6.45	6.47	(6.31,6.62)	6.49	(6.38,6.59)	0.02	(-0.16,0.19)
16 to 18	6.50	6.65	6.37	6.29	6.57	(6.44,6.69)	6.33	(6.15,6.51)	-0.24	(-0.48,0.00)
14 to 18	6.45	6.57	6.45	6.37	6.51	(6.41,6.61)	6.41	(6.30,6.52)	-0.10	(-0.24,0.03)
12 to 18	6.51	6.63	6.49	6.46	6.57	(6.50,6.64)	6.48	(6.39,6.56)	-0.09	(-0.20,0.01)
Youth aged 12 to 18										
Males	6.53	6.62	6.56	6.45	6.57	(6.46,6.69)	6.51	(6.38,6.64)	-0.07	(-0.21,0.07)
Females	6.48	6.65	6.41	6.48	6.56	(6.46,6.66)	6.44	(6.34,6.54)	-0.12	(-0.26,0.02)
White	6.60	6.61	6.58	6.51	6.61	(6.52,6.69)	6.54	(6.45,6.64)	-0.06	(-0.17,0.05)
African American	6.34	6.57	6.30	6.42	6.45	(6.19,6.70)	6.36	(6.14,6.58)	-0.08	(-0.41,0.24)
Hispanic	6.28	6.74	6.45	6.33	6.51	(6.31,6.72)	6.39	(6.16,6.62)	-0.13	(-0.43,0.17)
Risk score										
Higher risk	6.31	6.34	6.08	5.82	6.33	(6.17,6.48)	5.94	(5.70,6.19)	-0.38	*(-0.69,-0.07)
Lower risk	6.59	6.69	6.60	6.67	6.64	(6.54,6.73)	6.63	(6.56,6.71)	0.00	(-0.13,0.12)
Sensation seeking										
High	6.34	6.55	6.27	6.06	6.45	(6.34,6.56)	6.16	(5.99,6.34)	-0.28	*(-0.47,-0.10)
Low	6.65	6.69	6.70	6.82	6.67	(6.58,6.76)	6.76	(6.68,6.84)	0.09	(-0.04,0.22)

[1]Nonusers are those who have never used marijuana in the past.

[2]For youth aged 12 to 18, attitude is based on a scale of two items (extremely bad, unenjoyable/good, enjoyable).

Table 5-10. Nonusers[1] beliefs about outcomes[2] of trial marijuana use, by age, gender, race/ethnicity, risk score, and sensation seeking

	Beliefs about outcomes -2=strong pro-drug +2=strong anti-drug									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	Mean	Mean	Mean	Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	0.75	0.79	0.70	0.86	0.77	(0.70,0.83)	0.77	(0.70,0.85)	0.01	(-0.10,0.11)
14 to 15	0.71	0.75	0.79	0.80	0.73	(0.63,0.82)	0.79	(0.71,0.88)	0.07	(-0.04,0.18)
16 to 18	0.56	0.63	0.70	0.72	0.59	(0.48,0.71)	0.71	(0.61,0.80)	0.11	(-0.03,0.26)
14 to 18	0.64	0.70	0.74	0.76	0.67	(0.60,0.74)	0.75	(0.68,0.82)	0.08	(-0.01,0.17)
12 to 18	0.68	0.73	0.73	0.79	0.71	(0.66,0.75)	0.76	(0.71,0.81)	0.05	(-0.01,0.12)
Youth aged 12 to 18										
Males	0.66	0.73	0.72	0.73	0.70	(0.64,0.76)	0.73	(0.66,0.80)	0.03	(-0.06,0.13)
Females	0.69	0.73	0.73	0.86	0.71	(0.63,0.79)	0.79	(0.72,0.87)	0.08	(-0.02,0.18)
White	0.73	0.82	0.79	0.84	0.77	(0.72,0.82)	0.81	(0.75,0.88)	0.04	(-0.02,0.11)
African American	0.58	0.53	0.44	0.82	0.56	(0.41,0.71)	0.64	(0.50,0.78)	0.08	(-0.10,0.26)
Hispanic	0.52	0.66	0.83	0.61	0.59	(0.44,0.74)	0.72	(0.57,0.86)	0.13	(-0.08,0.35)
Risk score										
Higher risk	0.45	0.47	0.44	0.46	0.46	(0.37,0.55)	0.45	(0.36,0.55)	-0.01	(-0.14,0.13)
Lower risk	0.78	0.78	0.82	0.93	0.78	(0.73,0.83)	0.88	(0.81,0.94)	0.10	*(0.02,0.17)
Sensation seeking										
High	0.58	0.61	0.60	0.62	0.59	(0.52,0.67)	0.61	(0.54,0.68)	0.02	(-0.08,0.11)
Low	0.76	0.84	0.85	0.97	0.80	(0.73,0.87)	0.91	(0.84,0.98)	0.11	*(0.01,0.20)

[1]Nonusers are those who have never used marijuana in the past.

[2]For youth aged 12 to 18, average of individual items presented in Table 5-6, with positive outcomes ("Be more relaxed" through "Be like the coolest kids") reverse coded before taking average.

Table 5-11. Nonusers'[1] perceived parental expectations about trial marijuana use, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth reporting parents strongly disapprove of trial marijuana use									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	95.3	95.7	98.2	93.5	95.5	(93.3,97.0)	95.9	(93.2,97.6)	0.4	(-2.1,3.0)
14 to 15	94.2	98.9	95.6	95.9	96.6	(93.3,98.3)	95.7	(93.5,97.2)	-0.9	(-3.7,2.0)
16 to 18	89.0	94.0	93.4	91.0	91.2	(85.7,94.7)	92.2	(87.3,95.3)	1.0	(-4.0,6.1)
14 to 18	91.7	96.9	94.5	93.6	94.2	(90.8,96.4)	94.0	(91.5,95.8)	-0.2	(-2.9,2.5)
12 to 18	93.0	96.5	95.9	93.5	94.7	(92.4,96.3)	94.7	(93.2,96.0)	0.1	(-1.8,1.9)
Youth aged 12 to 18										
Males	93.0	96.8	95.7	95.6	94.8	(92.1,96.6)	95.7	(93.5,97.2)	0.9	(-1.3,3.0)
Females	92.9	96.2	96.1	91.5	94.5	(91.6,96.5)	93.8	(91.6,95.4)	-0.7	(-3.5,2.0)
White	94.0	96.9	97.1	95.2	95.4	(92.3,97.3)	96.1	(94.5,97.3)	0.8	(-1.6,3.1)
African American	89.6	95.6	92.7	90.9	92.3	(85.5,96.1)	91.8	(86.0,95.3)	-0.5	(-5.5,4.5)
Hispanic	91.4	94.4	94.5	87.4	92.9	(87.2,96.2)	91.1	(86.0,94.4)	-1.8	(-7.3,3.6)
Risk score										
Higher risk	89.5	91.7	90.1	90.1	90.4	(84.0,94.4)	90.1	(84.3,93.9)	-0.3	(-6.6,6.0)
Lower risk	93.6	97.9	97.6	95.5	95.7	(93.9,97.0)	96.6	(95.2,97.6)	0.8	(-0.8,2.5)
Sensation seeking										
High	90.8	96.2	95.0	90.8	93.5	(89.2,96.1)	93.0	(90.2,95.0)	-0.5	(-3.8,2.8)
Low	94.6	96.5	96.9	95.7	95.5	(93.1,97.1)	96.3	(94.8,97.4)	0.8	(-1.3,2.9)

[1]Nonusers are those who have never used marijuana in the past.

Table 5-12. Nonusers'[1] perceived social expectations about trial marijuana use, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth reporting friends strongly disapprove of trial marijuana use									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	68.5	72.6	64.9	67.5	70.5	(66.8,74.0)	66.2	(61.7,70.4)	-4.4	(-9.9,1.2)
14 to 15	55.9	55.8	54.4	59.8	55.8	(49.6,61.9)	57.2	(51.3,63.0)	1.4	(-7.1,9.9)
16 to 18	52.9	66.6	52.3	52.6	58.9	(52.7,64.9)	52.4	(46.0,58.8)	-6.5	(-14.6,1.6)
14 to 18	54.4	60.2	53.3	56.4	57.2	(53.1,61.2)	54.9	(50.4,59.3)	-2.3	(-8.5,3.9)
12 to 18	59.5	64.8	57.8	60.4	62.0	(59.2,64.8)	59.1	(55.8,62.3)	-3.0	(-7.1,1.2)
Youth aged 12 to 18										
Males	54.9	57.0	48.1	55.8	55.9	(51.7,60.1)	51.9	(47.1,56.6)	-4.1	(-10.5,2.4)
Females	64.2	72.4	68.0	65.1	68.2	(63.7,72.5)	66.5	(61.6,71.1)	-1.7	(-7.8,4.4)
White	61.3	65.5	59.2	64.2	63.3	(59.5,67.0)	61.7	(57.9,65.3)	-1.6	(-6.0,2.8)
African American	51.4	56.4	45.8	40.2	53.7	(45.9,61.2)	42.8	(36.8,49.1)	-10.8	*(-21.2,-0.4)
Hispanic	61.1	66.5	66.1	65.8	63.8	(57.2,70.0)	66.0	(58.9,72.4)	2.1	(-6.4,10.7)
Risk score										
Higher risk	37.1	36.4	36.2	39.1	36.8	(31.5,42.4)	37.6	(30.9,44.9)	0.8	(-7.7,9.4)
Lower risk	67.5	70.2	64.1	68.1	68.8	(65.6,71.8)	66.1	(62.7,69.3)	-2.7	(-6.4,1.1)
Sensation seeking										
High	47.6	53.4	44.3	47.3	50.4	(45.9,54.9)	45.8	(41.7,49.9)	-4.6	(-10.2,0.9)
Low	70.8	74.8	68.7	73.1	72.7	(68.7,76.4)	70.8	(66.5,74.8)	-1.9	(-6.9,3.1)

[1]Nonusers are those who have never used marijuana in the past.

Table 5-13. Beliefs about possible outcomes of regular marijuana use by 12- to 13-year-old nonusers[1]

	Percent holding strong anti-drug outcome beliefs[2]									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Outcome	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Damage my brain_____	58.9	63.6	57.6	65.4	61.4	(57.4,65.2)	61.7	(57.5,65.8)	0.4	(-4.4,5.1)
Mess up my life_____	63.9	69.7	65.0	69.4	66.9	(62.6,71.0)	67.4	(63.4,71.1)	0.4	(-4.2,5.0)
Do worse in school____	63.4	66.6	62.8	71.7	65.1	(61.5,68.4)	67.5	(63.3,71.4)	2.4	(-2.6,7.4)
Be acting against my moral beliefs_____	48.2	54.3	48.8	58.9	51.3	(47.7,55.0)	54.1	(50.3,57.9)	2.8	(-1.7,7.2)
Lose my ambition_____	44.6	51.9	49.9	54.1	48.4	(45.0,51.8)	52.1	(47.9,56.4)	3.7	(-1.0,8.5)
Lose my friends' respect_____	49.0	56.8	50.3	60.8	53.1	(48.8,57.3)	55.9	(51.6,60.1)	2.8	(-3.5,9.0)
Have a good time with friends_____	48.5	55.4	53.0	55.4	52.1	(47.4,56.7)	54.3	(50.0,58.5)	2.2	(-2.9,7.3)
Be more creative and imaginative_____	61.4	62.6	63.7	66.9	62.0	(57.7,66.1)	65.4	(61.5,69.1)	3.4	(-1.1,8.0)

[1]Nonusers are those who have never used marijuana in the past.

[2]Percentages displayed for negative outcomes ("Damage brain" through "Lose my friends' respect") are those who answered, "Very likely." For positive outcomes, ("Have a good time with friends," and "Be more creative and imaginative") percentages reported are those who answered "Very unlikely."

Table 5-14. Beliefs about possible outcomes of regular marijuana use by 14- to 18-year-old nonusers[1] and occasional users[2]

	Percent holding strong anti-drug outcome beliefs[3]									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Outcome	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Damage my brain										
Nonusers	58.4	52.5	53.3	60.2	55.2	(50.5,59.9)	56.7	(52.0,61.3)	1.5	(-4.6,7.7)
Occasional users	21.0	S	19.6	30.4	27.8	(18.8,39.0)	25.3	(17.6,35.1)	-2.5	(-18.1,13.2)
Mess up my life										
Nonusers	57.1	60.5	60.1	64.8	58.9	(53.2,64.4)	62.5	(58.0,66.7)	3.6	(-2.5,9.7)
Occasional users	10.2	21.9	15.7	24.6	16.0	(9.5,25.7)	20.5	(13.5,29.8)	4.5	(-7.5,16.4)
Do worse in school										
Nonusers	57.4	63.2	58.8	59.4	60.5	(55.2,65.6)	59.1	(54.3,63.7)	-1.4	(-6.8,4.0)
Occasional users	15.2	23.0	18.0	26.9	19.1	(12.7,27.8)	22.7	(15.4,32.2)	3.6	(-7.7,15.0)
Be acting against my moral beliefs										
Nonusers	57.6	59.6	54.9	63.4	58.7	(54.2,63.0)	59.1	(54.4,63.7)	0.5	(-5.7,6.7)
Occasional users	15.7	9.6	10.2	S	12.7	(7.4,21.0)	16.0	(9.0,26.9)	3.3	(-8.5,15.0)
Lose my ambition										
Nonusers	44.2	43.8	41.6	46.5	44.0	(39.5,48.6)	44.1	(39.6,48.7)	0.1	(-5.7,5.9)
Occasional users	13.8	6.4	S	23.1	10.1	(5.4,17.9)	18.8	(11.0,30.0)	8.7	(-3.6,20.9)
Lose my friends' respect										
Nonusers	41.2	42.7	36.6	43.3	42.0	(37.6,46.5)	40.0	(35.5,44.6)	-2.0	(-8.2,4.2)
Occasional users	8.4	4.9	S	12.8	6.7	(3.6,11.9)	11.5	(5.7,21.6)	4.8	(-4.5,14.1)
Have a good time with friends										
Nonusers	34.7	41.0	40.0	38.0	38.0	(33.5,42.8)	39.0	(34.6,43.6)	1.0	(-4.9,6.8)
Occasional users	11.9	S	15.9	11.5	10.9	(5.3,21.0)	13.7	(8.0,22.5)	2.8	(-8.5,14.1)
Be more creative and imaginative										
Nonusers	52.2	56.3	52.7	48.8	54.4	(49.5,59.3)	50.8	(45.6,55.9)	-3.6	(-9.5,2.3)
Occasional users	22.1	S	26.6	18.2	16.9	(9.9,27.3)	22.1	(14.7,31.7)	5.2	(-7.0,17.3)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

[3]Percentages displayed for negative outcomes ("Damage brain" through "Lose my friends' respect") are those who answered, "Very likely." For positive outcomes, ("Have a good time with friends," and "Be more creative and imaginative") percentages reported are those who answered "Very unlikely."

Table 5-15. Nonusers'[1] and occasional users'[2] regular marijuana use intentions, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent definitely not intending to use marijuana regularly									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	97.5	98.2	95.9	97.3	97.9	(97.0,98.5)	96.6	(95.3,97.5)	-1.3	*(-2.5,-0.1)
14 to 15	94.5	96.2	95.2	94.2	95.4	(93.7,96.6)	94.7	(93.0,96.1)	-0.7	(-2.8,1.4)
16 to 18	94.6	95.5	92.1	94.5	95.0	(92.8,96.6)	93.3	(90.4,95.4)	-1.7	(-4.5,1.1)
14 to 18	94.5	95.9	93.8	94.4	95.2	(93.9,96.3)	94.1	(92.5,95.3)	-1.1	(-2.8,0.5)
12 to 18	95.6	96.7	94.5	95.4	96.2	(95.3,96.9)	95.0	(94.0,95.8)	-1.2	*(-2.3,-0.1)
Youth occasional users aged 14 to 18										
14 to 18	54.8	45.5	43.8	44.1	50.4	(43.2,57.6)	44.0	(37.4,50.7)	-6.4	(-16.0,3.1)
Youth nonusers aged 12 to 18										
Males	95.6	96.4	94.6	95.4	96.0	(94.9,96.9)	95.0	(93.5,96.2)	-1.0	(-2.5,0.5)
Females	95.6	97.0	94.5	95.4	96.3	(95.0,97.3)	95.0	(93.4,96.2)	-1.3	(-3.2,0.5)
White	95.9	97.8	94.9	96.6	96.9	(95.9,97.6)	95.7	(94.4,96.8)	-1.1	(-2.4,0.2)
African American	96.9	96.3	95.6	94.4	96.6	(94.6,97.9)	95.0	(92.1,96.9)	-1.6	(-4.3,1.1)
Hispanic	93.0	93.5	95.3	91.7	93.3	(89.1,95.9)	93.4	(90.2,95.6)	0.1	(-3.9,4.1)
Risk score										
Higher risk	90.1	91.3	88.4	90.0	90.7	(87.0,93.4)	89.2	(85.5,92.1)	-1.4	(-5.9,3.0)
Lower risk	97.7	98.6	96.5	97.5	98.2	(97.4,98.8)	97.0	(96.0,97.7)	-1.2	*(-2.3,-0.2)
Sensation seeking										
High	93.1	94.5	91.6	92.7	93.8	(92.0,95.2)	92.2	(90.5,93.6)	-1.6	(-3.5,0.3)
Low	98.0	98.7	97.6	97.8	98.4	(97.6,98.9)	97.7	(96.6,98.5)	-0.7	(-1.7,0.3)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 5-16. Nonusers'[1] and occasional users'[2] perceptions of friends' regular use of marijuana in the past 12 months, by age, gender, race/ethnicity, risk, and sensation seeking

	Percent saying none or a few friends use nearly every month									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	94.4	95.4	94.7	94.3	94.9	(93.9,95.7)	94.5	(92.8,95.8)	-0.4	(-2.2,1.4)
14 to 18	78.4	83.4	77.2	81.5	81.0	(78.3,83.4)	79.4	(76.8,81.7)	-1.6	(-4.7,1.5)
12 to 18	84.1	87.7	83.5	86.2	85.9	(84.1,87.5)	84.9	(83.1,86.5)	-1.0	(-3.1,1.1)
Youth occasional users aged 14 to 18										
14 to 18	31.0	31.4	41.6	32.4	31.2	(23.0,40.9)	36.7	(26.8,47.8)	5.5	(-8.6,19.5)
Youth nonusers aged 12 to 18										
Males	83.2	89.2	84.1	84.7	86.2	(83.6,88.4)	84.4	(82.0,86.5)	-1.8	(-4.5,0.8)
Females	85.0	86.1	83.0	87.7	85.6	(83.3,87.6)	85.4	(82.5,87.8)	-0.2	(-3.4,2.9)
White	86.1	87.8	85.5	88.1	86.9	(84.9,88.7)	86.9	(84.9,88.6)	-0.1	(-2.6,2.5)
African American	80.8	86.3	80.3	84.4	83.6	(78.8,87.4)	82.4	(76.5,87.0)	-1.2	(-7.4,5.0)
Hispanic	76.7	85.7	81.3	78.4	81.4	(76.6,85.5)	79.8	(73.3,85.0)	-1.6	(-8.8,5.5)
Risk score										
Higher risk	68.0	72.8	67.9	71.5	70.3	(65.4,74.7)	69.7	(64.9,74.1)	-0.5	(-6.5,5.4)
Lower risk	90.2	92.1	88.9	91.0	91.2	(89.3,92.8)	90.0	(88.1,91.6)	-1.2	(-3.3,0.9)
Sensation seeking										
High	78.8	82.4	77.7	81.6	80.5	(77.7,83.1)	79.6	(77.0,82.1)	-0.9	(-4.7,2.9)
Low	88.8	92.3	89.4	90.2	90.6	(88.5,92.4)	89.8	(87.2,91.9)	-0.8	(-3.6,2.0)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 5-17. Nonusers'[1] and occasional users'[2] perceptions of others' regular use of marijuana in the past 12 months, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying none or a few other kids of the same age[3] use nearly every month									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	87.6	88.1	85.2	88.3	87.9	(85.9,89.6)	86.7	(84.6,88.6)	-1.2	(-3.7,1.4)
14 to 18	46.2	46.6	51.3	48.5	46.4	(42.9,50.0)	49.9	(46.3,53.6)	3.5	(-1.3,8.3)
12 to 18	60.5	61.2	63.4	62.3	60.8	(58.5,63.1)	62.8	(60.2,65.3)	2.0	(-1.3,5.2)
Youth occasional users aged 14 to 18										
14 to 18	22.4	19.5	20.4	16.7	21.0	(15.8,27.4)	18.6	(14.1,24.0)	-2.5	(-10.8,5.9)
Youth nonusers aged 12 to 18										
Males	63.8	66.5	69.7	66.0	65.2	(61.6,68.6)	67.8	(64.7,70.9)	2.7	(-1.8,7.2)
Females	57.1	55.9	57.1	58.3	56.5	(53.2,59.7)	57.7	(54.1,61.2)	1.2	(-3.8,6.2)
White	59.5	62.1	62.2	65.1	60.8	(57.7,63.8)	63.6	(60.6,66.5)	2.8	(-1.2,6.9)
African American	61.9	60.3	62.4	55.6	61.1	(55.5,66.3)	58.9	(52.1,65.4)	-2.1	(-10.0,5.8)
Hispanic	62.4	56.0	70.1	54.6	59.1	(52.8,65.1)	62.1	(55.1,68.7)	3.1	(-4.5,10.6)
Risk score										
Higher risk	40.5	40.1	38.8	39.3	40.3	(35.4,45.5)	39.0	(33.8,44.6)	-1.3	(-8.3,5.7)
Lower risk	68.6	67.8	72.2	69.9	68.2	(65.5,70.8)	71.1	(68.1,73.9)	2.8	(-0.8,6.5)
Sensation seeking										
High	55.0	56.0	54.9	57.2	55.5	(51.5,59.4)	56.0	(51.8,60.2)	0.5	(-4.8,5.9)
Low	64.9	64.7	71.4	66.8	64.8	(61.9,67.7)	69.1	(65.9,72.1)	4.3	*(0.2,8.4)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

[3]If respondent is currently in school, asked about "kids in your grade at school."

Table 5-18. Nonusers'[1] and occasional users'[2] attitudes regarding regular marijuana use[3], by age, gender, race/ethnicity, risk score, and sensation seeking

	Attitude 1=strong pro-drug, 7=strong anti-drug									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	6.62	6.77	6.57	6.71	6.70	(6.64,6.75)	6.64	(6.56,6.72)	-0.05	(-0.14,0.04)
14 to 18	6.45	6.54	6.42	6.48	6.50	(6.42,6.57)	6.45	(6.37,6.53)	-0.05	(-0.16,0.07)
12 to 18	6.51	6.62	6.47	6.56	6.57	(6.51,6.62)	6.52	(6.46,6.58)	-0.05	(-0.13,0.03)
Youth occasional users aged 14 to 18										
14 to 18	4.54	4.99	5.30	4.98	4.76	(4.42,5.10)	5.13	(4.89,5.36)	0.37	(-0.01,0.75)
Youth nonusers aged 12 to 18										
Males	6.40	6.55	6.51	6.52	6.48	(6.40,6.56)	6.51	(6.43,6.59)	0.03	(-0.07,0.14)
Females	6.62	6.68	6.44	6.62	6.65	(6.58,6.72)	6.53	(6.44,6.61)	-0.13	*(-0.23,-0.02)
White	6.50	6.64	6.43	6.54	6.58	(6.51,6.64)	6.49	(6.40,6.57)	-0.09	(-0.19,0.02)
African American	6.45	6.65	6.45	6.58	6.56	(6.44,6.68)	6.52	(6.32,6.71)	-0.04	(-0.26,0.17)
Hispanic	6.57	6.60	6.78	6.65	6.59	(6.45,6.73)	6.71	(6.61,6.82)	0.12	(-0.04,0.29)
Risk score										
Higher risk	6.16	6.32	6.16	6.20	6.24	(6.10,6.38)	6.18	(6.03,6.33)	-0.06	(-0.26,0.14)
Lower risk	6.62	6.74	6.62	6.65	6.69	(6.64,6.74)	6.64	(6.57,6.71)	-0.05	(-0.14,0.04)
Sensation seeking										
High	6.33	6.41	6.33	6.36	6.37	(6.28,6.46)	6.34	(6.25,6.44)	-0.02	(-0.14,0.10)
Low	6.69	6.79	6.65	6.76	6.74	(6.68,6.81)	6.71	(6.63,6.78)	-0.04	(-0.13,0.06)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

[3]Attitude is a mean of two items (extremely bad, unenjoyable/good, enjoyable).

Table 5-19. Nonusers'[1] and occasional users'[2] beliefs about outcomes regarding regular marijuana use[3], by age, gender, race/ethnicity, risk score, and sensation seeking

	Beliefs about outcomes -2=strong pro-drug +2=strong anti-drug									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	1.13	1.23	1.11	1.28	1.18	(1.12,1.25)	1.20	(1.14,1.27)	0.02	(-0.06,0.11)
14 to 18	1.11	1.11	0.99	1.13	1.11	(1.03,1.19)	1.06	(0.98,1.14)	-0.05	(-0.16,0.06)
12 to 18	1.12	1.15	1.03	1.19	1.13	(1.07,1.20)	1.11	(1.05,1.17)	-0.02	(-0.10,0.05)
Youth occasional users aged 14 to 18										
14 to 18	-0.22	0.02	-0.07	0.11	-0.10	(-0.28,0.08)	0.03	(-0.20,0.25)	0.13	(-0.18,0.44)
Youth nonusers aged 12 to 18										
Males	1.06	1.08	0.98	1.12	1.07	(0.99,1.15)	1.05	(0.96,1.14)	-0.02	(-0.13,0.10)
Females	1.18	1.22	1.08	1.26	1.20	(1.11,1.29)	1.17	(1.09,1.25)	-0.03	(-0.15,0.08)
White	1.17	1.25	1.08	1.25	1.21	(1.15,1.28)	1.17	(1.10,1.24)	-0.04	(-0.13,0.05)
African American	0.94	0.90	0.84	1.08	0.92	(0.79,1.04)	0.96	(0.77,1.15)	0.04	(-0.17,0.26)
Hispanic	1.04	S	1.09	0.98	1.00	(0.75,1.25)	1.03	(0.84,1.23)	0.03	(-0.32,0.38)
Risk score										
Higher risk	0.91	0.95	0.86	0.96	0.93	(0.81,1.05)	0.91	(0.78,1.04)	-0.02	(-0.18,0.14)
Lower risk	1.22	1.23	1.12	1.26	1.22	(1.15,1.30)	1.19	(1.12,1.27)	-0.03	(-0.13,0.07)
Sensation seeking										
High	0.97	1.10	1.03	1.04	1.03	(0.95,1.12)	1.03	(0.95,1.12)	0.00	(-0.12,0.11)
Low	1.27	1.19	1.03	1.34	1.22	(1.14,1.31)	1.19	(1.10,1.29)	-0.03	(-0.14,0.08)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

[3]Average of individual items presented in 5-13, with positive outcomes (good time with friends, be more creative and imaginative) reverse coded before taking average.

Table 5-20. Nonusers[1] and occasional users[2] perceived parental expectations regarding regular marijuana use, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth reporting parents strongly disapprove of regular marijuana use									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	93.3	96.4	96.2	93.0	95.0	(92.6,96.6)	94.5	(92.2,96.2)	-0.4	(-2.8,1.9)
14 to 18	95.6	95.3	94.3	95.5	95.5	(93.5,96.9)	94.9	(92.5,96.6)	-0.5	(-3.3,2.2)
12 to 18	94.8	95.7	95.0	94.6	95.3	(93.6,96.6)	94.8	(92.9,96.2)	-0.5	(-2.6,1.6)
Youth occasional users aged 14 to 18										
14 to 18	69.5	79.6	S	82.3	74.5	(64.3,82.5)	80.8	(68.2,89.2)	6.4	(-9.0,21.7)
Youth nonusers aged 12 to 18										
Males	94.8	94.6	93.2	95.7	94.7	(92.6,96.3)	94.5	(91.6,96.5)	-0.2	(-3.3,2.9)
Females	94.8	96.8	96.6	93.4	95.9	(93.6,97.3)	95.0	(92.8,96.6)	-0.8	(-3.1,1.4)
White	97.2	96.0	96.3	96.6	96.5	(94.6,97.8)	96.5	(94.8,97.6)	0.0	(-1.9,1.9)
African American	85.4	92.5	S	89.5	89.4	(83.6,93.3)	90.7	(82.7,95.2)	1.3	(-5.8,8.4)
Hispanic	93.9	98.5	95.1	90.4	96.4	(93.6,98.0)	92.6	(87.7,95.6)	-3.8	(-7.7,0.2)
Risk score										
Higher risk	91.5	94.0	96.0	96.4	92.8	(88.1,95.7)	96.2	(92.9,98.0)	3.4	(-1.1,8.0)
Lower risk	95.9	96.4	94.5	94.3	96.2	(94.4,97.4)	94.4	(92.0,96.2)	-1.8	(-4.2,0.6)
Sensation seeking										
High	93.4	96.3	97.3	92.9	94.8	(92.1,96.6)	95.1	(92.4,96.9)	0.3	(-2.9,3.5)
Low	96.4	95.7	92.3	96.5	96.0	(94.2,97.3)	94.5	(91.7,96.4)	-1.5	(-4.3,1.2)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 5-21. Nonusers'[1] and occasional users'[2] perceived social expectations regarding regular marijuana use, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth reporting friends strongly disapprove of regular marijuana use									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	67.8	73.2	70.3	74.2	70.6	(66.2,74.8)	72.3	(68.6,75.8)	1.7	(-3.3,6.7)
14 to 18	56.0	60.1	57.6	55.4	58.2	(53.7,62.6)	56.5	(52.1,60.8)	-1.7	(-7.6,4.2)
12 to 18	60.2	64.6	62.0	62.3	62.5	(58.9,66.0)	62.1	(58.7,65.4)	-0.4	(-4.6,3.8)
Youth occasional users aged 14 to 18										
14 to 18	12.1	11.6	13.3	16.0	11.8	(6.9,19.6)	14.8	(8.4,24.7)	2.9	(-8.0,13.9)
Youth nonusers aged 12 to 18										
Males	52.5	58.2	56.3	58.9	55.5	(50.3,60.6)	57.7	(53.8,61.5)	2.2	(-3.8,8.1)
Females	67.7	71.1	67.1	65.9	69.5	(64.4,74.0)	66.5	(61.5,71.2)	-2.9	(-8.4,2.5)
White	63.0	70.0	64.7	64.4	66.6	(62.0,70.9)	64.6	(60.8,68.2)	-2.1	(-7.2,3.1)
African American	48.6	44.3	51.2	51.5	46.3	(38.7,53.9)	51.3	(42.4,60.2)	5.1	(-5.5,15.6)
Hispanic	56.3	61.7	65.2	65.0	59.2	(49.8,68.0)	65.1	(56.6,72.8)	5.9	(-6.4,18.2)
Risk score										
Higher risk	48.7	47.0	35.4	42.0	47.9	(40.1,55.8)	38.7	(32.4,45.4)	-9.2	*(-18.3,-0.1)
Lower risk	64.2	70.0	71.2	68.4	67.3	(63.5,71.0)	69.8	(65.6,73.7)	2.4	(-2.4,7.3)
Sensation seeking										
High	51.1	54.6	54.6	50.5	52.8	(47.8,57.8)	52.6	(47.9,57.2)	-0.3	(-6.9,6.3)
Low	68.9	71.6	71.1	74.0	70.4	(66.1,74.5)	72.6	(67.7,77.0)	2.2	(-3.6,7.9)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 5-22. Disapproval of occasional marijuana use by others, by age, prior use, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth who report strongly disapproving of others' occasional marijuana use									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	61.6	66.0	64.8	65.6	63.8	(61.3,66.4)	65.2	(62.3,68.0)	1.3	(-1.9,4.6)
14 to 15	38.2	46.2	38.1	40.1	42.3	(38.5,46.1)	39.1	(35.6,42.7)	-3.2	(-8.2,1.8)
16 to 18	26.5	27.1	25.1	27.3	26.8	(23.9,30.0)	26.2	(22.8,30.0)	-0.6	(-5.0,3.8)
14 to 18	31.7	35.9	31.2	32.9	33.8	(31.5,36.2)	32.0	(29.4,34.9)	-1.7	(-5.2,1.7)
12 to 18	40.3	44.7	41.0	42.5	42.5	(40.6,44.5)	41.7	(39.5,44.0)	-0.8	(-3.6,2.0)
Youth aged 12 to 18										
Nonusers[1]	50.1	54.8	50.0	52.4	52.5	(50.2,54.8)	51.2	(48.5,53.9)	-1.3	(-4.6,2.0)
Occasional Users[2]	4.5	6.3	8.8	4.1	5.3	(3.3,8.5)	6.4	(3.3,12.1)	1.1	(-3.6,5.8)
Youth nonusers aged 12 to 18										
Males	51.8	55.7	52.0	54.2	53.8	(50.5,57.0)	53.1	(49.4,56.8)	-0.6	(-5.2,4.0)
Females	48.4	54.0	48.0	50.5	51.2	(48.1,54.3)	49.2	(45.9,52.6)	-2.0	(-6.2,2.2)
White	49.3	53.8	49.7	52.0	51.5	(48.8,54.2)	50.9	(47.8,53.9)	-0.7	(-4.6,3.3)
African American	47.9	58.5	47.9	49.8	53.3	(47.6,58.9)	48.9	(42.9,54.9)	-4.5	(-13.1,4.2)
Hispanic	56.4	58.0	50.1	57.5	57.2	(51.8,62.4)	53.8	(47.2,60.3)	-3.4	(-11.1,4.3)
Risk score										
Higher risk	30.5	26.9	22.7	23.1	28.8	(24.5,33.6)	22.9	(18.6,27.9)	-5.9	(-12.1,0.2)
Lower risk	57.7	63.4	59.2	60.6	60.6	(57.9,63.3)	59.9	(56.7,63.0)	-0.7	(-4.1,2.6)
Sensation seeking										
High	35.3	38.1	33.1	37.1	36.6	(33.6,39.9)	35.1	(31.7,38.6)	-1.6	(-5.4,2.2)
Low	64.8	67.7	67.1	66.7	66.3	(63.1,69.3)	66.9	(63.5,70.1)	0.6	(-3.6,4.7)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 5-23. Disapproval of regular marijuana use by others, by age, prior use, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth who report strongly disapproving of others' regular marijuana use									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	79.0	79.5	78.8	79.5	79.3	(77.1,81.3)	79.2	(76.6,81.5)	-0.1	(-3.2,3.0)
14 to 15	58.6	65.6	60.9	60.0	62.2	(57.5,66.6)	60.5	(56.2,64.5)	-1.7	(-7.6,4.2)
16 to 18	48.7	48.6	48.0	46.5	48.6	(44.6,52.7)	47.3	(43.5,51.0)	-1.4	(-6.5,3.7)
14 to 18	53.1	56.4	54.1	52.4	54.7	(51.9,57.6)	53.2	(50.5,55.9)	-1.5	(-5.0,2.0)
12 to 18	60.5	63.1	61.2	60.2	61.8	(59.6,64.0)	60.7	(58.4,63.0)	-1.1	(-3.9,1.7)
Youth aged 12 to 18										
Nonusers[1]	72.2	73.6	72.5	72.1	72.9	(70.6,75.2)	72.3	(69.7,74.8)	-0.6	(-3.5,2.3)
Occasional users[2]	17.7	24.5	26.5	19.0	21.0	(15.5,27.8)	22.7	(18.2,28.0)	1.8	(-5.6,9.1)
Youth nonusers aged 12 to 18										
Male	71.4	73.3	71.6	72.1	72.4	(69.0,75.5)	71.8	(68.3,75.2)	-0.5	(-4.8,3.7)
Female	73.1	73.9	73.4	72.2	73.5	(70.7,76.1)	72.8	(69.7,75.7)	-0.7	(-4.3,3.0)
White	73.8	75.9	75.9	75.1	74.8	(71.9,77.6)	75.5	(72.3,78.4)	0.6	(-3.3,4.6)
African American	66.8	67.5	69.0	64.7	67.1	(61.1,72.6)	66.8	(60.9,72.3)	-0.3	(-8.4,7.8)
Hispanic	71.4	68.4	66.1	66.7	69.8	(64.7,74.5)	66.4	(60.2,72.1)	-3.4	(-9.9,3.1)
Risk score										
Higher risk	54.5	53.4	55.3	48.3	54.0	(48.6,59.2)	51.7	(46.0,57.4)	-2.2	(-9.3,4.8)
Lower risk	78.4	80.1	78.0	79.4	79.3	(76.8,81.6)	78.7	(75.7,81.5)	-0.6	(-3.8,2.7)
Sensation seeking										
High	61.9	63.7	62.1	59.7	62.8	(59.5,65.9)	60.9	(57.3,64.4)	-1.8	(-6.0,2.3)
Low	82.4	81.7	83.5	83.9	82.0	(78.7,84.9)	83.7	(80.8,86.2)	1.7	(-1.6,5.0)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 5-24. Perceptions of how much others risk harming themselves if they use marijuana occasionally, by age, prior use, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying great risk of harm from occasional use of marijuana									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	44.9	45.4	45.0	44.3	45.1	(42.1,48.1)	44.7	(41.5,48.0)	-0.4	(-4.4,3.6)
14 to 15	26.3	29.5	29.1	29.9	27.9	(24.6,31.4)	29.5	(26.1,33.1)	1.6	(-2.6,5.8)
16 to 18	17.7	19.5	18.0	20.5	18.6	(15.8,21.7)	19.3	(16.6,22.4)	0.7	(-3.2,4.6)
14 to 18	21.5	24.1	23.2	24.6	22.8	(20.5,25.3)	23.9	(21.6,26.4)	1.1	(-2.0,4.3)
12 to 18	28.2	30.2	29.5	30.3	29.2	(27.2,31.3)	29.9	(27.8,32.0)	0.7	(-1.9,3.2)
Youth aged 12 to 18										
Nonusers[1]	34.7	37.2	35.8	37.1	35.9	(33.6,38.3)	36.5	(34.0,39.0)	0.5	(-2.6,3.6)
Occasional users[2]	4.0	S	7.8	6.3	5.1	(2.1,11.6)	7.0	(3.8,12.6)	1.9	(-3.5,7.4)
Youth nonusers aged 12 to 18										
Male	34.2	37.3	36.3	38.3	35.8	(32.6,39.1)	37.3	(34.4,40.3)	1.5	(-2.6,5.7)
Female	35.2	37.0	35.3	35.9	36.1	(33.1,39.3)	35.6	(32.2,39.1)	-0.5	(-4.9,3.8)
White	34.3	37.6	34.1	36.0	35.9	(33.0,39.0)	35.1	(32.3,37.9)	-0.9	(-4.6,2.9)
African American	36.7	29.3	40.2	37.0	32.9	(27.6,38.6)	38.6	(32.1,45.4)	5.7	(-2.7,14.1)
Hispanic	35.5	43.4	39.9	40.7	39.6	(34.6,44.9)	40.3	(33.7,47.3)	0.7	(-7.6,9.0)
Risk score										
Higher risk	17.4	20.2	20.3	18.8	18.7	(15.3,22.7)	19.6	(15.3,24.7)	0.9	(-4.9,6.6)
Lower risk	41.7	43.6	40.5	42.7	42.7	(39.6,45.8)	41.6	(38.7,44.6)	-1.1	(-4.9,2.8)
Sensation seeking										
High	26.3	25.4	23.2	26.8	25.8	(23.1,28.7)	25.0	(22.0,28.3)	-0.9	(-4.3,2.6)
Low	43.2	47.4	49.0	47.4	45.4	(41.3,49.5)	48.2	(44.7,51.6)	2.8	(-2.3,7.8)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 5-25. Perceptions of how much others risk harming themselves if they use marijuana regularly, by age, prior use, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying great risk of harm from regular use of marijuana									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	73.0	74.5	72.7	72.9	73.8	(71.0,76.4)	72.8	(69.5,75.8)	-1.0	(-4.6,2.6)
14 to 15	63.3	59.7	60.9	60.8	61.5	(57.5,65.3)	60.9	(56.9,64.7)	-0.6	(-5.3,4.2)
16 to 18	45.2	45.8	49.2	46.8	45.5	(41.8,49.2)	47.9	(44.2,51.7)	2.4	(-2.3,7.2)
14 to 18	53.2	52.2	54.7	52.9	52.7	(49.9,55.5)	53.8	(51.0,56.5)	1.1	(-2.4,4.6)
12 to 18	58.9	58.7	59.9	58.6	58.8	(56.5,61.0)	59.3	(56.9,61.5)	0.5	(-2.1,3.0)
Youth aged 12 to 18										
Nonusers[1]	68.9	68.9	70.7	68.1	68.9	(66.3,71.4)	69.4	(66.8,71.9)	0.5	(-2.2,3.2)
Occasional users[2]	24.1	23.3	27.6	34.0	23.7	(19.0,29.2)	30.9	(25.0,37.4)	7.1	(-1.0,15.2)
Youth nonusers aged 12 to 18										
Male	65.0	67.1	66.5	67.8	66.1	(63.0,69.0)	67.1	(63.5,70.6)	1.1	(-3.3,5.4)
Female	72.7	70.8	74.8	68.5	71.7	(68.0,75.2)	71.7	(68.2,75.0)	0.0	(-3.6,3.6)
White	70.6	72.2	70.2	71.3	71.4	(68.6,74.0)	70.8	(67.6,73.7)	-0.6	(-3.6,2.4)
African American	66.8	59.4	72.4	63.0	62.9	(56.2,69.3)	67.7	(61.5,73.3)	4.7	(-3.1,12.5)
Hispanic	62.3	66.0	72.9	59.4	64.2	(57.4,70.5)	65.9	(60.9,70.6)	1.7	(-6.8,10.2)
Risk score										
Higher risk	53.1	55.5	57.1	50.7	54.2	(49.3,59.1)	53.9	(48.5,59.2)	-0.3	(-7.5,6.9)
Lower risk	75.1	73.4	74.9	74.9	74.2	(71.0,77.2)	74.9	(72.0,77.6)	0.7	(-2.4,3.8)
Sensation seeking										
High	60.1	63.4	63.2	58.7	61.7	(58.5,64.9)	61.0	(57.3,64.5)	-0.8	(-5.4,3.9)
Low	76.6	74.1	78.7	77.9	75.3	(70.7,79.4)	78.3	(75.0,81.3)	3.0	(-0.5,6.6)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 5-26. Nonusers'[1] and occasional users'[2] self-efficacy to refuse marijuana[3], by age, gender, race/ethnicity, risk score, and sensation seeking

	Mean score on Self-efficacy to resist use index									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	99.83	102.63	94.85	107.14	101.25	(96.21,106.29)	100.93	(95.66,106.19)	-0.32	(-7.10,6.45)
14 to 15	89.21	103.32	113.84	110.01	96.55	(86.79,106.31)	111.95	(105.56,118.34)	15.40	*(3.14,27.66)
16 to 18	112.16	109.62	92.11	124.25	110.92	(102.02,119.82)	108.73	(98.17,119.30)	-2.18	(-15.53,11.16)
14 to 18	100.04	106.11	103.83	116.90	103.11	(96.42,109.81)	110.43	(104.42,116.44)	7.32	(-1.97,16.61)
12 to 18	99.96	104.88	100.56	113.44	102.45	(97.62,107.29)	107.01	(102.78,111.24)	4.55	(-1.69,10.80)
Youth occasional users aged 14 to 18										
14 to 18	19.84	29.65	41.30	52.53	24.46	(2.23,46.70)	46.82	(24.73,68.90)	22.36	(-5.99,50.70)
Youth nonusers aged 12 to 18										
Males	91.50	103.19	104.88	109.36	97.41	(90.98,103.84)	107.17	(101.78,112.55)	9.76	*(1.95,17.57)
Females	108.52	106.57	96.33	117.74	107.53	(100.59,114.47)	106.85	(100.44,113.26)	-0.68	(-9.09,7.72)
White	105.48	116.54	104.41	118.39	110.98	(105.75,116.21)	111.46	(107.28,115.65)	0.48	(-6.35,7.31)
African American	84.44	86.00	88.82	113.13	85.23	(73.21,97.25)	101.14	(88.20,114.09)	15.91	(-1.81,33.63)
Hispanic	89.20	86.32	102.60	93.76	87.69	(74.03,101.35)	98.09	(83.33,112.84)	10.40	(-7.49,28.29)
Risk score										
Higher risk	81.16	109.21	70.73	97.92	94.18	(83.90,104.46)	84.46	(72.89,96.02)	-9.73	(-24.97,5.52)
Lower risk	107.61	105.61	110.91	121.34	106.58	(101.26,111.89)	116.16	(111.90,120.42)	9.58	*(2.77,16.40)
Sensation seeking										
High	80.53	96.04	81.22	96.79	88.11	(80.73,95.49)	88.88	(82.45,95.30)	0.76	(-9.13,10.66)
Low	119.51	114.44	121.11	130.51	116.87	(110.91,122.83)	125.87	(120.96,130.77)	9.00	*(2.76,15.24)

[1]Nonusers are those who have never used marijuana in the past.

[2]Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

[3]Measurement of this construct is detailed in Appendix E.

Table 5-27. Nonusers'[1] intentions to use inhalants even once or twice, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent definitely not intending to try inhalants									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	95.4	95.5	94.1	94.7	95.4	(94.2,96.5)	94.4	(92.9,95.7)	-1.0	(-2.8,0.8)
14 to 15	93.5	93.2	96.3	95.0	93.3	(90.9,95.2)	95.7	(94.3,96.7)	2.4	(-0.1,4.8)
16 to 18	96.5	95.9	94.8	94.7	96.2	(94.5,97.4)	94.8	(92.7,96.3)	-1.4	(-3.8,0.9)
14 to 18	95.1	94.7	95.5	94.9	94.9	(93.5,96.0)	95.2	(94.1,96.1)	0.3	(-1.3,1.9)
12 to 18	95.2	94.9	95.1	94.8	95.1	(94.1,95.9)	95.0	(94.1,95.7)	-0.1	(-1.3,1.1)
Youth aged 12 to 18										
Males	95.3	96.7	95.9	95.3	96.0	(94.7,97.0)	95.6	(94.4,96.5)	-0.4	(-2.0,1.1)
Females	95.1	93.1	94.3	94.3	94.1	(92.5,95.4)	94.3	(93.0,95.4)	0.2	(-1.8,2.2)
White	94.7	95.4	95.0	94.7	95.1	(93.8,96.1)	94.9	(93.8,95.7)	-0.2	(-1.7,1.3)
African American	97.6	95.1	95.9	95.7	96.3	(94.6,97.5)	95.8	(93.2,97.5)	-0.5	(-3.3,2.3)
Hispanic	96.4	96.7	95.0	95.1	96.5	(94.7,97.7)	95.1	(92.6,96.7)	-1.5	(-4.1,1.2)
Risk score										
Higher risk	94.2	91.8	93.0	92.8	93.0	(90.7,94.8)	92.9	(91.0,94.5)	-0.1	(-2.8,2.6)
Lower risk	95.8	96.8	96.2	96.1	96.3	(95.2,97.2)	96.2	(95.3,96.9)	-0.1	(-1.5,1.2)
Sensation seeking										
High	93.4	91.4	93.0	91.8	92.4	(90.9,93.7)	92.4	(90.9,93.6)	-0.1	(-1.9,1.8)
Low	97.5	98.8	98.1	98.4	98.2	(97.3,98.8)	98.3	(97.5,98.8)	0.1	(-0.9,1.2)

[1]Nonusers are those who have never used inhalants in the past.

Table 5-28. Nonusers'[1] beliefs about outcomes regarding inhalant use[2], by age, gender, race/ethnicity, risk score, and sensation seeking

	Mean score on inhalant beliefs and attitudes index									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	116.19	118.75	117.24	118.47	117.49	(113.20,121.79)	117.85	(112.62,123.09)	0.36	(-5.99,6.71)
14 to 15	96.67	103.43	85.16	98.48	100.11	(92.97,107.25)	91.61	(82.39,100.84)	-8.50	(-20.38,3.38)
16 to 18	90.27	91.14	105.62	100.32	90.70	(82.31,99.09)	102.86	(94.90,110.83)	12.16	*(1.55,22.77)
14 to 18	93.17	96.85	95.87	99.51	95.02	(89.67,100.38)	97.70	(91.41,103.99)	2.68	(-4.90,10.26)
12 to 18	100.06	103.51	102.23	105.10	101.80	(97.70,105.90)	103.67	(98.82,108.53)	1.87	(-3.62,7.36)
Youth aged 12 to 18										
Males	97.08	106.18	103.84	109.44	101.67	(95.66,107.68)	106.67	(100.06,113.29)	5.00	(-3.54,13.55)
Females	103.08	100.82	100.56	100.46	101.93	(96.32,107.54)	100.51	(94.05,106.97)	-1.42	(-8.20,5.36)
White	98.72	104.21	102.27	104.98	101.46	(97.21,105.70)	103.64	(97.60,109.68)	2.18	(-4.66,9.03)
African American	107.11	110.67	120.52	112.13	108.91	(99.54,118.28)	116.26	(107.41,125.11)	7.35	(-6.00,20.70)
Hispanic	104.46	99.36	82.32	100.34	101.76	(88.31,115.20)	91.29	(75.06,107.52)	-10.47	(-32.22,11.28)
Risk score										
Higher risk	75.77	72.53	82.08	78.08	74.23	(66.60,81.85)	80.06	(70.65,89.47)	5.83	(-4.78,16.44)
Lower risk	117.25	120.17	110.79	120.23	118.76	(114.20,123.32)	115.58	(109.84,121.33)	-3.18	(-9.93,3.58)
Sensation seeking										
High	76.11	78.79	77.02	82.58	77.43	(71.47,83.39)	79.77	(72.05,87.49)	2.34	(-6.01,10.69)
Low	129.63	130.32	134.61	132.46	129.98	(124.59,135.38)	133.51	(129.28,137.74)	3.53	(-3.05,10.10)

[1]Nonusers are those who have never used inhalants in the past.

[2]Measurement of this construct is detailed in Appendix E.

Table 5-29. Nonusers[1] and occasional users[2] disapproval of others' using inhalants even once or twice, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth who report strongly disapproving of others' trial inhalant use									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	73.1	74.8	74.7	75.1	73.9	(71.6,76.2)	74.9	(72.5,77.2)	1.0	(-2.1,4.0)
14 to 15	63.3	68.6	58.1	62.6	66.0	(62.3,69.5)	60.2	(56.2,64.2)	-5.8	*(-11.0,-0.5)
16 to 18	59.5	59.4	68.9	64.2	59.5	(55.4,63.4)	66.5	(62.5,70.3)	7.0	*(1.7,12.3)
14 to 18	61.2	63.7	63.8	63.5	62.4	(59.7,65.1)	63.6	(60.7,66.5)	1.2	(-2.5,4.9)
12 to 18	64.8	67.1	67.0	67.0	65.9	(63.7,68.1)	67.0	(64.7,69.2)	1.1	(-1.6,3.7)
Youth occasional users aged 14 to 18										
14 to 18	S	S	S	S	15.2	(6.8,30.6)	S	(S)	S	(S)
Youth nonusers aged 12 to 18										
Males	64.7	68.8	68.6	69.2	66.8	(63.8,69.7)	68.9	(65.6,72.0)	2.1	(-2.1,6.3)
Females	64.8	65.4	65.4	64.6	65.1	(62.2,67.9)	65.0	(62.1,67.8)	-0.1	(-3.2,3.1)
White	63.1	65.7	65.1	66.1	64.4	(62.1,66.7)	65.6	(62.8,68.3)	1.2	(-2.2,4.6)
African American	69.6	74.5	78.6	71.7	72.1	(67.1,76.5)	75.0	(70.4,79.2)	3.0	(-3.0,8.9)
Hispanic	70.2	67.5	62.3	67.5	68.8	(62.4,74.5)	64.9	(57.6,71.6)	-3.9	(-13.0,5.3)
Risk score										
Higher risk	53.4	52.5	58.2	54.2	52.9	(49.2,56.7)	56.2	(52.0,60.3)	3.3	(-2.1,8.6)
Lower risk	72.4	74.5	70.8	73.5	73.5	(70.9,76.0)	72.2	(69.4,74.8)	-1.3	(-4.5,1.9)
Sensation seeking										
High	53.6	55.4	56.4	56.4	54.5	(51.7,57.2)	56.4	(53.1,59.6)	1.9	(-2.0,5.8)
Low	78.0	79.3	80.4	79.4	78.7	(75.2,81.8)	79.9	(77.3,82.3)	1.2	(-2.0,4.4)

[1]Nonusers are those who have never used inhalants in the past.

[2]Occasional users are those who have used inhalants 1 to 9 times in the past 12 months.

Table 5-30. Nonusers'[1] and occasional users'[2] disapproval of others' regular inhalant use, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth who report strongly disapproving of others' regular inhalant use									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	85.2	85.5	84.0	83.3	85.4	(83.4,87.1)	83.6	(81.3,85.7)	-1.7	(-4.6,1.2)
14 to 15	77.1	82.8	75.7	78.1	80.0	(77.0,82.7)	76.9	(72.8,80.5)	-3.1	(-7.8,1.5)
16 to 18	78.3	80.7	80.4	81.9	79.5	(75.8,82.8)	81.2	(77.4,84.5)	1.7	(-3.1,6.4)
14 to 18	77.8	81.7	78.2	80.3	79.7	(77.2,82.1)	79.2	(76.5,81.7)	-0.5	(-3.7,2.7)
12 to 18	80.0	82.8	79.9	81.1	81.4	(79.4,83.3)	80.5	(78.3,82.6)	-0.9	(-3.4,1.6)
Youth occasional users aged 14 to 18										
14 to 18	S	S	S	S	24.1	(13.2,39.8)	S	(S)	S	(S)
Youth nonusers aged 12 to 18										
Males	78.1	83.4	78.9	81.4	80.8	(78.2,83.2)	80.2	(77.1,82.9)	-0.6	(-4.0,2.8)
Females	81.9	82.2	80.9	80.9	82.1	(79.6,84.3)	80.9	(78.1,83.4)	-1.2	(-4.2,1.8)
White	81.2	84.7	82.8	83.7	82.9	(81.1,84.6)	83.3	(81.0,85.3)	0.3	(-2.3,3.0)
African American	75.4	82.6	79.8	77.5	79.1	(74.5,83.0)	78.6	(73.7,82.8)	-0.5	(-6.2,5.2)
Hispanic	81.4	78.5	69.3	74.3	79.9	(74.1,84.6)	71.8	(64.8,77.9)	-8.0	(-17.4,1.3)
Risk score										
Higher risk	72.6	76.5	74.4	73.2	74.4	(71.0,77.6)	73.8	(69.5,77.7)	-0.6	(-5.0,3.7)
Lower risk	85.1	86.6	82.2	85.4	85.9	(83.9,87.6)	83.8	(81.3,86.0)	-2.1	(-4.8,0.6)
Sensation seeking										
High	74.1	76.7	72.8	74.5	75.4	(72.7,77.9)	73.6	(70.5,76.6)	-1.7	(-5.3,1.9)
Low	87.1	88.9	89.1	89.1	88.0	(85.7,90.1)	89.1	(86.9,90.9)	1.0	(-1.7,3.8)

[1]Nonusers are those who have never used inhalants in the past.

[2]Occasional users are those who have used inhalants 1 to 9 times in the past 12 months.

Table 5-31. Nonusers[1] and occasional users[2] perceptions of how much others risk harming themselves if they use inhalants even once or twice, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying great risk of harm from trial use of inhalants									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	49.9	45.8	49.6	49.7	47.9	(45.4,50.4)	49.7	(46.4,52.9)	1.8	(-2.2,5.8)
14 to 15	47.8	46.7	45.6	51.8	47.3	(43.8,50.8)	48.6	(45.1,52.0)	1.3	(-4.0,6.6)
16 to 18	50.4	47.2	49.4	50.3	48.8	(45.0,52.6)	49.9	(46.2,53.6)	1.1	(-4.3,6.5)
14 to 18	49.2	47.0	47.6	50.9	48.1	(45.4,50.8)	49.3	(46.8,51.8)	1.2	(-2.7,5.1)
12 to 18	49.4	46.6	48.2	50.6	48.0	(46.0,50.1)	49.4	(47.3,51.5)	1.4	(-1.7,4.4)
Youth occasional users aged 14 to 18										
14 to 18	S	S	S	S	15.6	(7.4,30.1)	S	(S)	S	(S)
Youth nonusers aged 12 to 18										
Males	48.1	46.4	49.1	52.0	47.3	(44.4,50.1)	50.6	(47.5,53.7)	3.3	(-1.0,7.6)
Females	50.8	46.8	47.3	49.0	48.8	(46.0,51.6)	48.2	(45.0,51.3)	-0.6	(-4.5,3.2)
White	49.3	45.8	48.7	48.5	47.5	(45.1,49.9)	48.6	(45.9,51.3)	1.1	(-2.4,4.6)
African American	52.2	46.5	55.0	54.5	49.3	(44.3,54.4)	54.8	(49.0,60.4)	5.4	(-3.1,13.9)
Hispanic	51.6	52.0	40.3	58.1	51.8	(46.8,56.7)	49.1	(43.4,54.8)	-2.7	(-9.7,4.4)
Risk score										
Higher risk	48.4	42.7	46.7	48.6	45.7	(41.4,50.1)	47.7	(43.6,51.7)	2.0	(-3.9,7.8)
Lower risk	50.8	49.2	48.1	51.2	50.0	(47.4,52.6)	49.6	(46.9,52.4)	-0.3	(-4.1,3.5)
Sensation seeking										
High	43.6	39.4	40.4	45.9	41.5	(38.7,44.5)	43.1	(40.1,46.2)	1.6	(-1.9,5.1)
Low	56.5	55.0	58.4	56.7	55.8	(52.8,58.6)	57.6	(54.6,60.5)	1.8	(-3.0,6.6)

[1]Nonusers are those who have never used inhalants in the past.

[2]Occasional users are those who have used inhalants 1 to 9 times in the past 12 months.

Table 5-32. Nonusers[1] and occasional users[2] perceptions of how much others risk harming themselves if they use inhalants regularly, by age, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying great risk of harm from regular use of inhalants									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth nonusers aged 12 to 18										
12 to 13	81.4	81.1	79.6	81.4	81.2	(79.0,83.3)	80.5	(78.0,82.8)	-0.7	(-3.6,2.1)
14 to 15	84.3	81.7	84.0	83.5	83.0	(79.7,85.9)	83.8	(81.1,86.1)	0.7	(-3.5,5.0)
16 to 18	84.9	84.3	87.1	85.7	84.6	(81.1,87.5)	86.4	(84.2,88.3)	1.8	(-1.8,5.5)
14 to 18	84.6	83.1	85.7	84.7	83.9	(81.8,85.7)	85.2	(83.5,86.7)	1.3	(-1.1,3.8)
12 to 18	83.7	82.5	83.8	83.8	83.1	(81.6,84.4)	83.8	(82.6,85.0)	0.7	(-0.9,2.4)
Youth occasional users aged 14 to 18										
14 to 18	S	S	S	S	S	(S)	S	(S)	S	(S)
Youth nonusers aged 12 to 18										
Males	81.7	82.5	82.8	83.3	82.1	(79.7,84.3)	83.0	(81.0,84.9)	0.9	(-2.3,4.1)
Females	85.6	82.4	85.0	84.3	84.0	(81.6,86.1)	84.6	(82.6,86.5)	0.6	(-1.6,2.9)
White	86.3	86.5	86.7	86.3	86.4	(84.6,88.0)	86.5	(84.9,87.9)	0.1	(-2.0,2.2)
African American	77.8	74.4	76.0	79.4	76.0	(71.6,80.0)	77.7	(72.5,82.2)	1.7	(-4.3,7.7)
Hispanic	77.7	77.2	80.2	76.8	77.4	(72.9,81.5)	78.5	(75.1,81.5)	1.1	(-4.4,6.5)
Risk score										
Higher risk	84.3	83.6	83.6	84.4	84.0	(80.6,86.8)	84.0	(81.4,86.3)	0.0	(-3.8,3.9)
Lower risk	83.9	81.5	83.4	84.1	82.7	(80.6,84.6)	83.8	(82.0,85.4)	1.1	(-1.3,3.4)
Sensation seeking										
High	82.3	81.9	82.4	82.5	82.1	(79.4,84.5)	82.4	(80.3,84.4)	0.4	(-2.4,3.2)
Low	85.5	83.0	86.1	86.2	84.2	(81.6,86.5)	86.2	(84.2,87.9)	2.0	(-0.7,4.6)

[1]Nonusers are those who have never used inhalants in the past.
[2]Occasional users are those who have used inhalants 1 to 9 times in the past 12 months.

Table 5-33. The relationship between exposure to general anti-drug advertising and nonusing youths' intentions to not use marijuana, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Percent of youth reporting each exposure level				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
All youth aged 12 to 18								
12 to 13	91.6	94.4	90.5	91.0	-2.8	0.008	-0.05	-3.4
	(90.4,92.8)	(92.6,96.2)	(87.8,93.1)	(89.6,92.5)	*(-4.7,-0.9)			*(-5.9,-1.0)
14 to 18	84.2	85.6	82.9	84.0	-1.4		-0.02	-1.6
	(82.5,85.8)	(81.6,89.5)	(80.1,85.7)	(81.7,86.2)	(-4.7,1.9)			(-6.0,2.8)
12 to 18	86.8	88.8	85.6	86.5	-1.9		-0.03	-2.2
	(85.7,88.0)	(86.1,91.4)	(83.4,87.7)	(85.0,88.0)	(-4.3,0.4)			(-5.4,0.9)
Youth aged 12 to 18								
Male	86.8	88.7	84.5	87.4	-1.9		-0.02	-1.3
	(85.1,88.5)	(85.2,92.1)	(80.9,88.0)	(85.1,89.7)	(-4.9,1.1)			(-5.5,3.0)
Female	86.9	88.8	86.6	85.7	-2.0		-0.04	-3.2
	(85.3,88.5)	(85.3,92.4)	(83.7,89.6)	(83.6,87.8)	(-5.2,1.2)			(-7.2,0.9)
White	87.0	89.1	86.3	86.2	-2.1		-0.03	-2.8
	(85.5,88.4)	(86.0,92.1)	(83.6,89.0)	(84.2,88.2)	(-4.7,0.5)			(-6.5,0.9)
African American	86.2	84.8	84.8	87.2	1.4		0.03	2.4
	(83.7,88.8)	(77.6,92.1)	(76.4,93.1)	(83.6,90.8)	(-5.5,8.3)			(-6.0,10.8)
Hispanic	87.3	90.0	87.7	87.1	-2.7		-0.04	-2.9
	(84.3,90.3)	(85.9,94.1)	(82.4,93.1)	(83.3,90.9)	(-7.2,1.8)			(-8.7,2.9)

Table 5-33. The relationship between exposure to general anti-drug advertising and nonusing youths' intentions to not use marijuana, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Percent of youth reporting each exposure level				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Youth aged 12 to 18								
Risk score								
Higher risk	72.6	71.1	74.8	71.5	1.5		0.00	0.3
	(69.2,76.0)	(63.5,78.8)	(68.5,81.1)	(66.7,76.3)	(-5.2,8.1)			(-8.2,8.9)
Lower risk	91.8	94.3	89.7	91.9	-2.5	0.050	-0.04	-2.5
	(90.7,93.0)	(92.3,96.4)	(87.3,92.1)	(90.4,93.3)	*(-4.2,-0.8)			*(-4.9,0.0)
Sensation seeking								
High	79.7	80.4	79.0	79.5	-0.7		-0.01	-0.9
	(77.7,81.6)	(75.0,85.8)	(75.1,83.0)	(77.0,82.0)	(-5.5,4.0)			(-6.8,5.0)
Low	93.7	95.3	92.5	93.4	-1.6		-0.04	-2.0
	(92.4,95.1)	(93.6,97.1)	(89.8,95.2)	(91.7,95.0)	(-3.4,0.2)			(-4.3,0.4)

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 5-34. The relationship between exposure to specific anti-drug advertising and nonusing youths' intentions to not use marijuana, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Percent of youth reporting each exposure level					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
All youth aged 12 to 18									
12 to 13	91.6 (90.4,92.8)	90.5 (86.6,94.5)	91.6 (89.2,93.9)	91.2 (89.4,92.9)	91.6 (88.9,94.3)	1.1 (-2.3,4.4)		0.01	1.0 (-3.8,5.8)
14 to 18	84.2 (82.5,85.8)	84.9 (80.7,89.1)	84.9 (82.3,87.4)	83.1 (80.2,86.0)	83.2 (73.8,92.7)	-0.7 (-4.5,3.0)		-0.02	-1.7 (-12.1,8.7)
12 to 18	86.8 (85.7,88.0)	86.8 (83.7,89.9)	87.2 (85.3,89.2)	86.1 (84.1,88.0)	86.5 (80.2,92.7)	0.0 (-2.6,2.7)		-0.01	-0.3 (-7.3,6.7)
Youth aged 12 to 18									
Male	86.8 (85.1,88.5)	85.1 (81.1,89.1)	87.6 (84.4,90.8)	87.3 (84.7,89.8)	83.6 (72.7,94.4)	1.7 (-2.0,5.4)		-0.02	-1.5 (-12.9,9.8)
Female	86.9 (85.3,88.5)	88.6 (84.0,93.1)	86.9 (84.4,89.4)	84.9 (81.8,87.9)	89.4 (84.0,94.8)	-1.7 (-5.7,2.3)		0.00	0.8 (-5.8,7.5)
White	87.0 (85.5,88.4)	87.1 (83.4,90.7)	86.8 (84.3,89.3)	86.3 (83.8,88.7)	86.4 (77.5,95.2)	-0.1 (-3.2,3.0)		-0.01	-0.7 (-10.5,9.1)
African American	86.2 (83.7,88.8)	88.5 (79.7,97.2)	91.2 (86.7,95.8)	83.4 (79.1,87.6)	84.9 (75.4,94.4)	-2.2 (-9.9,5.5)		-0.06	-3.6 (-18.0,10.8)
Hispanic	87.3 (84.3,90.3)	81.7 (75.3,88.0)	87.1 (82.0,92.2)	88.0 (83.2,92.9)	89.2 (82.4,96.0)	5.7 (-0.4,11.8)		0.07	7.6 (-1.5,16.6)

Table 5-34. The relationship between exposure to specific anti-drug advertising and nonusing youths' intentions to not use marijuana, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Percent of youth reporting each exposure level					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Youth aged 12 to 18									
Risk score									
Higher risk	72.6	74.4	75.8	70.0	S	-1.8		-0.03	S
	(69.2,76.0)	(67.1,81.6)	(70.8,80.7)	(64.0,75.9)	(S)	(-7.8,4.3)			(S)
Lower risk	91.8	91.8	91.3	91.9	91.5	0.1		0.00	-0.3
	(90.7,93.0)	(87.9,95.7)	(89.1,93.6)	(90.1,93.7)	(88.8,94.1)	(-3.4,3.5)			(-5.0,4.4)
Sensation seeking									
High	79.7	80.6	80.4	79.0	77.2	-1.0		-0.03	-3.5
	(77.7,81.6)	(75.2,86.1)	(77.3,83.4)	(75.8,82.2)	(66.0,88.4)	(-5.7,3.7)			(-15.6,8.7)
Low	93.7	91.9	94.2	93.4	95.1	1.8		0.04	3.2
	(92.4,95.1)	(88.9,95.0)	(91.9,96.4)	(91.3,95.6)	(92.3,98.0)	(-0.9,4.5)			(-0.9,7.3)

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 5-35. The relationship between exposure to general anti-drug advertising and nonusing youths' personal anti-marijuana beliefs and attitudes[1], by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
All youth aged 12 to 18								
12 to 13	125.82	126.24	124.94	126.41	-0.43		0.02	0.17
	(121.29,130.34)	(118.87,133.61)	(115.59,134.29)	(120.42,132.41)	(-7.52,6.67)			(-9.74,10.08)
14 to 18	95.26	97.37	94.26	95.32	-2.10		-0.01	-2.05
	(90.12,100.41)	(85.62,109.11)	(85.74,102.78)	(88.23,102.41)	(-13.09,8.88)			(-16.06,11.97)
12 to 18	106.14	107.71	104.93	106.48	-1.57		0.00	-1.23
	(102.09,110.19)	(99.71,115.71)	(97.91,111.94)	(100.96,112.00)	(-9.58,6.44)			(-11.54,9.09)
Youth aged 12 to 18								
Male	102.58	105.14	100.75	103.71	-2.55		0.00	-1.42
	(97.44,107.73)	(94.08,116.19)	(91.65,109.84)	(96.62,110.80)	(-12.55,7.44)			(-14.77,11.92)
Female	109.71	110.30	109.12	109.18	-0.59		0.00	-1.12
	(104.30,115.12)	(99.47,121.13)	(98.03,120.20)	(101.96,116.40)	(-11.25,10.06)			(-14.03,11.79)
White	108.82	109.64	110.34	108.17	-0.82		-0.01	-1.48
	(103.92,113.72)	(98.85,120.43)	(101.36,119.33)	(101.42,114.91)	(-11.33,9.69)			(-15.25,12.30)
African American	98.30	100.74	88.48	100.44	-2.44		0.01	-0.30
	(89.66,106.94)	(80.61,120.87)	(72.96,103.99)	(90.67,110.22)	(-20.14,15.26)			(-21.69,21.09)
Hispanic	106.00	105.86	111.56	106.86	0.14		0.04	1.00
	(97.58,114.42)	(93.71,118.01)	(95.86,127.25)	(93.94,119.77)	(-11.42,11.70)			(-16.27,18.27)

Table 5-35. The relationship between exposure to general anti-drug advertising and nonusing youths' personal anti-marijuana beliefs and attitudes[1], by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Youth aged 12 to 18								
Risk score								
Higher risk	56.15	48.57	59.51	60.08	7.59		0.04	11.51
	(47.16,65.15)	(31.46,65.67)	(45.47,73.56)	(47.45,72.70)	(-7.97,23.14)			(-7.59,30.61)
Lower risk	123.52	127.31	121.89	122.21	-3.79		-0.02	-5.10
	(119.31,127.73)	(119.11,135.51)	(114.36,129.43)	(116.70,127.73)	(-11.71,4.12)			(-15.34,5.14)
Sensation seeking								
High	78.77	74.47	76.07	81.71	4.30		0.03	7.24
	(72.99,84.56)	(61.02,87.92)	(64.75,87.40)	(74.40,89.02)	(-8.45,17.05)			(-7.79,22.28)
Low	132.27	133.51	134.92	130.54	-1.24		-0.01	-2.97
	(126.84,137.70)	(126.29,140.73)	(126.32,143.53)	(123.22,137.85)	(-9.49,7.00)			(-14.12,8.18)

[1]See Table 5-2 for full distribution. It is based on a combined index of beliefs and attitudes toward trial and regular marijuana use, as described in Appendix E.

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 5-36. The relationship between exposure to specific anti-drug advertising and personal anti-marijuana beliefs and attitudes[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
All youth aged 12 to 18									
12 to 13	125.82 (121.29,130.34)	119.13 (107.19,131.08)	127.12 (120.00,134.23)	125.22 (118.77,131.67)	124.00 (110.66,137.33)	6.68 (-3.44,16.81)		0.02	4.86 (-10.90,20.63)
14 to 18	95.26 (90.12,100.41)	104.04 (94.21,113.88)	96.80 (87.67,105.94)	87.47 (79.35,95.59)	93.67 (76.19,111.15)	-8.78 (-18.37,0.81)		-0.05	-10.37 (-30.84,10.09)
12 to 18	106.14 (102.09,110.19)	109.09 (101.18,116.99)	107.46 (100.64,114.29)	101.28 (95.10,107.46)	105.25 (91.50,118.99)	-2.95 (-10.18,4.28)		-0.02	-3.84 (-18.94,11.25)
Youth aged 12 to 18									
Male	102.58 (97.44,107.73)	100.72 (88.38,113.05)	107.55 (98.85,116.25)	98.84 (91.27,106.41)	90.11 (68.55,111.68)	1.87 (-9.45,13.18)		-0.06	-10.60 (-34.66,13.46)
Female	109.71 (104.30,115.12)	117.76 (107.02,128.49)	107.37 (98.95,115.79)	103.68 (94.58,112.79)	120.92 (107.58,134.27)	-8.05 (-17.89,1.80)		0.02	3.17 (-12.26,18.59)
White	108.82 (103.92,113.72)	107.62 (98.78,116.46)	112.37 (105.49,119.25)	104.38 (95.75,113.00)	107.42 (87.57,127.27)	1.20 (-7.49,9.90)		-0.01	-0.20 (-22.07,21.67)
African American	98.30 (89.66,106.94)	115.37 (86.68,144.07)	99.23 (80.62,117.84)	92.80 (81.32,104.28)	96.88 (79.05,114.72)	-17.07 (-43.08,8.93)		-0.07	-18.49 (-51.06,14.07)
Hispanic	106.00 (97.58,114.42)	109.63 (90.01,129.24)	102.11 (86.19,118.04)	101.80 (88.21,115.40)	111.86 (90.59,133.13)	-3.63 (-21.19,13.93)		0.01	2.23 (-28.14,32.61)

Table 5-36. The relationship between exposure to specific anti-drug advertising and personal anti-marijuana beliefs and attitudes[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Youth aged 12 to 18									
Risk score									
Higher risk	56.15	68.91	61.15	45.96	S	-12.76		-0.07	S
	(47.16,65.15)	(50.22,87.60)	(45.40,76.90)	(31.47,60.46)	(S)	(-29.18,3.66)			(S)
Lower risk	123.52	125.17	124.79	120.33	121.09	-1.65		-0.02	-4.08
	(119.31,127.73)	(115.02,135.32)	(118.13,131.45)	(114.22,126.44)	(110.59,131.60)	(-10.30,6.99)			(-16.62,8.47)
Sensation seeking									
High	78.77	82.69	81.08	75.73	78.55	-3.92		-0.03	-4.14
	(72.99,84.56)	(70.57,94.82)	(70.85,91.31)	(66.99,84.46)	(57.80,99.31)	(-15.05,7.20)			(-27.78,19.50)
Low	132.27	131.02	133.45	126.74	131.46	1.25		-0.01	0.44
	(126.84,137.70)	(120.18,141.85)	(125.03,141.87)	(118.74,134.75)	(116.69,146.22)	(-9.38,11.88)			(-17.03,17.91)

[1]See Table 5-2 for full distribution. It is based on a combined index of beliefs and attitudes toward trial and regular marijuana use, as described in Appendix E.

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 5-37. The relationship between exposure to general anti-drug advertising and perceived anti-marijuana social norms[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
All youth aged 12 to 18								
12 to 13	133.87	132.15	133.11	133.38	1.72		0.02	1.23
	(130.26,137.48)	(124.55,139.76)	(124.69,141.53)	(128.41,138.36)	(-5.32,8.76)			(-7.97,10.43)
14 to 18	87.65	88.49	84.43	88.81	-0.84		-0.01	0.32
	(83.19,92.11)	(78.43,98.56)	(75.79,93.07)	(82.59,95.03)	(-9.70,8.02)			(-11.46,12.10)
12 to 18	104.10	104.13	101.35	104.81	-0.03		0.00	0.68
	(100.86,107.35)	(97.27,110.99)	(94.38,108.31)	(100.57,109.06)	(-6.21,6.15)			(-7.10,8.47)
Youth aged 12 to 18								
Male	96.51	93.25	96.98	96.02	3.26		0.00	2.77
	(92.27,100.75)	(82.69,103.81)	(87.15,106.81)	(90.18,101.85)	(-6.53,13.05)			(-9.48,15.02)
Female	111.72	115.09	105.73	113.38	-3.37		-0.01	-1.71
	(106.21,117.23)	(105.19,124.99)	(95.81,115.64)	(106.61,120.15)	(-11.27,4.52)			(-11.80,8.38)
White	109.69	109.53	108.77	109.59	0.16		-0.01	0.06
	(105.70,113.68)	(101.54,117.52)	(101.27,116.28)	(103.87,115.32)	(-6.76,7.09)			(-8.74,8.87)
African American	78.40	68.87	70.26	82.48	9.53		0.05	13.61
	(72.00,84.81)	(51.13,86.62)	(50.48,90.03)	(72.64,92.33)	(-7.18,26.23)			(-6.68,33.89)
Hispanic	105.63	114.98	101.83	107.03	-9.35		-0.03	-7.96
	(96.53,114.73)	(100.58,129.39)	(81.13,122.53)	(96.45,117.60)	(-22.50,3.80)			(-26.21,10.30)

Table 5-37. The relationship between exposure to general anti-drug advertising and perceived anti-marijuana social norms[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Youth aged 12 to 18								
Risk score								
Higher risk	48.30	39.74	53.56	49.84	8.55		0.04	10.10
	(40.39,56.20)	(22.80,56.69)	(39.32,67.81)	(38.27,61.42)	(-6.42,23.53)			(-8.33,28.54)
Lower risk	123.03	121.73	118.07	124.13	1.30		0.01	2.40
	(119.41,126.66)	(113.82,129.64)	(109.66,126.49)	(118.91,129.36)	(-5.99,8.58)			(-6.50,11.29)
Sensation seeking								
High	79.28	73.50	81.63	79.35	5.78		0.01	5.85
	(74.38,84.17)	(62.31,84.69)	(71.19,92.06)	(73.19,85.52)	(-4.50,16.05)			(-6.52,18.23)
Low	127.78	127.68	121.20	130.30	0.10		0.00	2.62
	(123.46,132.10)	(118.24,137.12)	(111.95,130.45)	(124.87,135.73)	(-7.48,7.67)			(-7.78,13.01)

[1]See Table 5-3 for a full distribution. It is based on a combined index of perceived social expectations and perceived social network behavior as described in Appendix E.

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 5-38. The relationship between exposure to specific anti-drug advertising and perceived anti-marijuana social norms[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
All youth aged 12 to 18									
12 to 13	133.87	134.78	136.10	131.45	131.60	-0.91		-0.03	-3.19
	(130.26,137.48)	(126.18,143.39)	(129.45,142.75)	(125.47,137.43)	(119.08,144.12)	(-9.15,7.32)			(-17.59,11.21)
14 to 18	87.65	91.38	90.34	84.66	82.24	-3.73		-0.04	-9.14
	(83.19,92.11)	(79.55,103.21)	(82.39,98.30)	(76.98,92.35)	(64.99,99.48)	(-14.81,7.35)			(-29.14,10.85)
12 to 18	104.10	105.88	106.43	101.78	101.08	-1.78		-0.03	-4.81
	(100.86,107.35)	(97.42,114.35)	(100.47,112.39)	(96.67,106.89)	(90.41,111.74)	(-9.96,6.40)			(-17.92,8.31)
Youth aged 12 to 18									
Male	96.51	94.02	100.60	96.53	89.66	2.49		-0.01	-4.36
	(92.27,100.75)	(82.21,105.83)	(92.29,108.90)	(89.35,103.71)	(71.28,108.04)	(-9.32,14.30)			(-25.43,16.71)
Female	111.72	118.17	112.41	106.96	112.90	-6.46		-0.04	-5.27
	(106.21,117.23)	(105.44,130.91)	(103.95,120.87)	(99.25,114.66)	(99.25,126.56)	(-17.41,4.50)			(-23.19,12.65)
White	109.69	110.81	114.89	105.03	113.96	-1.11		-0.01	3.15
	(105.70,113.68)	(102.19,119.43)	(107.32,122.47)	(98.38,111.68)	(101.34,126.57)	(-9.92,7.69)			(-11.68,17.98)
African American	78.40	71.90	86.66	80.11	63.64	6.50		-0.03	-8.27
	(72.00,84.81)	(45.94,97.87)	(73.13,100.20)	(68.28,91.93)	(40.86,86.41)	(-19.11,32.11)			(-46.23,29.70)
Hispanic	105.63	107.60	95.72	109.46	96.92	-1.97		-0.03	-10.68
	(96.53,114.73)	(82.09,133.11)	(81.57,109.87)	(91.52,127.39)	(66.12,127.72)	(-24.19,20.25)			(-55.42,34.05)

Table 5-38. The relationship between exposure to specific anti-drug advertising and perceived anti-marijuana social norms[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Youth aged 12 to 18									
Risk score									
Higher risk	48.30	64.75	54.60	37.31	61.69	-16.45		-0.02	-3.06
	(40.39,56.20)	(49.80,79.70)	(40.27,68.94)	(23.84,50.77)	(23.09,100.29)	*(-31.68,-1.22)			(-46.64,40.52)
Lower risk	123.03	124.20	123.37	123.66	115.96	-1.17		-0.05	-8.24
	(119.41,126.66)	(114.17,134.23)	(116.98,129.76)	(118.18,129.13)	(102.41,129.51)	(-10.58,8.24)			(-22.90,6.43)
Sensation seeking									
High	79.28	89.19	83.17	74.97	78.05	-9.91		-0.05	-11.14
	(74.38,84.17)	(77.29,101.09)	(74.47,91.87)	(67.27,82.68)	(59.51,96.58)	(-21.98,2.16)			(-33.38,11.10)
Low	127.78	119.69	129.11	129.37	123.90	8.08		0.01	4.21
	(123.46,132.10)	(107.02,132.37)	(121.82,136.39)	(122.39,136.35)	(108.47,139.34)	(-2.88,19.05)			(-13.97,22.39)

[1]See Table 5-3 for a full distribution. It is based on a combined index of perceived social expectations and perceived social network behavior as described in Appendix E.

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 5-39. The relationship between exposure to general anti-drug advertising and self-efficacy to refuse marijuana[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
All youth aged 12 to 18								
12 to 13	101.56 (97.71,105.42)	105.08 (97.10,113.05)	98.39 (89.82,106.96)	101.84 (95.50,108.19)	-3.51 (-10.63,3.61)		-0.03	-3.23 (-13.32,6.86)
14 to 18	107.55 (103.19,111.92)	103.94 (95.17,112.72)	101.06 (91.21,110.91)	112.14 (106.29,117.98)	3.61 (-5.15,12.37)		0.02	8.19 (-2.59,18.97)
12 to 18	105.42 (102.13,108.72)	104.35 (97.84,110.86)	100.13 (93.05,107.22)	108.44 (103.77,113.11)	1.07 (-5.45,7.60)		0.00	4.09 (-4.26,12.44)
Youth aged 12 to 18								
Male	103.55 (99.12,107.97)	102.34 (94.09,110.59)	102.01 (92.58,111.43)	105.18 (98.01,112.34)	1.20 (-7.61,10.02)		0.00	2.83 (-9.05,14.71)
Female	107.30 (102.05,112.56)	106.37 (95.18,117.56)	98.25 (88.81,107.69)	111.62 (105.36,117.88)	0.93 (-8.73,10.59)		0.00	5.25 (-7.16,17.65)
White	111.48 (108.14,114.82)	109.62 (102.17,117.07)	109.88 (102.76,116.99)	112.07 (106.84,117.29)	1.86 (-5.31,9.04)		-0.01	2.45 (-7.34,12.24)
African American	95.43 (86.69,104.18)	104.89 (90.76,119.03)	66.62 (41.12,92.12)	101.88 (90.86,112.90)	-9.46 (-23.40,4.48)		-0.03	-3.01 (-19.75,13.72)
Hispanic	94.15 (83.17,105.13)	80.88 (61.16,100.59)	105.88 (91.22,120.54)	100.43 (86.90,113.97)	13.27 (-2.46,29.00)		0.08	19.56 (-1.00,40.12)

Table 5-39. The relationship between exposure to general anti-drug advertising and self-efficacy to refuse marijuana[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Youth aged 12 to 18								
Risk score								
Higher risk	89.76	82.70	88.46	90.98	7.06		0.02	8.28
	(81.86,97.66)	(66.97,98.43)	(72.32,104.59)	(79.69,102.27)	(-8.03,22.14)			(-11.40,27.95)
Lower risk	112.03	113.44	105.33	115.23	-1.41		-0.01	1.79
	(108.72,115.34)	(106.94,119.94)	(98.20,112.45)	(110.35,120.11)	(-7.55,4.72)			(-5.97,9.55)
Sensation seeking								
High	88.83	82.94	86.75	91.04	5.88		0.03	8.10
	(83.92,93.73)	(71.81,94.08)	(75.04,98.46)	(84.37,97.71)	(-4.87,16.64)			(-5.04,21.24)
Low	121.72	120.29	114.62	126.62	1.43		-0.01	6.32
	(117.21,126.23)	(111.22,129.36)	(105.65,123.59)	(122.06,131.18)	(-5.55,8.41)			(-2.91,15.56)

[1]See Table 5-26 for full distribution. Self-efficacy scale based on 4 questions asking how sure youth are that they can say no to marijuana if they really wanted to: while at a party where most others are using it (C9a); when a very close friend suggests they use it (C9b); when at home alone and feeling sad or bored (C9c); when hanging out at a friend's house whose parents aren't home (C9d). Measurement of this construct is detailed in Appendix E.

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 5-40. The relationship between exposure to specific anti-drug advertising and self-efficacy to refuse marijuana[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
All youth aged 12 to 18									
12 to 13	101.56	97.23	96.32	101.55	106.54	4.34		0.05	9.31
	(97.71,105.42)	(87.31,107.15)	(88.95,103.69)	(94.92,108.18)	(91.43,121.65)	(-4.62,13.29)			(-7.08,25.70)
14 to 18	107.55	119.07	105.73	107.05	116.22	-11.52		-0.03	-2.85
	(103.19,111.92)	(109.64,128.50)	(99.08,112.37)	(100.76,113.35)	(102.86,129.58)	*(-19.60,-3.44)			(-19.18,13.48)
12 to 18	105.42	111.77	102.42	105.04	112.53	-6.35		0.00	0.76
	(102.13,108.72)	(104.20,119.34)	(97.51,107.33)	(100.17,109.91)	(101.77,123.28)	(-12.70,0.00)			(-11.69,13.21)
Youth aged 12 to 18									
Male	103.55	112.25	101.24	103.21	99.06	-8.71		-0.04	-13.20
	(99.12,107.97)	(101.45,123.05)	(93.91,108.57)	(95.65,110.77)	(81.40,116.71)	(-18.15,0.74)			(-33.19,6.80)
Female	107.30	111.28	103.63	106.84	126.49	-3.97		0.04	15.21
	(102.05,112.56)	(99.96,122.59)	(95.69,111.56)	(100.26,113.43)	(116.47,136.50)	(-12.86,4.92)			(-0.54,30.96)
White	111.48	119.75	107.27	110.90	119.31	-8.27		0.00	-0.44
	(108.14,114.82)	(112.29,127.21)	(102.07,112.46)	(105.12,116.67)	(106.49,132.14)	*(-15.19,-1.36)			(-15.59,14.71)
African American	95.43	110.20	91.16	94.78	98.92	-14.77		-0.04	-11.28
	(86.69,104.18)	(84.35,136.05)	(75.63,106.69)	(81.81,107.74)	(69.01,128.83)	(-38.44,8.91)			(-52.11,29.55)
Hispanic	94.15	79.18	99.54	93.48	101.20	14.97		0.04	22.02
	(83.17,105.13)	(50.78,107.57)	(86.35,112.72)	(78.98,107.97)	(67.73,134.66)	(-6.59,36.54)			(-17.88,61.92)

Table 5-40. The relationship between exposure to specific anti-drug advertising and self-efficacy to refuse marijuana[1] among nonusing youth, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Exposure level of youth (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Youth aged 12 to 18									
Risk score									
Higher risk_____	89.76	108.76	94.12	78.29	115.82	-19.00		-0.04	7.06
	(81.86,97.66)	(92.39,125.13)	(82.08,106.16)	(66.34,90.25)	(93.80,137.84)	*(-32.07,-5.92)			(-19.22,33.35)
Lower risk_____	112.03	113.08	106.41	116.89	112.36	-1.06		0.02	-0.72
	(108.72,115.34)	(104.31,121.86)	(100.40,112.43)	(112.00,121.78)	(99.39,125.34)	(-8.86,6.75)			(-15.61,14.16)
Sensation seeking									
High_____	88.83	100.66	87.70	88.28	97.19	-11.83		-0.01	-3.47
	(83.92,93.73)	(87.80,113.51)	(79.68,95.72)	(80.64,95.93)	(79.66,114.71)	*(-23.60,-0.07)			(-26.24,19.30)
Low_____	121.72	121.59	117.16	123.45	125.75	0.13		0.00	4.16
	(117.21,126.23)	(113.25,129.93)	(110.32,123.99)	(116.95,129.94)	(113.03,138.48)	(-6.95,7.20)			(-10.27,18.60)

[1]See Table 5-26 for full distribution. Self-efficacy scale based on 4 questions asking how sure youth are that they can say no to marijuana if they really wanted to: while at a party where most others are using it (C9a); when a very close friend suggests they use it (C9b); when at home alone and feeling sad or bored (C9c); when hanging out at a friend's house whose parents aren't home (C9d). Measurement of this construct is detailed in Appendix E.

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 6-1. Parents'[1] monitoring cognitions[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education

	Mean score on parental beliefs and attitudes about monitoring index									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	114.78	114.92	125.38	120.66	114.85	(109.61,120.09)	123.00	(118.65,127.36)	8.15	*(1.57,14.73)
14 to 15	88.57	94.45	92.38	96.78	91.55	(83.05,100.04)	94.47	(87.42,101.53)	2.93	(-7.86,13.71)
16 to 18	61.71	62.19	69.06	65.97	61.94	(54.71,69.18)	67.43	(58.82,76.05)	5.49	(-4.44,15.42)
14 to 18	73.84	77.32	80.43	79.50	75.57	(69.80,81.35)	79.96	(73.68,86.24)	4.39	(-2.71,11.49)
12 to 18	85.77	88.47	93.70	91.68	87.12	(82.72,91.52)	92.68	(87.96,97.41)	5.56	*(0.09,11.03)
Youth aged 12 to 18										
Males	77.31	80.83	82.31	85.94	79.08	(72.75,85.41)	84.14	(77.46,90.82)	5.06	(-3.39,13.51)
Females	94.66	96.68	105.70	97.75	95.66	(89.58,101.75)	101.71	(95.97,107.45)	6.05	(-0.86,12.95)
White	84.41	84.35	90.28	85.74	84.38	(79.15,89.61)	87.99	(82.48,93.51)	3.62	(-2.54,9.77)
African American	96.33	88.10	100.38	101.08	92.14	(79.15,105.13)	100.74	(89.71,111.77)	8.60	(-7.53,24.72)
Hispanic	88.27	108.61	102.34	108.44	98.48	(86.12,110.85)	105.42	(93.29,117.55)	6.94	(-10.06,23.93)
Risk score										
Higher risk	53.41	54.27	56.85	58.68	53.82	(45.47,62.17)	57.76	(49.53,66.00)	3.94	(-5.60,13.49)
Lower risk	109.42	109.03	118.10	112.35	109.22	(104.93,113.51)	115.21	(110.08,120.35)	5.99	(-0.07,12.05)
Sensation seeking										
High	71.12	75.65	83.95	77.42	73.32	(67.55,79.10)	80.76	(73.98,87.54)	7.43	(-0.16,15.03)
Low	104.05	102.46	107.19	108.80	103.23	(96.87,109.60)	108.02	(101.77,114.28)	4.79	(-3.14,12.72)

Table 6-1. Parents'[1] monitoring cognitions[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education (continued)

	Mean score on parental beliefs and attitudes about monitoring index									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Parent gender										
Males	64.82	77.86	86.28	72.82	71.81	(63.64,79.98)	79.80	(70.56,89.04)	7.99	(-3.00,18.98)
Females	96.00	94.99	97.61	100.39	95.52	(90.08,100.95)	99.04	(93.13,104.94)	3.52	(-4.20,11.23)
Parent education										
Less than high school	79.82	98.50	87.96	98.82	88.94	(78.90,98.98)	93.71	(82.10,105.32)	4.77	(-10.29,19.83)
High school graduate	75.35	90.71	86.58	84.35	82.56	(74.03,91.09)	85.49	(77.91,93.06)	2.93	(-6.11,11.96)
Some college	98.72	85.37	105.46	99.27	91.18	(81.43,100.93)	102.25	(92.02,112.47)	11.07	(-3.01,25.15)
College graduate	91.77	83.77	93.80	88.79	87.93	(80.13,95.74)	91.33	(82.48,100.18)	3.40	(-8.86,15.65)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Measurement of this construct is detailed in Appendix X.

Table 6-2. Parents'[1] talking cognitions[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education

	Mean score on parental beliefs and attitudes about talking index									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	112.12	106.65	117.02	107.18	109.37	(103.64,115.09)	112.07	(105.30,118.83)	2.70	(-5.67,11.07)
14 to 15	104.12	102.20	103.19	114.61	103.15	(93.68,112.62)	108.63	(101.05,116.21)	5.48	(-6.30,17.27)
16 to 18	79.86	83.77	92.45	89.20	81.77	(73.13,90.42)	90.74	(83.08,98.40)	8.97	(-1.26,19.19)
14 to 18	90.82	92.42	97.69	100.36	91.61	(85.04,98.19)	99.03	(93.29,104.77)	7.41	(-0.36,15.19)
12 to 18	97.03	96.64	103.40	102.38	96.83	(91.91,101.76)	102.88	(98.28,107.49)	6.05	*(0.28,11.82)
Youth aged 12 to 18										
Males	92.51	95.63	100.96	98.93	94.07	(88.09,100.06)	99.94	(93.65,106.23)	5.86	(-2.82,14.55)
Females	101.78	97.72	105.97	106.02	99.76	(92.58,106.95)	105.99	(99.32,112.67)	6.23	(-1.78,14.24)
White	88.25	87.62	95.66	89.84	87.94	(82.03,93.85)	92.73	(87.75,97.71)	4.79	(-2.02,11.59)
African American	124.88	114.67	130.83	123.84	119.68	(106.55,132.81)	127.28	(110.64,143.93)	7.60	(-9.79,24.99)
Hispanic	118.70	124.54	108.90	136.66	121.63	(111.37,131.90)	122.90	(112.99,132.82)	1.27	(-12.19,14.74)
Risk score										
Higher risk	77.51	85.91	89.92	94.60	81.50	(74.01,88.99)	92.25	(84.20,100.30)	10.75	*(1.82,19.68)
Lower risk	111.12	103.12	112.74	107.98	106.98	(101.32,112.64)	110.35	(104.16,116.54)	3.37	(-4.03,10.77)
Sensation seeking										
High	85.70	89.77	98.18	96.87	87.68	(81.63,93.73)	97.54	(92.19,102.89)	9.87	*(2.73,17.00)
Low	111.02	104.83	111.56	109.97	107.84	(100.90,114.77)	110.74	(103.63,117.85)	2.90	(-6.06,11.86)

Table 6-2. Parents'[1] talking cognitions[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education (continued)

	Mean score on parental beliefs and attitudes about talking index									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Parent gender										
Males	80.40	81.58	96.90	89.38	81.03	(72.58,89.49)	93.28	(85.50,101.06)	12.24	*(1.06,23.43)
Females	105.14	105.89	106.81	108.38	105.50	(99.77,111.23)	107.62	(100.91,114.33)	2.12	(-4.70,8.94)
Parent education										
Less than high school	113.38	125.79	98.43	125.26	119.44	(108.06,130.83)	112.64	(101.22,124.07)	-6.80	(-23.65,10.04)
High school graduate	94.06	100.85	102.94	107.08	97.25	(88.49,106.00)	104.97	(97.37,112.56)	7.72	(-3.11,18.56)
Some college	103.00	92.78	117.70	99.17	97.23	(89.46,105.00)	108.08	(99.68,116.49)	10.85	*(0.93,20.78)
College graduate	85.18	77.46	92.05	85.93	81.48	(70.11,92.85)	89.04	(80.89,97.19)	7.56	(-5.56,20.68)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-3. Parents'[1] monitoring behavior[2,3], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education

	Mean score on parental monitoring behavior scale (0 to 3) (where higher scores represent more monitoring behavior) **Parent perspective** Child perspective									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**1.65**	**1.65**	**1.83**	**1.77**	**1.65**	**(1.59,1.72)**	**1.80**	**(1.74,1.86)**	**0.15**	***(0.07,0.23)**
	1.03	1.02	1.06	1.11	1.03	(0.96,1.09)	1.08	(1.03,1.14)	0.06	(-0.01,0.13)
14 to 15	**1.50**	**1.44**	**1.46**	**1.46**	**1.47**	**(1.39,1.55)**	**1.46**	**(1.38,1.53)**	**-0.01**	**(-0.12,0.09)**
	0.89	0.85	0.86	0.91	0.87	(0.80,0.94)	0.88	(0.82,0.95)	0.02	(-0.07,0.10)
16 to 18	**1.13**	**1.22**	**1.21**	**1.20**	**1.18**	**(1.10,1.26)**	**1.21**	**(1.11,1.30)**	**0.03**	**(-0.08,0.14)**
	0.74	0.76	0.71	0.70	0.75	(0.69,0.81)	0.70	(0.63,0.78)	-0.05	(-0.12,0.03)
14 to 18	**1.30**	**1.32**	**1.33**	**1.31**	**1.31**	**(1.25,1.37)**	**1.32**	**(1.26,1.39)**	**0.01**	**(-0.06,0.08)**
	0.80	0.80	0.78	0.79	0.80	(0.75,0.86)	0.78	(0.73,0.84)	-0.02	(-0.07,0.04)
12 to 18	**1.40**	**1.42**	**1.48**	**1.45**	**1.41**	**(1.36,1.46)**	**1.46**	**(1.41,1.52)**	**0.05**	**(0.00,0.11)**
	0.87	0.87	0.86	0.88	0.87	(0.82,0.91)	0.87	(0.83,0.92)	0.00	(-0.04,0.05)

Table 6-3. Parents'[1] monitoring behavior[2,3], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education (continued)

	Mean score on parental monitoring behavior scale (0 to 3) (where higher scores represent more monitoring behavior) **Parent perspective** Child perspective									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Youth aged 12 to 18										
Males	**1.29**	**1.28**	**1.39**	**1.38**	**1.29**	**(1.23,1.34)**	**1.39**	**(1.32,1.46)**	**0.10**	***(0.03,0.17)**
	0.72	0.74	0.74	0.72	0.73	(0.67,0.79)	0.73	(0.67,0.79)	0.00	(-0.07,0.07)
Females	**1.52**	**1.57**	**1.57**	**1.52**	**1.54**	**(1.48,1.61)**	**1.55**	**(1.48,1.61)**	**0.00**	**(-0.08,0.08)**
	1.02	1.00	0.99	1.05	1.01	(0.96,1.06)	1.02	(0.97,1.08)	0.01	(-0.05,0.07)
White	**1.45**	**1.44**	**1.53**	**1.45**	**1.45**	**(1.39,1.51)**	**1.49**	**(1.42,1.55)**	**0.04**	**(-0.02,0.11)**
	0.92	0.91	0.86	0.95	0.92	(0.86,0.97)	0.91	(0.86,0.96)	-0.01	(-0.06,0.04)
African American	**1.24**	**1.24**	**1.39**	**1.44**	**1.24**	**(1.13,1.35)**	**1.42**	**(1.30,1.54)**	**0.18**	***(0.03,0.33)**
	0.76	0.67	0.83	0.74	0.71	(0.60,0.82)	0.78	(0.67,0.89)	0.07	(-0.04,0.19)
Hispanic	**1.34**	**1.55**	**1.33**	**1.48**	**1.45**	**(1.30,1.59)**	**1.40**	**(1.27,1.53)**	**-0.05**	**(-0.21,0.12)**
	0.82	0.87	0.90	0.75	0.85	(0.75,0.94)	0.82	(0.71,0.93)	-0.02	(-0.17,0.12)
Risk score										
Higher risk	**1.03**	**1.13**	**1.13**	**1.05**	**1.08**	**(1.00,1.16)**	**1.09**	**(1.00,1.18)**	**0.01**	**(-0.10,0.11)**
	0.56	0.67	0.54	0.56	0.61	(0.55,0.67)	0.55	(0.48,0.62)	-0.06	(-0.14,0.02)
Lower risk	**1.65**	**1.59**	**1.70**	**1.70**	**1.62**	**(1.56,1.67)**	**1.70**	**(1.64,1.76)**	**0.08**	***(0.01,0.16)**
	1.11	1.03	1.08	1.10	1.07	(1.01,1.12)	1.09	(1.04,1.14)	0.02	(-0.03,0.08)
Sensation seeking										
High	**1.28**	**1.30**	**1.37**	**1.25**	**1.29**	**(1.22,1.36)**	**1.31**	**(1.23,1.38)**	**0.02**	**(-0.07,0.11)**
	0.65	0.59	0.61	0.63	0.62	(0.57,0.67)	0.62	(0.57,0.67)	0.00	(-0.06,0.06)
Low	**1.54**	**1.54**	**1.63**	**1.68**	**1.54**	**(1.48,1.60)**	**1.66**	**(1.59,1.72)**	**0.12**	***(0.04,0.20)**
	1.16	1.18	1.20	1.20	1.17	(1.11,1.23)	1.20	(1.13,1.26)	0.03	(-0.04,0.10)

Table 6-3. Parents'[1] monitoring behavior[2,3], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education (continued)

	Mean score on parental monitoring behavior scale (0 to 3) (where higher scores represent more monitoring behavior) **Parent perspective** Child perspective									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Parent gender										
Males	**1.30**	**1.38**	**1.42**	**1.35**	**1.34**	**(1.26,1.43)**	**1.39**	**(1.30,1.48)**	**0.05**	**(-0.06,0.15)**
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Females	**1.45**	**1.45**	**1.51**	**1.49**	**1.45**	**(1.40,1.50)**	**1.50**	**(1.44,1.57)**	**0.05**	**(-0.02,0.13)**
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Parent education										
Less than high school	**1.35**	**1.38**	**1.25**	**1.42**	**1.36**	**(1.25,1.47)**	**1.34**	**(1.21,1.46)**	**-0.02**	**(-0.16,0.12)**
	0.86	0.94	0.88	0.77	0.90	(0.81,1.00)	0.83	(0.73,0.92)	-0.08	(-0.21,0.06)
High school graduate	**1.23**	**1.40**	**1.41**	**1.33**	**1.31**	**(1.23,1.39)**	**1.37**	**(1.30,1.44)**	**0.06**	**(-0.04,0.16)**
	0.83	1.00	0.85	0.85	0.91	(0.82,1.00)	0.85	(0.77,0.94)	-0.06	(-0.16,0.04)
Some college	**1.48**	**1.35**	**1.58**	**1.49**	**1.40**	**(1.32,1.49)**	**1.53**	**(1.45,1.62)**	**0.13**	***(0.02,0.24)**
	0.95	0.76	0.87	0.98	0.84	(0.77,0.92)	0.92	(0.85,1.00)	0.08	(-0.01,0.17)
College graduate	**1.57**	**1.58**	**1.58**	**1.58**	**1.58**	**(1.49,1.67)**	**1.58**	**(1.48,1.68)**	**0.00**	**(-0.12,0.13)**
	0.87	0.90	0.89	0.94	0.88	(0.80,0.96)	0.91	(0.84,0.99)	0.03	(-0.06,0.12)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Measurement of this construct is detailed in Appendix E.

[3]These parent questions were repeated separately for each sample child.

Table 6-4. Parents'[1] talking behavior[2,3], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education

	Mean score on parental talking behavior scale (0 to 3) (where higher scores represent more talking behavior) **Parent perspective** Child perspective									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**2.32**	**2.26**	**2.40**	**2.36**	**2.29**	**(2.22,2.36)**	**2.38**	**(2.31,2.45)**	**0.09**	***(0.01,0.17)**
	1.78	1.69	1.62	1.55	1.74	(1.65,1.82)	1.58	(1.51,1.66)	-0.15	*(-0.26,-0.04)
14 to 15	**2.29**	**2.27**	**2.31**	**2.47**	**2.28**	**(2.16,2.40)**	**2.39**	**(2.30,2.48)**	**0.11**	**(-0.05,0.27)**
	1.65	1.48	1.44	1.39	1.56	(1.46,1.66)	1.42	(1.33,1.51)	-0.14	*(-0.27,-0.02)
16 to 18	**2.20**	**2.22**	**2.38**	**2.28**	**2.21**	**(2.13,2.30)**	**2.33**	**(2.25,2.40)**	**0.11**	***(0.01,0.21)**
	1.26	1.37	1.24	1.30	1.32	(1.24,1.39)	1.27	(1.19,1.35)	-0.05	(-0.15,0.06)
14 to 18	**2.24**	**2.25**	**2.34**	**2.37**	**2.24**	**(2.17,2.32)**	**2.36**	**(2.30,2.41)**	**0.11**	***(0.01,0.21)**
	1.44	1.42	1.33	1.34	1.43	(1.36,1.50)	1.34	(1.27,1.40)	-0.09	*(-0.17,-0.01)
12 to 18	**2.27**	**2.25**	**2.36**	**2.36**	**2.26**	**(2.19,2.32)**	**2.36**	**(2.31,2.41)**	**0.11**	***(0.03,0.18)**
	1.53	1.50	1.42	1.40	1.52	(1.46,1.58)	1.41	(1.36,1.46)	-0.11	*(-0.17,-0.04)

Table 6-4. Parents'[1] talking behavior[2,3] by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education (continued)

	Mean score on parental talking behavior scale (0 to 3) (where higher scores represent more talking behavior) **Parent perspective** Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	Mean	Mean	Mean	Mean	Est	95% CI	Est	95% CI	Est	95% CI
Youth aged 12 to 18										
Males	**2.30**	**2.30**	**2.34**	**2.40**	**2.30**	**(2.23,2.37)**	**2.37**	**(2.32,2.42)**	**0.07**	**(-0.01,0.15)**
	1.52	1.54	1.33	1.37	1.53	(1.5,1.6)	1.35	(1.3,1.4)	-0.18	*(-0.3,-0.1)
Females	**2.23**	**2.19**	**2.38**	**2.33**	**2.21**	**(2.13,2.29)**	**2.36**	**(2.29,2.42)**	**0.14**	***(0.04,0.25)**
	1.55	1.46	1.51	1.44	1.51	(1.4,1.6)	1.48	(1.4,1.6)	-0.03	(-0.1,0.1)
White	**2.23**	**2.23**	**2.29**	**2.35**	**2.23**	**(2.16,2.30)**	**2.32**	**(2.26,2.38)**	**0.10**	**(0.00,0.19)**
	1.45	1.47	1.36	1.30	1.46	(1.4,1.5)	1.33	(1.3,1.4)	-0.13	*(-0.2,0.0)
African American	**2.33**	**2.39**	**2.44**	**2.34**	**2.36**	**(2.20,2.52)**	**2.39**	**(2.26,2.52)**	**0.03**	**(-0.14,0.21)**
	1.74	1.52	1.61	1.66	1.63	(1.5,1.8)	1.64	(1.5,1.8)	0.01	(-0.1,0.2)
Hispanic	**2.43**	**2.32**	**2.66**	**2.48**	**2.37**	**(2.24,2.50)**	**2.57**	**(2.47,2.67)**	**0.19**	***(0.04,0.35)**
	1.80	1.64	1.53	1.57	1.72	(1.6,1.9)	1.55	(1.4,1.7)	-0.17	*(-0.3,0.0)
Risk score										
Higher risk	**2.22**	**2.38**	**2.37**	**2.36**	**2.30**	**(2.22,2.37)**	**2.36**	**(2.28,2.45)**	**0.07**	**(-0.04,0.18)**
	1.39	1.47	1.32	1.32	1.43	(1.3,1.5)	1.32	(1.2,1.4)	-0.10	(-0.2,0.0)
Lower risk	**2.29**	**2.18**	**2.35**	**2.37**	**2.24**	**(2.15,2.32)**	**2.36**	**(2.30,2.43)**	**0.13**	***(0.03,0.22)**
	1.69	1.53	1.51	1.49	1.60	(1.5,1.7)	1.50	(1.4,1.6)	-0.10	*(-0.2,0.0)
Sensation seeking										
High	**2.28**	**2.32**	**2.36**	**2.36**	**2.30**	**(2.23,2.37)**	**2.36**	**(2.30,2.42)**	**0.06**	**(-0.03,0.15)**
	1.37	1.37	1.35	1.25	1.37	(1.3,1.4)	1.30	(1.2,1.4)	-0.07	(-0.2,0.0)
Low	**2.24**	**2.19**	**2.35**	**2.38**	**2.21**	**(2.12,2.31)**	**2.37**	**(2.29,2.44)**	**0.16**	***(0.06,0.26)**
	1.75	1.64	1.51	1.61	1.69	(1.6,1.8)	1.56	(1.5,1.6)	-0.13	*(-0.2,0.0)

Table 6-4. Parents'[1] talking behavior[2,3], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education (continued)

	Mean score on parental talking behavior scale (0 to 3) (where higher scores represent more talking behavior) **Parent perspective** Child perspective									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Parent gender										
Males	**2.17**	**2.03**	**2.23**	**2.28**	**2.10**	**(2.00,2.19)**	**2.25**	**(2.19,2.32)**	**0.16**	***(0.04,0.28)**
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Females	**2.31**	**2.38**	**2.43**	**2.40**	**2.35**	**(2.27,2.42)**	**2.42**	**(2.35,2.48)**	**0.07**	**(-0.01,0.15)**
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Parent education										
Less than high school	**2.25**	**2.33**	**2.41**	**2.41**	**2.29**	**(2.15,2.43)**	**2.41**	**(2.29,2.53)**	**0.12**	**(-0.06,0.30)**
	1.88	1.74	1.55	1.74	1.81	(1.7,2.0)	1.65	(1.5,1.8)	-0.16	(-0.4,0.0)
High school graduate	**2.27**	**2.23**	**2.35**	**2.41**	**2.25**	**(2.15,2.34)**	**2.38**	**(2.29,2.46)**	**0.13**	***(0.01,0.24)**
	1.56	1.52	1.49	1.48	1.54	(1.4,1.6)	1.48	(1.4,1.6)	-0.06	(-0.2,0.1)
Some college	**2.33**	**2.27**	**2.43**	**2.36**	**2.30**	**(2.18,2.42)**	**2.39**	**(2.31,2.48)**	**0.10**	**(-0.04,0.24)**
	1.53	1.35	1.43	1.32	1.43	(1.3,1.6)	1.37	(1.3,1.5)	-0.06	(-0.2,0.1)
College graduate	**2.20**	**2.19**	**2.28**	**2.29**	**2.20**	**(2.11,2.29)**	**2.29**	**(2.21,2.36)**	**0.09**	**(-0.03,0.20)**
	1.38	1.56	1.33	1.28	1.47	(1.3,1.6)	1.30	(1.2,1.4)	-0.16	*(-0.3,0.0)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Measurement of this construct is detailed in Appendix E.

[3]These parent questions were repeated separately for each sample child.

Table 6-5. Parents'[1] and youth's reports on fun activities[2,3], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education

	Percent of parents and children reporting participation in three or more fun activities in past week									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**74.5**	**75.2**	**73.2**	**76.1**	**74.8**	**(72.6,76.9)**	**74.7**	**(71.5,77.7)**	**-0.1**	**(-3.7,3.5)**
	N/A	N/A	72.8	73.9	N/A	N/A	73.3	(70.6,75.9)	N/A	N/A
14 to 15	**67.4**	**68.2**	**59.9**	**69.3**	**67.8**	**(63.4,71.9)**	**64.3**	**(60.7,67.8)**	**-3.5**	**(-8.5,1.5)**
	N/A	N/A	67.4	65.8	N/A	N/A	66.6	(63.0,70.0)	N/A	N/A
16 to 18	**49.2**	**53.2**	**50.4**	**53.2**	**51.1**	**(47.1,55.2)**	**51.9**	**(47.8,56.0)**	**0.8**	**(-5.0,6.5)**
	N/A	N/A	54.0	50.8	N/A	N/A	52.3	(47.9,56.6)	N/A	N/A
14 to 18	**57.4**	**60.2**	**55.0**	**60.3**	**58.8**	**(55.8,61.8)**	**57.7**	**(54.9,60.4)**	**-1.1**	**(-5.1,2.8)**
	N/A	N/A	60.3	57.5	N/A	N/A	58.8	(56.1,61.5)	N/A	N/A
12 to 18	**62.4**	**64.7**	**60.4**	**65.0**	**63.5**	**(61.1,65.9)**	**62.7**	**(60.5,64.9)**	**-0.8**	**(-4.0,2.3)**
	N/A	N/A	64.3	62.4	N/A	N/A	63.3	(61.1,65.4)	N/A	N/A

Table 6-5. Parents'[1] and youth's reports on fun activities[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education (continued)

	Percent of parents and children reporting participation in three or more fun activities in past week									
	Parent perspective									
	Child perspective									
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
Youth aged 12 to 18										
Males	**62.4**	**61.3**	**57.1**	**62.6**	**61.8**	**(58.3,65.2)**	**59.9**	**(56.9,62.8)**	**-1.9**	**(-6.3,2.4)**
	N/A	N/A	60.6	58.2	N/A	N/A	59.4	(56.4,62.3)	N/A	N/A
Females	**62.4**	**68.3**	**63.9**	**67.5**	**65.3**	**(62.4,68.2)**	**65.7**	**(62.3,68.9)**	**0.3**	**(-3.7,4.4)**
	N/A	N/A	68.1	66.8	N/A	N/A	67.4	(64.6,70.2)	N/A	N/A
White	**64.7**	**65.0**	**62.5**	**68.3**	**64.8**	**(62.1,67.4)**	**65.4**	**(62.5,68.3)**	**0.6**	**(-3.2,4.4)**
	N/A	N/A	66.0	63.3	N/A	N/A	64.6	(61.8,67.2)	N/A	N/A
African American	**59.0**	**63.6**	**56.0**	**54.4**	**61.3**	**(54.0,68.2)**	**55.2**	**(50.4,59.9)**	**-6.2**	**(-14.2,1.9)**
	N/A	N/A	60.5	56.8	N/A	N/A	58.6	(51.9,65.0)	N/A	N/A
Hispanic	**54.7**	**60.7**	**54.6**	**61.6**	**57.7**	**(51.5,63.6)**	**58.1**	**(52.6,63.4)**	**0.4**	**(-8.6,9.4)**
	N/A	N/A	65.3	64.1	N/A	N/A	64.7	(58.2,70.7)	N/A	N/A
Risk score										
Higher risk	**48.4**	**57.4**	**50.7**	**54.5**	**52.7**	**(48.7,56.6)**	**52.6**	**(49.0,56.1)**	**-0.1**	**(-5.3,5.2)**
	N/A	N/A	50.3	48.7	N/A	N/A	49.5	(45.7,53.2)	N/A	N/A
Lower risk	**71.4**	**68.5**	**67.3**	**71.6**	**69.9**	**(66.7,73.0)**	**69.4**	**(66.8,72.0)**	**-0.5**	**(-4.2,3.2)**
	N/A	N/A	73.2	69.7	N/A	N/A	71.4	(68.6,74.0)	N/A	N/A
Sensation seeking										
High	**58.8**	**62.0**	**55.9**	**63.1**	**60.3**	**(57.1,63.5)**	**59.4**	**(56.4,62.4)**	**-0.9**	**(-4.9,3.0)**
	N/A	N/A	61.3	56.3	N/A	N/A	58.8	(56.0,61.5)	N/A	N/A
Low	**66.0**	**67.4**	**66.5**	**67.1**	**66.7**	**(63.0,70.2)**	**66.9**	**(63.6,69.9)**	**0.1**	**(-4.3,4.5)**
	N/A	N/A	67.6	69.3	N/A	N/A	68.5	(65.3,71.5)	N/A	N/A

Table 6-5. Parents'[1] and youth's reports on fun activities[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking, and parent gender and education (continued)

	Percent of parents and children reporting participation in three or more fun activities in past week									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Parent gender										
Males	**64.2**	**64.6**	**64.7**	**65.1**	**64.4**	**(60.9,67.8)**	**64.9**	**(60.9,68.7)**	**0.5**	**(-4.7,5.7)**
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Females	**61.5**	**64.8**	**58.2**	**64.9**	**63.0**	**(59.5,66.5)**	**61.6**	**(59.3,63.9)**	**-1.4**	**(-5.6,2.7)**
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Parent education										
Less than high school	**49.5**	**62.7**	**47.5**	**62.9**	**55.9**	**(49.6,62.1)**	**55.6**	**(51.2,59.9)**	**-0.3**	**(-8.4,7.8)**
	N/A	N/A	61.9	60.3	N/A	N/A	61.1	(55.1,66.7)	N/A	N/A
High school graduate	**59.2**	**60.5**	**57.7**	**59.7**	**59.8**	**(56.6,62.9)**	**58.7**	**(54.8,62.4)**	**-1.1**	**(-6.1,3.9)**
	N/A	N/A	63.5	59.8	N/A	N/A	61.7	(57.4,65.8)	N/A	N/A
Some college	**66.2**	**66.1**	**65.0**	**70.2**	**66.1**	**(61.6,70.4)**	**67.7**	**(64.0,71.2)**	**1.6**	**(-4.4,7.6)**
	N/A	N/A	68.6	65.8	N/A	N/A	67.0	(63.4,70.5)	N/A	N/A
College graduate	**70.0**	**69.8**	**66.6**	**67.5**	**69.9**	**(64.8,74.6)**	**67.1**	**(62.3,71.4)**	**-2.9**	**(-8.6,2.9)**
	N/A	N/A	65.9	63.1	N/A	N/A	64.5	(60.6,68.2)	N/A	N/A

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Measurement of this construct is detailed in Appendix E.

3These parent questions were repeated separately for each sample child beginning in Wave 3.

Table 6-6. Percent of parents[1] and their children who reported conversation[2] about family rules or expectations about drug use in past 6 months, by age of child

Talking with children about drugs

	Percent reporting they had conversation about family rules or expectations about drug use									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	**80.7**	**77.0**	**82.8**	**80.5**	**78.9**	**(76.0,81.4)**	**81.6**	**(78.8,84.2)**	**2.8**	**(-0.7,6.3)**
	60.3	58.3	55.5	52.5	59.3	(56.4,62.1)	54.0	(51.0,57.0)	-5.3	*(-9.4,-1.1)
14 to 15	**82.0**	**79.5**	**78.9**	**83.2**	**80.8**	**(76.0,84.7)**	**81.0**	**(77.3,84.2)**	**0.2**	**(-5.8,6.2)**
	56.1	51.8	50.0	49.0	53.9	(50.1,57.7)	49.5	(46.1,52.9)	-4.4	(-9.5,0.7)
16 to 18	**77.6**	**76.4**	**84.6**	**79.1**	**77.0**	**(73.6,80.1)**	**81.7**	**(78.3,84.7)**	**4.7**	***(0.7,8.7)**
	43.5	49.4	44.4	47.4	46.4	(43.3,49.5)	46.0	(42.4,49.5)	-0.5	(-5.1,4.2)
14 to 18	**79.6**	**77.9**	**81.8**	**80.9**	**78.8**	**(75.6,81.6)**	**81.4**	**(78.8,83.7)**	**2.6**	**(-1.3,6.5)**
	49.1	50.5	47.0	48.1	49.8	(47.1,52.5)	47.6	(44.9,50.2)	-2.2	(-5.6,1.1)
12 to 18	**79.9**	**77.6**	**82.1**	**80.8**	**78.8**	**(76.3,81.0)**	**81.5**	**(79.2,83.5)**	**2.7**	**(-0.4,5.8)**
	52.3	52.8	49.5	49.4	52.5	(50.3,54.8)	49.4	(47.3,51.6)	-3.1	*(-5.8,-0.4)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-7. Percent of parents[1] and their children who reported conversation[2] about specific things the child could do to stay away from drugs in past 6 months, by age of child

Talking with children about drugs

	Percent reporting they had conversation about specific things child could do to stay away from drugs									
	Parent perspective Child perspective									
Age of child	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
12 to 13	**71.4**	**70.5**	**76.0**	**74.1**	**70.9**	**(68.4,73.3)**	**75.0**	**(72.1,77.8)**	**4.1**	***(0.4,7.8)**
	58.9	55.0	54.4	52.3	56.9	(53.6,60.2)	53.3	(50.6,56.1)	-3.6	(-7.8,0.6)
14 to 15	**65.1**	**68.2**	**70.4**	**77.7**	**66.6**	**(61.9,71.1)**	**73.9**	**(70.2,77.3)**	**7.2**	***(1.0,13.5)**
	49.8	45.3	40.4	40.3	47.5	(43.8,51.2)	40.4	(36.8,44.0)	-7.1	*(-12.1,-2.1)
16 to 18	**64.4**	**66.1**	**68.7**	**67.2**	**65.3**	**(61.3,69.0)**	**67.9**	**(64.2,71.5)**	**2.7**	**(-1.9,7.3)**
	34.7	36.7	34.9	35.1	35.7	(32.4,39.1)	35.0	(32.1,38.1)	-0.7	(-4.8,3.4)
14 to 18	**64.7**	**67.1**	**69.5**	**71.8**	**65.9**	**(62.7,68.9)**	**70.7**	**(68.1,73.2)**	**4.8**	***(0.7,8.9)**
	41.4	40.7	37.5	37.4	41.0	(38.5,43.6)	37.4	(34.8,40.1)	-3.6	*(-7.0,-0.2)
12 to 18	**66.7**	**68.1**	**71.5**	**72.5**	**67.4**	**(64.8,69.9)**	**72.0**	**(69.8,74.0)**	**4.6**	***(1.4,7.8)**
	46.4	44.8	42.4	41.8	45.6	(43.3,48.0)	42.1	(40.1,44.2)	-3.5	*(-6.3,-0.8)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-8. Percent of parents[1] and their children who reported conversation[2] about drug use in movies, music, and on TV in past 6 months, by age of child

Talking with children about drugs

	Percent reporting they had conversations about drug use in movies, music, and on TV									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	**62.3**	**57.8**	**64.9**	**65.9**	**60.1**	**(57.0,63.0)**	**65.4**	**(61.6,69.0)**	**5.3**	***(1.3,9.4)**
	48.0	42.3	38.4	42.3	45.1	(42.6,47.7)	40.4	(37.3,43.5)	-4.8	*(-8.5,-1.0)
14 to 15	**59.0**	**59.6**	**57.7**	**63.1**	**59.3**	**(54.7,63.6)**	**60.3**	**(55.8,64.6)**	**1.0**	**(-4.7,6.7)**
	35.0	34.4	33.2	36.3	34.7	(31.0,38.5)	34.7	(30.9,38.6)	0.0	(-5.5,5.5)
16 to 18	**51.8**	**54.2**	**59.8**	**59.7**	**53.0**	**(48.3,57.6)**	**59.7**	**(55.8,63.6)**	**6.7**	***(1.3,12.2)**
	28.4	27.5	29.7	29.8	28.0	(24.8,31.4)	29.8	(26.8,32.9)	1.8	(-2.0,5.6)
14 to 18	**55.1**	**56.7**	**58.8**	**61.2**	**55.9**	**(52.6,59.1)**	**60.0**	**(56.9,63.0)**	**4.1**	***(0.4,7.9)**
	31.3	30.7	31.3	32.6	31.0	(28.6,33.5)	32.0	(29.7,34.4)	1.0	(-2.0,4.0)
12 to 18	**57.2**	**57.1**	**60.6**	**62.6**	**57.1**	**(54.4,59.8)**	**61.6**	**(58.6,64.5)**	**4.5**	***(1.3,7.7)**
	36.1	34.1	33.4	35.5	35.1	(33.1,37.1)	34.4	(32.6,36.4)	-0.6	(-3.2,1.9)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-9. Percent of parents[1] and their children who reported conversation[2] about people they know who have gotten in trouble with drugs in past 6 months, by age of child

Talking with children about drugs

	Percent reporting they had conversation about people they know who have gotten in trouble with drugs									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	**65.5**	**65.7**	**68.6**	**63.7**	**65.6**	**(62.6,68.4)**	**66.1**	**(62.1,69.9)**	**0.5**	**(-3.2,4.3)**
	44.5	45.2	42.3	37.8	44.9	(42.0,47.8)	40.1	(37.4,42.8)	-4.8	*(-8.7,-0.9)
14 to 15	**70.5**	**68.9**	**72.2**	**71.9**	**69.7**	**(65.2,73.8)**	**72.0**	**(67.5,76.1)**	**2.3**	**(-3.2,7.8)**
	53.4	49.0	47.4	48.1	51.1	(47.3,55.0)	47.7	(43.9,51.6)	-3.4	(-8.8,2.0)
16 to 18	**73.0**	**71.4**	**76.9**	**77.8**	**72.2**	**(67.4,76.6)**	**77.4**	**(73.8,80.6)**	**5.1**	**(-0.1,10.3)**
	52.9	55.2	55.1	53.4	54.0	(50.2,57.8)	54.2	(50.7,57.7)	0.2	(-4.2,4.5)
14 to 18	**71.9**	**70.2**	**74.6**	**75.2**	**71.1**	**(67.2,74.7)**	**74.9**	**(71.6,77.9)**	**3.8**	**(-0.4,8.0)**
	53.1	52.3	51.4	51.1	52.7	(49.9,55.5)	51.3	(48.5,54.1)	-1.4	(-4.8,2.0)
12 to 18	**70.0**	**68.9**	**72.8**	**71.8**	**69.4**	**(66.3,72.4)**	**72.3**	**(69.3,75.1)**	**2.9**	**(-0.4,6.1)**
	50.6	50.3	48.8	47.2	50.4	(48.1,52.8)	48.0	(45.7,50.3)	-2.5	(-5.4,0.5)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-10. Percent of parents[1] and their children who reported having two or more conversations[2] with their children/parents about drugs in past 6 months, by youth age, gender, race/ethnicity, risk score, and sensation seeking

Talking with children about drugs

	Percent reporting they had two or more conversations about drugs									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**80.3**	**78.2**	**81.3**	**81.3**	**79.3**	**(76.5,81.8)**	**81.3**	**(78.4,83.8)**	**2.0**	**(-0.9,5.0)**
	59.2	56.2	53.0	51.1	57.7	(54.6,60.8)	52.0	(49.3,54.7)	-5.7	*(-9.8,-1.7)
14 to 15	**81.7**	**79.3**	**82.1**	**86.3**	**80.5**	**(75.8,84.5)**	**84.1**	**(80.5,87.1)**	**3.6**	**(-1.7,8.9)**
	58.4	52.1	53.1	50.2	55.2	(51.2,59.2)	51.7	(48.1,55.3)	-3.5	(-8.6,1.7)
16 to 18	**78.2**	**79.9**	**83.3**	**81.9**	**79.1**	**(75.7,82.0)**	**82.6**	**(79.6,85.2)**	**3.5**	**(-0.6,7.6)**
	48.4	51.7	44.7	47.8	50.0	(46.4,53.7)	46.4	(42.8,50.0)	-3.7	(-8.6,1.2)
14 to 18	**79.8**	**79.7**	**82.7**	**83.8**	**79.7**	**(76.8,82.4)**	**83.3**	**(81.0,85.3)**	**3.5**	***(0.1,7.0)**
	52.8	51.9	48.7	48.9	52.4	(49.5,55.2)	48.8	(46.3,51.3)	-3.6	*(-6.7,-0.5)
12 to 18	**79.9**	**79.2**	**82.3**	**83.1**	**79.6**	**(77.0,81.9)**	**82.7**	**(80.7,84.5)**	**3.1**	***(0.5,5.7)**
	54.7	53.1	50.0	49.5	53.9	(51.6,56.2)	49.7	(47.8,51.7)	-4.2	*(-6.8,-1.5)

Table 6-10. Percent of parents[1] and their children who reported having two or more conversations[2] with their children/parents about drugs in past 6 months, by youth age, gender, race/ethnicity, risk score, and sensation seeking (continued)

Talking with children about drugs

	Percent reporting they had two or more conversations about drugs									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth aged 12 to 18										
Males	**81.7**	**81.6**	**81.4**	**84.2**	**81.7**	**(78.8,84.2)**	**82.8**	**(80.5,84.9)**	**1.2**	**(-1.5,3.9)**
	53.4	53.2	45.2	47.8	53.3	(50.5,56.1)	46.5	(43.8,49.2)	-6.8	*(-10.5,-3.2)
Females	**78.1**	**76.7**	**83.2**	**81.8**	**77.4**	**(74.1,80.3)**	**82.5**	**(79.9,84.9)**	**5.1**	***(1.2,9.1)**
	56.0	53.1	55.0	51.3	54.5	(51.4,57.7)	53.2	(50.1,56.2)	-1.4	(-5.1,2.4)
White	**79.3**	**80.9**	**82.0**	**84.4**	**80.1**	**(77.1,82.7)**	**83.2**	**(80.9,85.3)**	**3.1**	***(0.1,6.2)**
	53.7	52.3	50.1	48.0	53.0	(50.5,55.6)	49.0	(46.5,51.6)	-4.0	*(-7.1,-0.8)
African American	**79.8**	**79.6**	**80.4**	**80.3**	**79.7**	**(74.2,84.3)**	**80.4**	**(75.0,84.8)**	**0.6**	**(-5.0,6.3)**
	60.1	52.8	51.4	55.0	56.3	(50.3,62.2)	53.2	(47.4,59.0)	-3.1	(-10.7,4.5)
Hispanic	**83.2**	**76.1**	**88.3**	**81.2**	**79.6**	**(74.8,83.8)**	**84.8**	**(80.2,88.4)**	**5.1**	**(-1.0,11.2)**
	57.5	58.5	49.6	51.2	58.0	(52.5,63.3)	50.4	(45.4,55.4)	-7.6	*(-14.7,-0.4)
Risk score										
Higher risk	**78.8**	**84.0**	**83.8**	**83.7**	**81.3**	**(78.4,83.9)**	**83.8**	**(80.4,86.6)**	**2.5**	**(-1.6,6.6)**
	52.4	54.8	50.2	48.9	53.6	(49.9,57.2)	49.6	(46.1,53.0)	-4.0	(-9.1,1.1)
Lower risk	**80.6**	**76.6**	**81.3**	**82.8**	**78.5**	**(75.4,81.4)**	**82.1**	**(79.2,84.6)**	**3.5**	***(0.4,6.7)**
	58.0	51.4	50.8	51.1	54.6	(51.8,57.5)	50.9	(48.2,53.6)	-3.7	(-7.4,0.0)
Sensation seeking										
High	**80.9**	**81.7**	**83.6**	**82.9**	**81.3**	**(78.5,83.8)**	**83.3**	**(80.7,85.5)**	**2.0**	**(-1.1,5.1)**
	50.6	51.1	49.7	45.5	50.9	(48.1,53.6)	47.6	(44.6,50.8)	-3.2	(-6.8,0.4)
Low	**78.4**	**76.8**	**80.1**	**83.4**	**77.6**	**(73.7,81.1)**	**81.8**	**(78.4,84.8)**	**4.2**	***(0.7,7.7)**
	60.3	55.0	50.2	54.7	57.6	(54.1,61.0)	52.5	(49.8,55.2)	-5.1	*(-9.5,-0.7)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-11. Percent of parents[1] and their children who reported that parents know what child is doing when he or she is away from home[2], by age of child

Monitoring Children

	Percent saying they know what child is doing when s/he is away from home									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	**66.7**	**67.8**	**71.9**	**73.5**	**67.2**	**(64.3,70.0)**	**72.7**	**(70.1,75.2)**	**5.5**	***(1.8,9.2)**
	52.8	52.1	52.5	54.3	52.5	(49.5,55.5)	53.4	(50.5,56.3)	0.9	(-2.8,4.7)
14 to 15	**61.6**	**61.9**	**62.6**	**62.5**	**61.8**	**(58.2,65.2)**	**62.5**	**(58.9,66.0)**	**0.8**	**(-4.1,5.6)**
	47.9	45.6	48.3	50.3	46.7	(43.2,50.3)	49.3	(45.7,52.9)	2.5	(-2.0,7.1)
16 to 18	**48.9**	**53.1**	**52.1**	**55.4**	**51.0**	**(47.3,54.6)**	**53.8**	**(49.4,58.2)**	**2.8**	**(-2.6,8.2)**
	40.8	41.6	42.1	40.9	41.2	(38.1,44.3)	41.5	(37.7,45.4)	0.3	(-4.0,4.7)
14 to 18	**54.6**	**57.3**	**57.2**	**58.5**	**55.9**	**(53.3,58.6)**	**57.8**	**(54.6,61.0)**	**1.9**	**(-1.5,5.3)**
	43.9	43.4	45.0	45.0	43.7	(41.1,46.3)	45.0	(42.1,48.0)	1.3	(-2.0,4.6)
12 to 18	**58.1**	**60.4**	**61.5**	**62.9**	**59.3**	**(57.0,61.4)**	**62.2**	**(59.7,64.7)**	**3.0**	***(0.0,5.9)**
	46.5	46.0	47.2	47.7	46.2	(44.4,48.1)	47.5	(45.1,49.8)	1.2	(-1.2,3.7)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-12. Percent of parents[1] and their children who reported that parents know what child's plans are for the coming day[2], by age of child

Monitoring Children

	Percent saying they always or almost always know what child's plans are for the coming day									
	Parent perspective									
	Child perspective									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	**64.6**	**63.9**	**70.1**	**69.0**	**64.2**	**(61.3,67.0)**	**69.5**	**(66.6,72.3)**	**5.3**	***(1.7,8.9)**
	35.5	33.9	33.0	37.2	34.7	(31.7,37.8)	35.1	(32.2,38.2)	0.5	(-3.2,4.2)
14 to 15	**59.9**	**57.1**	**60.1**	**59.4**	**58.5**	**(54.2,62.6)**	**59.8**	**(55.5,63.9)**	**1.3**	**(-4.6,7.3)**
	32.6	30.5	31.8	33.2	31.5	(28.0,35.3)	32.5	(28.7,36.5)	0.9	(-3.8,5.7)
16 to 18	**48.4**	**51.5**	**51.6**	**51.8**	**49.9**	**(45.9,53.9)**	**51.7**	**(47.6,55.8)**	**1.8**	**(-3.8,7.5)**
	27.6	29.3	24.9	25.2	28.5	(25.0,32.2)	25.0	(21.4,29.0)	-3.4	(-7.8,0.9)
14 to 18	**53.6**	**54.2**	**55.8**	**55.1**	**53.9**	**(50.9,56.8)**	**55.5**	**(52.2,58.6)**	**1.6**	**(-2.3,5.5)**
	29.8	29.9	28.1	28.7	29.9	(26.9,32.9)	28.4	(25.7,31.2)	-1.4	(-4.4,1.6)
12 to 18	**56.8**	**57.0**	**60.0**	**59.2**	**56.9**	**(54.5,59.2)**	**59.6**	**(57.2,62.0)**	**2.7**	**(-0.2,5.6)**
	31.5	31.0	29.6	31.2	31.2	(28.8,33.8)	30.4	(28.2,32.7)	-0.9	(-3.5,1.8)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-13. Percent of parents[1] and their children who reported saying child never spends free time in the afternoons hanging out with friends without adult supervision[2], by age of child

Monitoring Children

	Percent saying they never spend unsupervised free time in the afternoons hanging out with friends									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	**33.8**	**33.4**	**40.7**	**35.0**	**33.6**	**(31.2,36.1)**	**37.8**	**(34.7,41.0)**	**4.2**	***(0.3,8.1)**
	15.2	16.6	21.2	19.1	15.9	(14.1,17.9)	20.2	(17.8,22.7)	4.2	*(1.2,7.2)
14 to 15	**28.6**	**25.0**	**22.8**	**23.8**	**26.8**	**(23.4,30.5)**	**23.3**	**(20.5,26.3)**	**-3.5**	**(-8.2,1.1)**
	7.9	8.7	5.3	7.5	8.3	(6.2,11.0)	6.3	(5.0,8.0)	-1.9	(-4.4,0.6)
16 to 18	**16.2**	**17.6**	**17.9**	**13.3**	**16.9**	**(14.2,19.9)**	**15.5**	**(12.6,18.9)**	**-1.4**	**(-5.0,2.2)**
	5.5	5.6	4.3	3.2	5.6	(4.1,7.5)	3.7	(2.6,5.4)	-1.8	(-3.7,0.1)
14 to 18	**21.8**	**21.1**	**20.3**	**17.9**	**21.4**	**(19.3,23.8)**	**19.1**	**(17.0,21.4)**	**-2.3**	**(-5.2,0.6)**
	6.6	7.0	4.8	5.1	6.8	(5.6,8.3)	4.9	(3.9,6.2)	-1.9	*(-3.2,-0.5)
12 to 18	**25.3**	**24.7**	**26.3**	**23.0**	**25.0**	**(23.4,26.7)**	**24.6**	**(22.7,26.6)**	**-0.4**	**(-2.6,1.9)**
	9.1	9.8	9.6	9.2	9.5	(8.4,10.6)	9.4	(8.3,10.6)	0.0	(-1.3,1.2)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-14. Percent of parents[1] who reported that they personally know child's friends very well[2], by age of child

Monitoring Children

	Percent saying they personally know child's friends very well									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
12 to 13	40.1	41.6	42.7	47.5	40.9	(38.0,43.8)	45.1	(42.5,47.8)	4.2	(-0.1,8.6)
14 to 15	36.5	33.6	31.8	37.7	35.0	(31.9,38.3)	34.6	(31.6,37.7)	-0.4	(-4.7,3.9)
16 to 18	31.6	33.6	29.7	38.8	32.6	(29.2,36.1)	34.5	(31.3,37.7)	1.9	(-2.6,6.4)
14 to 18	33.8	33.6	30.7	38.3	33.7	(31.4,36.1)	34.5	(32.3,36.8)	0.8	(-2.2,3.8)
12 to 18	35.6	36.0	34.2	41.0	35.8	(33.9,37.8)	37.7	(35.8,39.5)	1.8	(-0.8,4.5)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-15. Percent of parents[1] who reported that they require child to be home before midnight[2] on weekends, by age of child

Monitoring Children

	Percent saying they require child to be home before midnight									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	94.9	96.7	96.3	95.8	95.8	(94.2,97.0)	96.1	(93.0,97.8)	0.3	(-2.0,2.5)
14 to 15	93.7	96.5	95.7	93.5	95.1	(93.1,96.6)	94.6	(92.1,96.4)	-0.5	(-3.1,2.1)
16 to 18	83.2	86.5	84.8	82.7	84.8	(82.1,87.2)	83.7	(81.1,86.0)	-1.1	(-4.6,2.3)
14 to 18	88.0	91.2	90.1	87.5	89.6	(87.7,91.2)	88.8	(87.2,90.2)	-0.8	(-2.9,1.3)
12 to 18	90.0	92.8	92.0	89.9	91.4	(89.8,92.7)	90.9	(89.5,92.2)	-0.5	(-2.1,1.2)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-16. Parent[1] and youth reports of engaging in projects or activities with children[2] in past week, by youth age, gender, race/ethnicity, risk score, and sensation seeking

Engaging in fun family activities

	Percent saying they did projects or activities with child at home more than once in past week									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**69.1**	**69.5**	**68.4**	**70.3**	**69.3**	**(66.7,71.7)**	**69.3**	**(66.4,72.1)**	**0.0**	**(-3.6,3.7)**
	N/A	N/A	61.8	60.7	N/A	N/A	61.2	(58.6,63.8)	N/A	N/A
14 to 15	**63.7**	**62.8**	**55.1**	**61.7**	**63.2**	**(59.3,67.1)**	**58.2**	**(54.3,62.0)**	**-5.0**	**(-10.4,0.4)**
	N/A	N/A	52.3	52.1	N/A	N/A	52.2	(48.5,55.8)	N/A	N/A
16 to 18	**51.5**	**45.5**	**49.6**	**47.2**	**48.5**	**(44.1,53.0)**	**48.3**	**(44.6,52.1)**	**-0.2**	**(-6.3,6.0)**
	N/A	N/A	42.4	41.4	N/A	N/A	41.9	(38.5,45.3)	N/A	N/A
14 to 18	**57.0**	**53.6**	**52.3**	**53.6**	**55.3**	**(52.1,58.4)**	**52.9**	**(50.3,55.5)**	**-2.4**	**(-6.6,1.8)**
	N/A	N/A	47.0	46.1	N/A	N/A	46.5	(44.0,49.1)	N/A	N/A
12 to 18	**60.5**	**58.3**	**57.0**	**58.5**	**59.4**	**(56.8,62.0)**	**57.8**	**(55.7,59.8)**	**-1.6**	**(-4.9,1.6)**
	N/A	N/A	51.4	50.3	N/A	N/A	50.9	(49.0,52.7)	N/A	N/A

Table 6-16. Parent[1] and youth reports of engaging in projects or activities with children[2] in past week, by youth age, gender, race/ethnicity, risk score, and sensation seeking (continued)

Engaging in fun family activities

	Percent saying they did projects or activities with child at home more than once in past week									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth aged 12 to 18										
Males	**60.5**	**57.6**	**54.6**	**57.4**	**59.0**	**(55.7,62.3)**	**56.0**	**(52.9,59.0)**	**-3.1**	**(-7.9,1.7)**
	N/A	N/A	51.3	48.4	N/A	N/A	49.8	(46.9,52.7)	N/A	N/A
Females	**60.5**	**59.1**	**59.6**	**59.7**	**59.8**	**(56.7,62.9)**	**59.7**	**(56.2,63.0)**	**-0.1**	**(-4.0,3.8)**
	N/A	N/A	51.5	52.4	N/A	N/A	51.9	(49.8,54.1)	N/A	N/A
White	**62.3**	**59.0**	**57.9**	**61.8**	**60.6**	**(57.6,63.6)**	**59.9**	**(57.4,62.3)**	**-0.7**	**(-4.4,2.9)**
	N/A	N/A	51.2	51.4	N/A	N/A	51.3	(48.9,53.7)	N/A	N/A
African American	**61.6**	**57.5**	**54.4**	**49.7**	**59.5**	**(53.1,65.7)**	**52.0**	**(45.8,58.2)**	**-7.5**	**(-15.9,0.8)**
	N/A	N/A	54.0	49.9	N/A	N/A	51.9	(46.4,57.5)	N/A	N/A
Hispanic	**52.3**	**54.5**	**55.5**	**54.6**	**53.4**	**(47.3,59.5)**	**55.0**	**(48.7,61.2)**	**1.6**	**(-8.8,12.1)**
	N/A	N/A	51.6	46.8	N/A	N/A	49.2	(43.8,54.6)	N/A	N/A
Risk score										
Higher risk	**49.0**	**51.5**	**49.3**	**49.1**	**50.2**	**(46.2,54.1)**	**49.2**	**(45.9,52.5)**	**-1.0**	**(-6.2,4.2)**
	N/A	N/A	41.4	41.3	N/A	N/A	41.3	(37.8,45.0)	N/A	N/A
Lower risk	**67.8**	**62.0**	**62.4**	**64.4**	**64.8**	**(61.6,68.0)**	**63.4**	**(60.7,66.0)**	**-1.5**	**(-5.5,2.6)**
	N/A	N/A	58.9	56.5	N/A	N/A	57.7	(54.9,60.4)	N/A	N/A
Sensation seeking										
High	**56.8**	**56.4**	**53.1**	**56.5**	**56.6**	**(53.2,59.9)**	**54.7**	**(51.9,57.5)**	**-1.9**	**(-5.7,2.0)**
	N/A	N/A	45.5	44.4	N/A	N/A	44.9	(42.3,47.6)	N/A	N/A
Low	**64.3**	**60.2**	**62.1**	**60.8**	**62.2**	**(58.4,65.8)**	**61.4**	**(58.2,64.5)**	**-0.8**	**(-5.5,3.9)**
	N/A	N/A	59.7	58.1	N/A	N/A	58.9	(56.1,61.6)	N/A	N/A

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child beginning in Wave 3.

Table 6-17. Parent[1] and youth reports of going someplace for fun with children[2] in the past week, by youth age, gender, race/ethnicity, risk score, and sensation seeking

Engaging in fun family activities

	Percent saying they went someplace to do activity we both enjoy more than once in past week									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**58.4**	**62.4**	**55.5**	**63.4**	**60.4**	**(57.6,63.2)**	**59.5**	**(56.4,62.4)**	**-1.0**	**(-4.9,3.0)**
	N/A	N/A	55.4	57.1	N/A	N/A	56.3	(53.5,58.9)	N/A	N/A
14 to 15	**49.0**	**49.5**	**46.1**	**54.4**	**49.3**	**(45.1,53.5)**	**50.1**	**(46.7,53.4)**	**0.8**	**(-4.1,5.7)**
	N/A	N/A	46.1	49.8	N/A	N/A	47.9	(44.6,51.2)	N/A	N/A
16 to 18	**38.0**	**44.3**	**32.2**	**42.1**	**41.1**	**(36.8,45.6)**	**37.4**	**(33.6,41.3)**	**-3.7**	**(-9.4,1.9)**
	N/A	N/A	36.9	37.1	N/A	N/A	37.0	(33.7,40.4)	N/A	N/A
14 to 18	**43.0**	**46.7**	**39.0**	**47.5**	**44.9**	**(41.6,48.2)**	**43.2**	**(40.5,46.0)**	**-1.6**	**(-5.8,2.6)**
	N/A	N/A	41.2	42.6	N/A	N/A	41.9	(39.7,44.2)	N/A	N/A
12 to 18	**47.5**	**51.4**	**43.9**	**52.2**	**49.4**	**(46.9,52.0)**	**48.0**	**(45.7,50.4)**	**-1.4**	**(-4.8,2.0)**
	N/A	N/A	45.4	46.9	N/A	N/A	46.1	(44.4,47.9)	N/A	N/A

Table 6-17. Parent[1] and youth reports of going someplace for fun with children[2] in the past week, by youth age, gender, race/ethnicity, risk score, and sensation seeking (continued)

Engaging in fun family activities

	Percent saying they went someplace to do activity we both enjoy more than once in past week									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth aged 12 to 18										
Males	**46.1**	**46.4**	**40.3**	**50.3**	**46.2**	**(43.4,49.1)**	**45.3**	**(42.1,48.7)**	**-0.9**	**(-5.2,3.4)**
	N/A	N/A	42.6	43.9	N/A	N/A	43.3	(40.9,45.6)	N/A	N/A
Females	**49.0**	**56.7**	**47.6**	**54.1**	**52.8**	**(49.0,56.6)**	**50.9**	**(47.6,54.1)**	**-1.9**	**(-6.9,3.1)**
	N/A	N/A	48.4	50.0	N/A	N/A	49.2	(46.8,51.5)	N/A	N/A
White	**49.5**	**54.3**	**46.3**	**54.2**	**51.9**	**(48.7,55.1)**	**50.3**	**(47.0,53.5)**	**-1.6**	**(-6.3,3.0)**
	N/A	N/A	44.4	47.3	N/A	N/A	45.9	(43.5,48.2)	N/A	N/A
African American	**43.0**	**46.6**	**42.5**	**42.5**	**44.8**	**(39.4,50.4)**	**42.5**	**(38.5,46.6)**	**-2.4**	**(-8.9,4.1)**
	N/A	N/A	45.7	42.0	N/A	N/A	43.8	(38.4,49.3)	N/A	N/A
Hispanic	**42.0**	**41.7**	**37.0**	**53.0**	**41.9**	**(36.4,47.5)**	**45.1**	**(39.9,50.4)**	**3.2**	**(-4.3,10.7)**
	N/A	N/A	50.6	50.2	N/A	N/A	50.4	(44.9,55.9)	N/A	N/A
Risk score										
Higher risk	**36.4**	**44.2**	**34.0**	**41.2**	**40.1**	**(35.8,44.6)**	**37.6**	**(33.7,41.6)**	**-2.5**	**(-8.6,3.6)**
	N/A	N/A	33.7	35.5	N/A	N/A	34.6	(31.6,37.7)	N/A	N/A
Lower risk	**54.8**	**55.2**	**50.6**	**58.8**	**55.0**	**(52.1,57.8)**	**54.7**	**(51.9,57.5)**	**-0.3**	**(-4.2,3.7)**
	N/A	N/A	53.7	53.6	N/A	N/A	53.6	(51.2,56.0)	N/A	N/A
Sensation seeking										
High	**44.7**	**49.7**	**39.9**	**49.1**	**47.1**	**(43.6,50.7)**	**44.4**	**(41.5,47.4)**	**-2.7**	**(-7.1,1.6)**
	N/A	N/A	42.4	42.1	N/A	N/A	42.3	(40.0,44.6)	N/A	N/A
Low	**50.4**	**52.8**	**49.2**	**55.6**	**51.6**	**(48.6,54.7)**	**52.5**	**(49.3,55.7)**	**0.9**	**(-3.7,5.5)**
	N/A	N/A	49.1	52.6	N/A	N/A	50.9	(48.2,53.5)	N/A	N/A

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child beginning in Wave 3.

Table 6-18. Parents'[1] prior direct involvement by expressing views to family members to support opinions about drug use, by gender, race/ethnicity, education, and age of child(ren)

	Percent saying they expressed views to family members									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	91.0	91.2	92.4	90.2	91.1	(89.5,92.5)	91.3	(89.5,92.7)	0.2	(-1.6,1.9)
Males	91.5	90.8	95.3	89.8	91.2	(88.6,93.2)	92.6	(90.8,94.1)	1.5	(-1.4,4.3)
Females	90.7	91.6	90.5	90.4	91.1	(89.2,92.7)	90.4	(87.9,92.5)	-0.7	(-2.9,1.6)
White	91.8	92.6	93.0	92.7	92.2	(90.3,93.7)	92.8	(91.3,94.1)	0.6	(-1.2,2.5)
African American	90.2	94.4	93.6	86.5	92.4	(89.1,94.7)	90.0	(84.8,93.6)	-2.3	(-5.9,1.2)
Hispanic	89.9	82.8	89.5	80.7	86.3	(80.7,90.4)	84.9	(78.9,89.5)	-1.3	(-7.7,5.0)
Less than high school	85.7	84.5	91.6	83.1	85.1	(80.9,88.5)	87.2	(82.3,90.8)	2.1	(-3.5,7.6)
High school graduate	89.6	89.6	89.7	90.9	89.6	(85.9,92.4)	90.3	(87.4,92.6)	0.7	(-3.2,4.6)
Some college	93.5	95.5	96.0	91.5	94.6	(92.2,96.3)	93.6	(90.5,95.7)	-1.0	(-4.1,2.1)
College graduate	92.9	91.8	93.4	91.1	92.3	(89.8,94.3)	92.3	(89.7,94.3)	0.0	(-2.8,2.8)
One or more child(ren)[2] aged:										
12 to 13	90.3	90.4	92.9	88.7	90.4	(88.3,92.1)	90.9	(88.5,92.8)	0.5	(-1.8,2.8)
14 to 18	91.7	92.0	92.7	91.4	91.8	(90.1,93.3)	92.0	(90.1,93.6)	0.2	(-1.8,2.1)
12 to 18	91.0	91.2	92.4	90.2	91.1	(89.5,92.5)	91.3	(89.5,92.7)	0.2	(-1.6,1.9)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 6-19. Parents'[1] prior direct involvement by written letter to political official/newspaper to support opinions about drug use, by gender, race/ethnicity, education, and age of child(ren)

	Percent saying they have written letter to political official/newspaper									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	6.5	8.6	8.2	7.6	7.5	(6.3,9.0)	7.9	(6.7,9.3)	0.4	(-1.6,2.3)
Males	6.1	9.0	9.3	8.4	7.7	(5.5,10.6)	8.9	(6.7,11.6)	1.2	(-2.3,4.7)
Females	6.7	8.3	7.4	7.1	7.5	(6.0,9.3)	7.3	(6.0,8.7)	-0.2	(-2.2,1.8)
White	6.1	7.7	6.6	8.0	6.9	(5.5,8.6)	7.3	(6.0,8.9)	0.4	(-1.6,2.5)
African American	9.7	13.3	16.2	5.3	11.5	(7.9,16.5)	10.8	(6.9,16.3)	-0.8	(-7.3,5.8)
Hispanic	4.5	8.2	7.5	6.0	6.4	(3.6,11.3)	6.7	(4.0,11.1)	0.3	(-5.1,5.7)
Less than high school	4.0	12.1	8.7	4.1	8.0	(5.2,11.9)	6.3	(3.5,10.9)	-1.7	(-6.7,3.3)
High school graduate	6.5	5.7	7.6	6.1	6.2	(4.3,8.7)	6.8	(5.2,8.9)	0.7	(-2.4,3.8)
Some college	4.6	12.2	10.2	9.6	8.6	(6.2,11.8)	9.9	(7.6,12.9)	1.3	(-2.5,5.1)
College graduate	7.9	6.3	7.1	9.0	7.1	(5.5,9.1)	8.0	(5.7,11.3)	0.9	(-1.8,3.7)
One or more child(ren)[2] aged:										
12 to 13	5.7	6.4	8.5	6.4	6.0	(4.8,7.5)	7.4	(5.9,9.4)	1.4	(-0.4,3.2)
14 to 18	6.7	9.6	8.4	8.3	8.1	(6.5,10.1)	8.4	(6.8,10.2)	0.3	(-2.2,2.8)
12 to 18	6.5	8.6	8.2	7.6	7.5	(6.3,9.0)	7.9	(6.7,9.3)	0.4	(-1.6,2.3)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 6-20. Parents'[1] prior direct involvement by calling radio or TV call-in show to support opinions about drug use, by gender, race/ethnicity, education, and age of child(ren)

	Percent saying they called radio or TV call-in show									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	5.3	7.2	7.9	6.0	6.2	(5.1,7.6)	7.0	(5.7,8.5)	0.7	(-1.1,2.6)
Males	5.9	7.4	9.4	6.9	6.7	(4.8,9.2)	8.2	(6.2,10.8)	1.5	(-1.6,4.6)
Females	5.0	7.0	6.9	5.5	5.9	(4.6,7.5)	6.2	(4.8,7.9)	0.2	(-1.8,2.3)
White	4.2	5.2	5.3	4.9	4.7	(3.6,6.1)	5.1	(4.0,6.6)	0.4	(-1.1,2.0)
African American	12.5	14.0	21.7	12.6	13.3	(9.5,18.2)	17.2	(12.3,23.4)	3.9	(-3.5,11.3)
Hispanic	5.8	9.7	9.5	5.9	7.8	(5.2,11.5)	7.6	(4.6,12.3)	-0.2	(-5.1,4.7)
Less than high school	5.1	7.9	12.7	5.1	6.5	(4.1,10.0)	8.7	(5.1,14.5)	2.3	(-2.6,7.2)
High school graduate	6.4	7.0	5.0	7.2	6.7	(4.8,9.3)	6.1	(4.3,8.5)	-0.6	(-3.6,2.3)
Some college	6.1	9.9	12.8	8.1	8.1	(6.0,10.9)	10.2	(7.2,14.4)	2.1	(-2.3,6.5)
College graduate	2.8	4.1	5.5	2.8	3.4	(2.4,5.0)	4.2	(2.6,6.5)	0.7	(-1.4,2.8)
One or more child(ren)[2] aged:										
12 to 13	5.3	7.2	7.3	6.1	6.3	(5.0,7.9)	6.7	(5.3,8.4)	0.5	(-1.6,2.5)
14 to 18	4.8	7.2	8.0	6.3	6.0	(4.6,7.8)	7.1	(5.5,9.1)	1.1	(-1.3,3.5)
12 to 18	5.3	7.2	7.9	6.0	6.2	(5.1,7.6)	7.0	(5.7,8.5)	0.7	(-1.1,2.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 6-21. Parents'[1] prior direct involvement by attending meeting/rally to support opinions about drug use, by gender, race/ethnicity, education, and age of child(ren)

	Percent saying they attended meeting/rally in support of position									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	25.8	29.1	30.1	25.7	27.4	(25.1,29.9)	27.8	(25.1,30.7)	0.4	(-2.8,3.6)
Males	24.2	26.3	29.2	22.0	25.3	(21.9,29.1)	25.7	(21.8,30.1)	0.4	(-5.2,6.0)
Females	26.7	31.3	30.6	27.8	28.9	(26.1,31.8)	29.1	(26.1,32.4)	0.2	(-3.3,3.8)
White	24.2	26.7	27.3	24.9	25.4	(23.0,28.1)	26.1	(22.9,29.5)	0.6	(-2.8,4.1)
African American	31.7	43.6	52.1	35.8	37.8	(32.0,44.1)	44.0	(36.8,51.4)	6.1	(-3.1,15.4)
Hispanic	27.8	27.2	25.4	19.8	27.5	(21.5,34.5)	22.4	(16.6,29.6)	-5.0	(-14.3,4.2)
Less than high school	23.4	24.9	22.9	19.3	24.1	(19.7,29.1)	21.0	(15.9,27.2)	-3.1	(-10.4,4.3)
High school graduate	22.9	21.2	26.7	22.7	22.1	(18.3,26.4)	24.7	(21.6,28.2)	2.6	(-2.3,7.6)
Some college	27.5	35.2	36.1	31.2	31.6	(27.7,35.7)	33.5	(29.1,38.1)	1.9	(-2.5,6.3)
College graduate	27.9	33.5	31.7	26.4	30.6	(26.9,34.6)	29.1	(24.5,34.3)	-1.5	(-7.0,4.0)
One or more child(ren)[2] aged:										
12 to 13	25.6	26.8	27.0	28.6	26.2	(23.3,29.3)	27.8	(24.8,31.0)	1.6	(-2.0,5.2)
14 to 18	25.8	30.1	31.9	25.2	27.9	(25.3,30.6)	28.4	(25.3,31.7)	0.5	(-3.2,4.2)
12 to 18	25.8	29.1	30.1	25.7	27.4	(25.1,29.9)	27.8	(25.1,30.7)	0.4	(-2.8,3.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 6-22. Parents'[1] prior direct involvement by joining group actively working on issue to support opinions about drug use, by gender, race/ethnicity, education, and age of child(ren)

	Percent saying they joined group actively working on issue									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
Overall	13.1	13.8	15.1	12.8	13.5	(12.0,15.1)	14.0	(12.4,15.6)	0.5	(-1.7,2.6)
Males	11.2	13.6	17.9	11.1	12.4	(10.1,15.3)	14.6	(11.8,17.9)	2.2	(-2.1,6.5)
Females	14.3	14.1	13.2	13.8	14.2	(12.2,16.4)	13.5	(11.8,15.5)	-0.7	(-3.1,1.8)
White	11.7	11.8	12.8	12.2	11.8	(10.0,13.7)	12.5	(10.9,14.4)	0.8	(-1.4,2.9)
African American	15.9	23.6	31.7	16.5	19.9	(15.6,24.9)	24.1	(19.2,29.7)	4.2	(-3.4,11.8)
Hispanic	13.9	12.2	13.8	11.4	13.0	(9.0,18.6)	12.5	(8.7,17.7)	-0.5	(-7.1,6.1)
Less than high school	10.5	14.3	14.9	8.7	12.4	(9.0,16.7)	11.6	(8.0,16.7)	-0.7	(-6.7,5.2)
High school graduate	9.2	10.2	10.2	11.7	9.7	(7.7,12.1)	11.0	(8.5,14.0)	1.3	(-2.3,4.8)
Some college	12.9	14.8	18.7	13.4	13.9	(11.2,17.1)	15.8	(12.6,19.6)	1.9	(-2.0,5.9)
College graduate	19.7	17.1	18.4	15.5	18.4	(15.4,22.0)	17.0	(13.2,21.5)	-1.5	(-6.0,3.0)
One or more child(ren)[2] aged:										
12 to 13	11.9	12.1	12.6	12.8	12.0	(10.4,13.8)	12.7	(10.9,14.7)	0.7	(-1.9,3.3)
14 to 18	13.7	14.6	16.2	13.3	14.1	(12.1,16.4)	14.7	(12.7,16.9)	0.5	(-2.3,3.4)
12 to 18	13.1	13.8	15.1	12.8	13.5	(12.0,15.1)	14.0	(12.4,15.6)	0.5	(-1.7,2.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 6-23. Parents'[1] prior overall direct involvement in activities to support opinions about drug use, by gender, race/ethnicity, education, and age of child(ren)

	Summary scale of parent involvement in activities (0-5) (where higher scores represent more types of activities)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
Overall	1.41	1.50	1.54	1.42	1.46	(1.40,1.51)	1.48	(1.42,1.54)	0.02	(-0.05,0.09)
Males	1.39	1.47	1.61	1.38	1.43	(1.34,1.53)	1.50	(1.41,1.60)	0.07	(-0.08,0.21)
Females	1.43	1.52	1.49	1.45	1.47	(1.41,1.54)	1.47	(1.40,1.53)	-0.01	(-0.08,0.07)
White	1.38	1.44	1.45	1.43	1.41	(1.36,1.47)	1.44	(1.38,1.50)	0.03	(-0.04,0.10)
African American	1.59	1.89	2.15	1.57	1.75	(1.61,1.88)	1.86	(1.67,2.05)	0.12	(-0.12,0.35)
Hispanic	1.41	1.40	1.46	1.24	1.40	(1.26,1.55)	1.34	(1.17,1.51)	-0.06	(-0.30,0.18)
Less than high school	1.29	1.44	1.51	1.20	1.36	(1.24,1.47)	1.35	(1.19,1.51)	-0.01	(-0.21,0.19)
High school graduate	1.34	1.34	1.39	1.39	1.34	(1.24,1.45)	1.39	(1.32,1.46)	0.05	(-0.07,0.17)
Some college	1.45	1.68	1.74	1.54	1.57	(1.49,1.65)	1.63	(1.53,1.73)	0.06	(-0.04,0.16)
College graduate	1.51	1.53	1.56	1.45	1.52	(1.44,1.60)	1.51	(1.40,1.62)	-0.01	(-0.12,0.10)
One or more child(ren)[2] aged:										
12 to 13	1.38	1.43	1.49	1.43	1.41	(1.35,1.47)	1.46	(1.39,1.52)	0.05	(-0.02,0.12)
14 to 18	1.43	1.53	1.57	1.45	1.48	(1.42,1.54)	1.51	(1.44,1.58)	0.03	(-0.06,0.11)
12 to 18	1.41	1.50	1.54	1.42	1.46	(1.40,1.51)	1.48	(1.42,1.54)	0.02	(-0.05,0.09)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]Responses from parents with children in multiple rows are included in each relevant percentage.

Table 6-24. Percent of parents[1] and their children who reported having talked about anti-drug ads[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent reporting they talked about anti-drug ads with parent/child									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**52.9**	**49.3**	**54.0**	**55.3**	**51.1**	**(47.9,54.3)**	**54.6**	**(51.3,57.9)**	**3.5**	**(-1.1,8.2)**
	40.1	37.4	36.8	35.1	38.7	(36.1,41.3)	35.9	(33.3,38.6)	-2.8	(-6.6,1.0)
14 to 15	**50.7**	**52.7**	**46.0**	**53.6**	**51.7**	**(46.8,56.5)**	**49.7**	**(45.9,53.4)**	**-2.0**	**(-8.1,4.0)**
	30.8	30.0	28.5	27.4	30.4	(27.0,34.1)	28.0	(24.9,31.3)	-2.4	(-7.4,2.5)
16 to 18	**44.2**	**45.0**	**45.2**	**50.0**	**44.6**	**(40.5,48.7)**	**47.7**	**(44.0,51.5)**	**3.2**	**(-2.2,8.5)**
	21.2	16.3	20.0	22.4	18.7	(15.8,22.1)	21.2	(18.4,24.4)	2.5	(-2.0,7.0)
14 to 18	**47.1**	**48.6**	**45.6**	**51.6**	**47.9**	**(44.7,51.1)**	**48.6**	**(45.8,51.5)**	**0.7**	**(-3.1,4.6)**
	25.5	22.6	24.0	24.6	24.0	(22.0,26.2)	24.3	(22.0,26.8)	0.3	(-3.1,3.6)
12 to 18	**48.8**	**48.8**	**48.1**	**52.7**	**48.8**	**(46.3,51.4)**	**50.4**	**(47.9,52.9)**	**1.6**	**(-1.8,4.9)**
	29.6	26.8	27.7	27.7	28.2	(26.5,30.0)	27.7	(25.9,29.5)	-0.5	(-3.1,2.0)

Table 6-24. Percent of parents[1] and their children who reported having talked about anti-drug ads[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent reporting they talked about anti-drug ads with parent/child									
	Parent perspective									
	Child perspective									
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
Youth aged 12 to 18										
Males	**49.2**	**48.8**	**47.5**	**50.0**	**49.0**	**(45.5,52.5)**	**48.7**	**(45.6,51.9)**	**-0.3**	**(-4.7,4.2)**
	28.0	25.6	24.6	25.9	26.8	(24.6,29.2)	25.3	(23.0,27.7)	-1.6	(-5.3,2.2)
Females	**48.4**	**48.9**	**48.6**	**55.6**	**48.7**	**(45.1,52.2)**	**52.1**	**(49.1,55.2)**	**3.5**	**(-0.9,7.9)**
	31.2	28.1	30.8	29.6	29.6	(26.9,32.6)	30.2	(27.5,33.0)	0.5	(-3.4,4.4)
White	**46.7**	**47.7**	**46.0**	**51.6**	**47.2**	**(44.3,50.1)**	**48.8**	**(45.9,51.7)**	**1.6**	**(-2.2,5.5)**
	27.0	25.2	28.1	25.1	26.1	(24.1,28.2)	26.5	(24.5,28.7)	0.4	(-2.6,3.5)
African American	**52.4**	**49.5**	**57.3**	**58.7**	**50.9**	**(45.6,56.3)**	**58.0**	**(50.8,64.9)**	**7.1**	**(-1.0,15.1)**
	37.2	30.3	31.1	36.5	33.7	(28.8,39.1)	33.9	(28.9,39.4)	0.2	(-6.5,6.9)
Hispanic	**56.3**	**52.6**	**45.8**	**54.7**	**54.5**	**(47.4,61.4)**	**50.3**	**(43.4,57.2)**	**-4.1**	**(-13.1,4.9)**
	37.6	33.3	20.3	31.5	35.4	(31.0,40.1)	26.1	(22.5,30.1)	-9.3	*(-15.3,-3.3)
Risk score										
Higher risk	**43.3**	**50.6**	**47.8**	**50.7**	**46.8**	**(43.2,50.4)**	**49.3**	**(46.0,52.6)**	**2.5**	**(-2.1,7.0)**
	20.8	18.4	19.1	21.6	19.6	(16.9,22.7)	20.4	(17.5,23.5)	0.7	(-3.0,4.5)
Lower risk	**52.3**	**49.0**	**47.9**	**54.0**	**50.6**	**(47.2,54.0)**	**51.0**	**(47.9,54.0)**	**0.4**	**(-4.2,5.0)**
	37.4	30.9	32.8	32.5	34.1	(31.8,36.4)	32.6	(30.4,35.0)	-1.4	(-4.8,1.9)
Sensation seeking										
High	**47.2**	**49.1**	**47.0**	**52.0**	**48.1**	**(44.7,51.5)**	**49.4**	**(46.2,52.6)**	**1.3**	**(-2.9,5.5)**
	22.4	20.1	20.9	21.6	21.3	(19.2,23.6)	21.2	(18.9,23.7)	-0.1	(-3.1,3.0)
Low	**50.4**	**49.2**	**49.7**	**54.1**	**49.8**	**(46.2,53.4)**	**52.0**	**(48.4,55.6)**	**2.2**	**(-2.7,7.1)**
	39.3	34.6	37.4	35.3	36.9	(34.0,39.9)	36.3	(33.6,39.1)	-0.6	(-4.7,3.5)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table DT 6-25 has been intentionally deleted

Table 6-26. Parents'[1] feelings of self-efficacy to talk with children about drugs[2] if child asked questions about drug use in general, by age of child

	Percent saying they are very sure they could talk to child if…									
	Child asked questions about drug use in general									
Age of child	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
12 to 13	78.2	77.6	80.4	75.0	77.9	(74.2,81.2)	77.7	(73.2,81.7)	-0.2	(-3.5,3.2)
14 to 15	78.5	78.4	79.0	77.8	78.5	(73.2,83.0)	78.4	(73.7,82.6)	0.0	(-4.8,4.7)
16 to 18	75.3	77.3	76.2	70.6	76.2	(72.1,80.0)	73.2	(69.4,76.8)	-3.0	(-7.4,1.4)
14 to 18	76.7	77.8	77.6	73.8	77.3	(73.3,80.8)	75.6	(72.1,78.8)	-1.6	(-5.1,1.8)
12 to 18	77.2	77.7	78.4	74.1	77.5	(73.8,80.7)	76.3	(72.8,79.4)	-1.2	(-4.0,1.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.
[2]These questions were repeated separately for each sample child.

Table 6-27. Parents'[1] feelings of self-efficacy to talk with children about drugs[2] if child asked specific things to do to avoid drugs, by age of child

	Percent saying they are very sure they could talk to child if…									
	Child asked specific things to do to avoid drugs									
Age of child	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
12 to 13	73.6	73.7	76.3	70.1	73.6	(70.5,76.5)	73.2	(68.7,77.3)	-0.4	(-4.0,3.2)
14 to 15	75.5	74.3	73.5	73.9	74.9	(69.8,79.3)	73.7	(69.1,77.9)	-1.2	(-6.7,4.4)
16 to 18	72.4	71.3	72.2	71.2	71.9	(67.3,76.0)	71.6	(67.9,75.1)	-0.2	(-4.9,4.4)
14 to 18	73.8	72.7	72.8	72.4	73.2	(69.3,76.9)	72.6	(69.3,75.7)	-0.6	(-4.5,3.2)
12 to 18	73.7	73.0	73.9	71.7	73.4	(69.9,76.5)	72.8	(69.4,75.9)	-0.6	(-3.9,2.7)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.
[2]These questions were repeated separately for each sample child.

Table 6-28. Parents'[1] feelings of self-efficacy to talk with children about drugs[2] if child and parent were having conflicts about other things and relationship was tense, by age of child

	Percent saying they are very sure they could talk to child if…									
	Child and I were having conflicts about other things and relationship was tense									
Age of child	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	Average for Waves 1 and 2 (Year 2000) %	95% CI	Average for Waves 3 and 4 (Year 2001) %	95% CI	Change from Year 2000 to Year 2001 Est	95% CI
12 to 13	43.1	44.8	49.5	42.5	44.0	(40.7,47.3)	46.0	(41.8,50.2)	2.0	(-2.0,6.1)
14 to 15	41.2	40.9	43.4	46.4	41.0	(37.4,44.8)	44.9	(40.3,49.6)	3.8	(-1.6,9.2)
16 to 18	34.0	44.8	38.3	38.1	39.3	(35.5,43.2)	38.2	(34.1,42.4)	-1.1	(-6.5,4.3)
14 to 18	37.3	43.0	40.8	41.8	40.1	(37.2,43.1)	41.3	(37.7,44.9)	1.2	(-3.0,5.3)
12 to 18	39.0	43.5	43.4	42.0	41.2	(38.8,43.8)	42.7	(39.3,46.1)	1.4	(-2.1,5.0)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-29. Parents'[1] feelings of self-efficacy to talk with children about drugs[2] if child asked parent about their own past use of drugs, by age of child

	Percent saying they are very sure they could talk to child if… Child asked me about my own past use of drugs									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	64.3	66.1	64.7	61.8	65.2	(61.8,68.5)	63.2	(59.2,67.0)	-2.0	(-5.1,1.0)
14 to 15	66.8	70.2	67.1	66.3	68.6	(64.0,72.8)	66.7	(62.2,71.0)	-1.8	(-6.4,2.7)
16 to 18	67.0	71.1	63.9	65.2	69.0	(65.0,72.7)	64.6	(60.3,68.7)	-4.4	(-9.8,1.0)
14 to 18	66.9	70.7	65.5	65.7	68.8	(65.7,71.7)	65.6	(62.3,68.7)	-3.2	(-6.7,0.2)
12 to 18	66.2	69.3	65.2	64.5	67.7	(65.0,70.4)	64.9	(61.8,67.8)	-2.9	*(-5.4,-0.4)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-30. Parents'[1] feelings of self-efficacy to talk with children about drugs[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Parent feelings of self-efficacy to talk with children about drugs (-2 to +2) (where higher scores represent stronger self-efficacy)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	1.53	1.53	1.57	1.50	1.53	(1.49,1.57)	1.53	(1.48,1.59)	0.00	(-0.04,0.04)
14 to 15	1.51	1.53	1.55	1.55	1.52	(1.47,1.58)	1.55	(1.49,1.60)	0.03	(-0.03,0.08)
16 to 18	1.49	1.55	1.49	1.47	1.52	(1.47,1.56)	1.48	(1.43,1.52)	-0.04	(-0.10,0.02)
14 to 18	1.50	1.54	1.51	1.51	1.52	(1.48,1.56)	1.51	(1.47,1.55)	-0.01	(-0.05,0.03)
12 to 18	1.51	1.54	1.53	1.50	1.52	(1.49,1.56)	1.52	(1.48,1.56)	-0.01	(-0.04,0.03)
Youth aged 12 to 18										
Males	1.50	1.52	1.52	1.48	1.51	(1.47,1.54)	1.50	(1.46,1.55)	-0.01	(-0.06,0.04)
Females	1.53	1.55	1.54	1.53	1.54	(1.50,1.58)	1.53	(1.49,1.58)	-0.01	(-0.04,0.03)
White	1.52	1.54	1.56	1.50	1.53	(1.49,1.57)	1.53	(1.49,1.57)	0.00	(-0.04,0.04)
African American	1.55	1.58	1.53	1.54	1.56	(1.47,1.65)	1.53	(1.41,1.66)	-0.03	(-0.12,0.06)
Hispanic	1.45	1.51	1.40	1.49	1.48	(1.42,1.54)	1.45	(1.36,1.53)	-0.04	(-0.14,0.07)
Risk score										
Higher risk	1.46	1.54	1.50	1.48	1.50	(1.45,1.55)	1.49	(1.45,1.53)	-0.01	(-0.06,0.04)
Lower risk	1.55	1.54	1.56	1.54	1.54	(1.50,1.58)	1.55	(1.49,1.60)	0.00	(-0.04,0.04)
Sensation seeking										
High	1.50	1.53	1.56	1.50	1.51	(1.48,1.54)	1.53	(1.49,1.57)	0.02	(-0.03,0.07)
Low	1.52	1.56	1.50	1.52	1.54	(1.48,1.60)	1.51	(1.45,1.57)	-0.03	(-0.08,0.01)

[1] All parents and caregivers of youth aged 12 to 18 who live with their children.

[2] These questions were repeated separately for each sample child.

Table 6-31. Parents'[1] general attitude toward discussing drugs[2] with children, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Parents' general attitude toward discussing drugs with children (1 to 7) (where higher scores represent more positive attitudes)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	6.33	6.26	6.33	6.30	6.29	(6.25,6.34)	6.31	(6.26,6.36)	0.02	(-0.05,0.09)
14 to 15	6.21	6.19	6.20	6.30	6.20	(6.12,6.28)	6.25	(6.19,6.31)	0.05	(-0.06,0.16)
16 to 18	5.99	6.08	6.16	6.11	6.03	(5.96,6.10)	6.13	(6.07,6.20)	0.10	*(0.01,0.19)
14 to 18	6.09	6.13	6.18	6.19	6.11	(6.06,6.16)	6.19	(6.14,6.23)	0.07	*(0.00,0.14)
12 to 18	6.16	6.17	6.22	6.22	6.16	(6.13,6.20)	6.22	(6.19,6.26)	0.06	*(0.01,0.11)
Youth aged 12 to 18										
Males	6.12	6.18	6.23	6.18	6.15	(6.10,6.20)	6.21	(6.16,6.26)	0.06	(-0.01,0.13)
Females	6.20	6.16	6.21	6.27	6.18	(6.12,6.24)	6.24	(6.18,6.29)	0.06	(-0.02,0.14)
White	6.08	6.10	6.14	6.11	6.09	(6.04,6.13)	6.12	(6.08,6.17)	0.04	(-0.02,0.09)
African American	6.44	6.36	6.46	6.41	6.40	(6.30,6.50)	6.43	(6.32,6.55)	0.04	(-0.11,0.18)
Hispanic	6.34	6.41	6.37	6.54	6.38	(6.27,6.48)	6.46	(6.36,6.55)	0.08	(-0.04,0.21)
Risk score										
Higher risk	5.99	6.07	6.10	6.15	6.03	(5.97,6.09)	6.13	(6.06,6.19)	0.10	*(0.01,0.18)
Lower risk	6.28	6.22	6.31	6.28	6.25	(6.20,6.30)	6.29	(6.25,6.34)	0.04	(-0.02,0.10)
Sensation seeking										
High	6.05	6.11	6.16	6.17	6.08	(6.03,6.13)	6.16	(6.12,6.21)	0.08	*(0.02,0.15)
Low	6.29	6.24	6.32	6.30	6.26	(6.20,6.33)	6.31	(6.26,6.36)	0.05	(-0.04,0.13)

[1] All parents and caregivers of youth aged 12 to 18 who live with their children.

[2] These questions were repeated separately for each sample child.

Table 6-32. Parents'[1] perceived social expectations for talking with children about drugs[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying that others think parent definitely should talk with children about drugs									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	62.6	59.6	64.9	63.0	61.1	(57.7,64.5)	64.0	(61.1,66.8)	2.8	(-0.8,6.5)
14 to 15	65.7	69.4	65.6	66.4	67.6	(62.9,71.9)	66.0	(61.0,70.6)	-1.6	(-7.6,4.4)
16 to 18	57.9	62.5	65.9	58.8	60.2	(56.1,64.1)	62.2	(58.5,65.7)	2.0	(-3.0,7.0)
14 to 18	61.5	65.7	65.7	62.2	63.6	(60.2,66.8)	63.9	(60.8,67.0)	0.4	(-3.1,3.8)
12 to 18	61.8	63.9	65.5	62.4	62.8	(60.0,65.6)	63.9	(61.3,66.5)	1.1	(-1.6,3.8)
Youth aged 12 to 18										
Males	62.6	64.4	66.2	61.6	63.5	(60.0,66.9)	63.9	(60.6,67.0)	0.4	(-4.2,4.9)
Females	60.9	63.4	64.8	63.3	62.2	(58.3,65.9)	64.0	(60.5,67.4)	1.9	(-1.5,5.3)
White	59.3	61.1	64.7	59.8	60.2	(57.1,63.2)	62.2	(59.3,65.0)	2.0	(-1.5,5.5)
African American	70.7	73.1	70.7	67.8	71.9	(65.0,77.9)	69.2	(60.7,76.6)	-2.7	(-9.6,4.2)
Hispanic	68.7	68.7	64.5	67.9	68.7	(62.6,74.2)	66.2	(60.9,71.2)	-2.5	(-10.1,5.2)
Risk score										
Higher risk	59.5	60.8	63.6	60.1	60.1	(56.1,64.0)	61.8	(57.6,65.9)	1.7	(-3.2,6.6)
Lower risk	64.1	65.0	67.6	64.4	64.5	(61.3,67.6)	66.0	(62.7,69.2)	1.5	(-1.8,4.8)
Sensation seeking										
High	61.4	62.8	66.6	62.2	62.1	(58.9,65.2)	64.5	(61.0,67.7)	2.4	(-1.6,6.3)
Low	62.3	64.3	64.7	63.0	63.3	(58.4,68.0)	63.8	(60.2,67.3)	0.5	(-3.5,4.4)

[1] All parents and caregivers of youth aged 12 to 18 who live with their children.

[2] These questions were repeated separately for each sample child.

Table 6-33. Youth perceptions of difficulty of talking with parents[1] about drugs[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent saying it would be very easy to talk with parents about drugs									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	16.3	19.6	18.1	16.5	18.0	(16.1,20.0)	17.3	(15.1,19.8)	-0.7	(-3.4,2.1)
14 to 15	14.6	19.0	13.1	15.6	16.9	(13.8,20.4)	14.3	(12.0,16.9)	-2.6	(-6.7,1.5)
16 to 18	20.9	21.2	15.3	20.1	21.1	(18.2,24.2)	17.8	(15.0,21.0)	-3.3	(-6.6,0.1)
14 to 18	18.1	20.2	14.3	18.2	19.2	(16.9,21.7)	16.2	(14.3,18.3)	-2.9	*(-5.4,-0.5)
12 to 18	17.6	20.0	15.4	17.7	18.8	(17.1,20.7)	16.5	(14.9,18.3)	-2.3	*(-4.1,-0.5)
Youth aged 12 to 18										
Males	16.2	22.6	14.6	17.4	19.5	(17.0,22.1)	16.0	(14.1,18.2)	-3.4	*(-6.3,-0.6)
Females	19.0	17.3	16.2	17.9	18.1	(16.0,20.5)	17.1	(14.9,19.5)	-1.1	(-3.6,1.4)
White	16.4	18.9	12.4	16.9	17.6	(15.5,19.9)	14.6	(12.7,16.9)	-3.0	*(-5.4,-0.5)
African American	20.7	28.6	22.0	24.2	24.8	(20.1,30.1)	23.1	(18.8,28.1)	-1.6	(-6.6,3.4)
Hispanic	22.4	19.6	21.7	16.6	21.0	(17.2,25.4)	19.1	(15.0,24.1)	-1.8	(-6.8,3.1)
Risk score										
Higher risk	18.2	21.7	11.9	17.3	19.8	(16.6,23.5)	14.6	(12.5,17.0)	-5.2	*(-8.4,-2.0)
Lower risk	16.9	18.1	17.3	17.9	17.5	(15.3,20.0)	17.6	(15.7,19.6)	0.0	(-2.6,2.6)
Sensation seeking										
High	15.2	15.6	11.0	13.5	15.4	(13.0,18.2)	12.2	(10.4,14.4)	-3.2	*(-5.8,-0.5)
Low	21.0	24.3	21.2	23.1	22.7	(20.2,25.4)	22.2	(20.1,24.5)	-0.6	(-3.2,2.1)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-34. Parent[1] intentions to talk to child about family rules about using drugs[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents reporting strong intentions to talk to child about family rules about using drugs									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	54.0	55.4	55.7	55.6	54.7	(51.4,58.1)	55.6	(52.8,58.4)	0.9	(-2.6,4.4)
14 to 15	51.7	57.5	51.6	56.0	54.6	(50.3,58.9)	53.7	(50.1,57.3)	-1.0	(-5.9,4.0)
16 to 18	43.3	46.2	45.6	51.8	44.7	(40.4,49.2)	48.9	(45.0,52.7)	4.1	(-1.1,9.3)
14 to 18	47.1	51.5	48.5	53.7	49.3	(46.2,52.4)	51.1	(48.3,53.9)	1.8	(-1.8,5.4)
12 to 18	49.1	52.7	50.6	54.2	50.9	(48.2,53.5)	52.4	(50.1,54.8)	1.5	(-1.3,4.4)
Youth aged 12 to 18										
Males	49.3	55.1	48.5	55.1	52.2	(49.1,55.3)	51.8	(48.7,54.9)	-0.4	(-4.8,4.1)
Females	49.0	50.1	52.9	53.3	49.5	(45.4,53.7)	53.1	(49.8,56.4)	3.6	(-0.6,7.7)
White	44.3	49.1	45.6	51.0	46.7	(43.4,50.0)	48.3	(45.9,50.8)	1.6	(-2.2,5.5)
African American	61.4	58.2	64.0	58.4	59.7	(53.3,65.8)	61.2	(53.1,68.7)	1.4	(-6.3,9.2)
Hispanic	59.7	62.6	59.4	64.7	61.1	(54.7,67.2)	62.1	(55.6,68.1)	1.0	(-5.8,7.7)
Risk score										
Higher risk	46.0	52.3	48.5	54.0	49.0	(45.2,52.7)	51.3	(47.7,54.8)	2.3	(-2.4,7.0)
Lower risk	51.3	53.0	52.3	55.3	52.1	(48.8,55.5)	53.8	(50.8,56.8)	1.7	(-1.7,5.0)
Sensation seeking										
High	48.8	53.2	49.3	53.7	51.0	(48.1,53.8)	51.5	(48.6,54.3)	0.5	(-3.3,4.3)
Low	49.6	51.9	52.2	55.8	50.8	(46.2,55.3)	54.1	(50.8,57.3)	3.3	(-1.0,7.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-35. Parent[1] intentions to talk to child about specific things their child can do to stay away from drugs[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents reporting strong intentions to talk about specific things their child can do to stay away from drugs									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	50.2	52.8	55.5	52.2	51.5	(48.1,55.0)	53.9	(51.2,56.5)	2.3	(-1.6,6.2)
14 to 15	47.7	54.1	47.4	53.3	50.9	(46.2,55.6)	50.2	(46.5,53.8)	-0.7	(-5.6,4.1)
16 to 18	35.6	39.3	39.3	43.9	37.4	(34.0,41.0)	41.7	(38.4,45.1)	4.3	(-0.5,9.1)
14 to 18	41.1	46.2	43.2	48.0	43.6	(40.5,46.8)	45.6	(43.1,48.2)	2.0	(-1.4,5.4)
12 to 18	43.7	48.2	46.8	49.3	46.0	(43.3,48.7)	48.1	(46.0,50.2)	2.1	(-0.6,4.8)
Youth aged 12 to 18										
Males	43.6	47.3	42.9	50.0	45.5	(42.4,48.6)	46.5	(43.7,49.2)	1.0	(-3.2,5.2)
Females	43.9	49.1	51.0	48.5	46.5	(42.5,50.5)	49.7	(46.4,53.1)	3.3	(-0.5,7.0)
White	38.0	42.5	40.3	44.2	40.2	(37.0,43.6)	42.3	(40.1,44.5)	2.0	(-1.6,5.7)
African American	55.4	56.3	62.4	58.4	55.9	(49.6,61.9)	60.4	(53.6,66.8)	4.5	(-2.5,11.6)
Hispanic	59.6	64.1	56.1	63.2	61.9	(56.2,67.2)	59.7	(54.4,64.8)	-2.1	(-9.4,5.1)
Risk score										
Higher risk	38.1	44.2	41.1	44.5	41.0	(37.4,44.8)	42.8	(39.6,46.0)	1.8	(-3.0,6.6)
Lower risk	47.3	50.7	50.7	52.7	49.1	(45.8,52.4)	51.7	(48.8,54.6)	2.6	(-0.7,5.9)
Sensation seeking										
High	39.9	45.3	43.9	46.8	42.5	(39.5,45.6)	45.3	(42.9,47.7)	2.8	(-1.1,6.7)
Low	48.4	51.2	50.7	52.9	49.8	(45.6,54.1)	51.8	(48.6,55.0)	2.0	(-2.2,6.2)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-36. Parent[1] intentions to talk to child about drug use in movies, music, and on TV[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents reporting strong intentions to talk about drug use in movies, music, and on TV									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	38.5	39.4	45.0	38.9	38.9	(36.0,42.0)	41.9	(38.6,45.3)	3.0	(-0.5,6.5)
14 to 15	37.4	38.7	33.3	37.9	38.0	(33.7,42.5)	35.5	(32.1,39.0)	-2.6	(-7.7,2.6)
16 to 18	25.7	23.7	30.8	30.1	24.7	(21.5,28.3)	30.4	(27.1,34.0)	5.7	*(1.3,10.1)
14 to 18	30.9	30.7	32.0	33.5	30.8	(27.9,34.0)	32.8	(30.2,35.4)	1.9	(-1.6,5.4)
12 to 18	33.1	33.3	35.9	35.1	33.2	(30.8,35.7)	35.5	(33.1,37.9)	2.3	(-0.4,4.9)
Youth aged 12 to 18										
Males	33.5	30.8	34.6	34.7	32.2	(29.4,35.0)	34.6	(31.6,37.8)	2.5	(-1.6,6.6)
Females	32.7	36.0	37.2	35.5	34.3	(30.8,38.1)	36.4	(33.3,39.6)	2.0	(-2.0,6.1)
White	28.4	29.7	29.8	31.4	29.0	(26.1,32.2)	30.6	(28.3,33.1)	1.6	(-2.0,5.2)
African American	42.8	33.7	54.0	41.9	38.2	(31.8,44.9)	47.8	(39.9,55.9)	9.7	*(2.3,17.0)
Hispanic	45.3	43.8	42.2	44.0	44.6	(39.3,49.9)	43.1	(37.0,49.4)	-1.5	(-9.4,6.5)
Risk score										
Higher risk	26.9	26.9	28.2	28.2	26.9	(23.9,30.0)	28.2	(24.8,32.0)	1.3	(-3.1,5.8)
Lower risk	36.9	37.7	41.4	39.4	37.3	(34.1,40.6)	40.4	(37.2,43.7)	3.1	(-0.6,6.9)
Sensation seeking										
High	30.3	31.0	32.8	32.5	30.6	(28.0,33.3)	32.6	(29.8,35.6)	2.0	(-1.6,5.5)
Low	36.3	36.5	40.2	38.5	36.4	(32.5,40.5)	39.3	(35.7,43.1)	2.9	(-1.6,7.3)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-37. Parent[1] intentions to talk to child about people they know who have gotten into trouble with drugs[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents reporting they are very likely to talk about people they know who have gotten into trouble with drugs									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	40.9	42.3	44.1	42.4	41.6	(38.6,44.6)	43.3	(39.7,46.9)	1.7	(-2.3,5.7)
14 to 15	44.8	46.9	39.1	44.5	45.9	(40.9,51.0)	41.7	(37.5,45.9)	-4.2	(-9.4,1.0)
16 to 18	37.7	37.6	44.5	41.8	37.7	(33.8,41.7)	43.1	(38.9,47.4)	5.4	*(0.2,10.6)
14 to 18	40.9	42.0	41.9	43.0	41.4	(37.9,45.1)	42.4	(39.0,45.9)	1.0	(-3.1,5.1)
12 to 18	40.9	42.1	42.6	42.8	41.5	(38.5,44.5)	42.7	(39.6,45.8)	1.2	(-2.1,4.5)
Youth aged 12 to 18										
Males	40.8	41.0	41.9	42.4	40.9	(37.7,44.2)	42.1	(38.2,46.1)	1.2	(-3.7,6.1)
Females	41.0	43.2	43.3	43.3	42.1	(38.3,46.0)	43.3	(39.4,47.3)	1.2	(-2.7,5.1)
White	40.2	40.7	42.4	42.0	40.5	(37.0,44.0)	42.2	(39.0,45.5)	1.8	(-2.8,6.3)
African American	43.4	47.7	50.1	46.3	45.6	(39.2,52.1)	48.2	(39.2,57.3)	2.6	(-5.4,10.6)
Hispanic	42.7	44.2	36.2	42.1	43.4	(37.1,50.0)	39.2	(33.8,44.8)	-4.3	(-12.4,3.9)
Risk score										
Higher risk	40.4	43.2	47.8	42.5	41.8	(37.8,45.8)	45.2	(41.1,49.3)	3.4	(-1.9,8.7)
Lower risk	40.8	41.5	39.7	43.2	41.2	(37.8,44.7)	41.5	(38.0,45.0)	0.3	(-3.6,4.1)
Sensation seeking										
High	41.3	43.2	41.8	41.3	42.2	(39.4,45.1)	41.6	(38.3,45.0)	-0.6	(-4.5,3.2)
Low	40.1	41.5	43.2	44.5	40.8	(36.4,45.4)	43.9	(39.5,48.3)	3.1	(-2.1,8.2)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-38. Summary scale of parent[1] intentions to talk to child about drugs[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Summary scale of intentions to talk about drugs									
	Parents reporting they are very likely to talk (-2 to +2) (where higher scores represent stronger intentions to talk)									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	Mean	Mean	Mean	Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	1.15	1.15	1.19	1.14	1.15	(1.09,1.20)	1.17	(1.11,1.22)	0.02	(-0.04,0.08)
14 to 15	1.13	1.21	1.07	1.19	1.17	(1.10,1.24)	1.13	(1.07,1.19)	-0.05	(-0.12,0.03)
16 to 18	0.91	0.89	1.00	1.03	0.90	(0.83,0.97)	1.01	(0.95,1.08)	0.11	*(0.03,0.20)
14 to 18	1.01	1.04	1.03	1.10	1.03	(0.98,1.08)	1.07	(1.02,1.12)	0.04	(-0.02,0.10)
12 to 18	1.05	1.07	1.08	1.11	1.06	(1.02,1.10)	1.10	(1.05,1.14)	0.04	(-0.01,0.08)
Youth aged 12 to 18										
Males	1.03	1.10	1.06	1.15	1.06	(1.01,1.12)	1.11	(1.05,1.16)	0.04	(-0.03,0.12)
Females	1.07	1.04	1.09	1.08	1.06	(0.99,1.12)	1.09	(1.02,1.15)	0.03	(-0.04,0.10)
White	1.02	1.02	1.05	1.10	1.02	(0.97,1.07)	1.08	(1.04,1.12)	0.06	(0.00,0.12)
African American	1.19	1.21	1.33	1.09	1.20	(1.12,1.28)	1.21	(1.07,1.34)	0.00	(-0.13,0.14)
Hispanic	1.11	1.20	0.93	1.19	1.16	(1.05,1.26)	1.06	(0.94,1.19)	-0.09	(-0.25,0.06)
Risk score										
Higher risk	0.97	1.04	1.02	1.07	1.00	(0.95,1.06)	1.04	(0.98,1.11)	0.04	(-0.03,0.12)
Lower risk	1.10	1.09	1.12	1.15	1.10	(1.04,1.15)	1.13	(1.08,1.19)	0.04	(-0.02,0.09)
Sensation seeking										
High	1.04	1.08	1.02	1.11	1.06	(1.02,1.10)	1.06	(1.01,1.11)	0.00	(-0.05,0.06)
Low	1.05	1.06	1.15	1.13	1.06	(0.99,1.13)	1.14	(1.08,1.20)	0.08	*(0.01,0.15)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-39. Specific belief that parental[1] monitoring[2] will make it more likely that their child will do well in school, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents holding strong belief that parental monitoring will make it more likely that their child will do well in school									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	63.0	61.3	65.2	65.8	62.1	(59.5,64.6)	65.5	(62.5,68.4)	3.4	(0.0,6.8)
14 to 15	57.1	55.3	51.6	58.9	56.2	(52.2,60.1)	55.0	(51.4,58.7)	-1.2	(-5.7,3.4)
16 to 18	41.8	46.6	46.8	46.7	44.2	(40.5,48.0)	46.8	(43.2,50.4)	2.6	(-2.5,7.6)
14 to 18	48.8	50.7	49.1	52.1	49.8	(46.7,52.8)	50.6	(47.9,53.3)	0.8	(-2.5,4.2)
12 to 18	53.0	53.9	53.9	56.2	53.4	(51.1,55.7)	55.0	(52.8,57.2)	1.6	(-0.9,4.1)
Youth aged 12 to 18										
Males	50.5	54.4	51.2	56.6	52.5	(49.1,55.8)	53.9	(50.7,57.1)	1.4	(-2.7,5.6)
Females	55.5	53.3	56.8	55.6	54.4	(51.4,57.3)	56.2	(53.0,59.3)	1.8	(-1.6,5.2)
White	53.7	54.9	54.8	55.9	54.3	(51.3,57.2)	55.3	(52.8,57.9)	1.1	(-2.1,4.3)
African American	53.4	48.0	54.5	57.7	50.5	(43.7,57.3)	56.1	(50.8,61.4)	5.6	(-2.3,13.5)
Hispanic	48.5	56.5	47.7	55.7	52.6	(45.9,59.2)	51.7	(46.3,57.1)	-0.9	(-8.7,6.9)
Risk score										
Higher risk	43.0	43.9	43.2	46.1	43.4	(39.2,47.7)	44.6	(41.1,48.2)	1.2	(-3.5,5.9)
Lower risk	59.6	60.3	61.4	62.9	59.9	(57.2,62.5)	62.2	(59.5,64.7)	2.2	(-0.5,5.0)
Sensation seeking										
High	51.1	52.6	51.4	53.6	51.8	(48.5,55.2)	52.5	(49.5,55.4)	0.6	(-2.9,4.2)
Low	54.4	55.4	57.8	59.7	54.9	(51.7,58.1)	58.8	(55.9,61.6)	3.9	*(0.4,7.4)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-40. Specific belief that parental[1] monitoring[2] will make parent feel that they are doing their job as a parent, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents holding strong belief that parental monitoring will make them feel they are doing their job as a parent									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	57.5	55.7	58.3	58.5	56.5	(53.9,59.2)	58.4	(55.7,61.0)	1.8	(-1.5,5.1)
14 to 15	51.3	51.6	51.6	54.8	51.5	(47.7,55.3)	53.1	(49.1,57.1)	1.6	(-3.9,7.1)
16 to 18	39.4	46.9	40.2	47.5	43.2	(39.6,46.8)	44.0	(40.1,48.0)	0.9	(-4.3,6.0)
14 to 18	44.8	49.1	45.8	50.7	47.0	(44.7,49.4)	48.2	(45.1,51.4)	1.2	(-2.5,4.9)
12 to 18	48.5	51.1	49.5	53.0	49.8	(47.9,51.7)	51.2	(48.8,53.7)	1.4	(-1.6,4.5)
Youth aged 12 to 18										
Males	46.2	51.5	45.8	51.8	48.9	(45.9,52.0)	48.8	(46.0,51.7)	-0.1	(-4.0,3.8)
Females	50.9	50.6	53.3	54.2	50.8	(48.0,53.5)	53.8	(50.0,57.5)	3.0	(-0.9,6.9)
White	47.8	49.5	48.6	49.2	48.6	(46.3,50.9)	48.9	(46.1,51.7)	0.2	(-3.4,3.9)
African American	49.6	55.7	53.6	61.8	52.8	(47.3,58.3)	57.8	(52.1,63.2)	4.9	(-3.0,12.8)
Hispanic	50.7	53.9	46.3	59.2	52.3	(46.2,58.4)	52.8	(47.6,58.0)	0.5	(-6.6,7.6)
Risk score										
Higher risk	43.4	43.7	41.4	46.5	43.6	(40.0,47.2)	43.9	(40.1,47.8)	0.4	(-4.3,5.0)
Lower risk	52.5	55.5	54.8	57.4	54.1	(51.3,56.9)	56.1	(53.2,59.0)	2.0	(-1.6,5.6)
Sensation seeking										
High	47.0	49.5	47.3	51.0	48.2	(45.3,51.2)	49.1	(45.8,52.4)	0.9	(-3.7,5.4)
Low	50.4	52.9	51.7	56.0	51.7	(49.2,54.3)	53.9	(50.8,57.0)	2.2	(-1.1,5.4)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.
[2]These questions were repeated separately for each sample child.

Table 6-41. Specific belief that parental[1] monitoring[2] will make it less likely that their child will try any drug, even once or twice, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents holding strong belief that parental monitoring will make it less likely that their child will try any drug, even once or twice									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	48.5	48.9	51.8	55.0	48.7	(45.7,51.7)	53.4	(50.2,56.6)	4.7	*(0.3,9.1)
14 to 15	41.0	42.2	42.0	46.0	41.6	(37.7,45.6)	43.9	(40.3,47.6)	2.3	(-3.0,7.7)
16 to 18	36.6	31.8	32.1	37.7	34.2	(30.9,37.6)	35.0	(31.9,38.2)	0.8	(-4.1,5.7)
14 to 18	38.6	36.7	36.9	41.3	37.6	(35.2,40.0)	39.1	(36.7,41.6)	1.5	(-1.8,4.8)
12 to 18	41.5	40.3	41.3	45.4	40.9	(38.9,42.9)	43.4	(41.3,45.5)	2.5	(-0.5,5.4)
Youth aged 12 to 18										
Males	40.0	38.2	39.2	43.4	39.1	(36.3,42.0)	41.3	(38.4,44.2)	2.2	(-1.7,6.2)
Females	43.1	42.5	43.5	47.5	42.8	(39.8,45.8)	45.5	(42.7,48.4)	2.7	(-0.9,6.4)
White	43.3	40.7	42.8	45.9	42.0	(39.7,44.3)	44.4	(42.3,46.6)	2.4	(-0.6,5.5)
African American	44.6	39.9	41.6	42.9	42.1	(36.1,48.4)	42.2	(36.2,48.5)	0.1	(-8.3,8.6)
Hispanic	32.9	38.0	33.1	46.8	35.5	(29.4,42.1)	39.9	(34.3,45.9)	4.4	(-4.6,13.4)
Risk score										
Higher risk	34.6	30.8	32.6	32.5	32.8	(29.8,35.9)	32.5	(29.7,35.6)	-0.2	(-4.1,3.7)
Lower risk	46.5	46.0	47.0	54.0	46.2	(43.5,48.9)	50.5	(47.6,53.4)	4.3	*(0.4,8.2)
Sensation seeking										
High	37.8	37.6	38.2	41.6	37.7	(35.1,40.3)	39.9	(37.5,42.3)	2.2	(-1.1,5.5)
Low	46.0	43.7	45.1	50.0	44.8	(41.8,47.9)	47.6	(44.2,51.0)	2.8	(-1.9,7.5)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-42. Specific belief that parental[1] monitoring[2] will make it less likely their child will use any drug nearly every month, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents holding strong belief that parental monitoring will make it less likely their child will use any drug nearly every month									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	52.1	54.5	55.6	58.6	53.3	(50.8,55.8)	57.1	(54.2,60.0)	3.8	(-0.2,7.8)
14 to 15	45.0	50.1	46.1	51.6	47.6	(43.6,51.6)	48.7	(45.1,52.4)	1.1	(-4.0,6.3)
16 to 18	38.9	36.4	37.3	39.1	37.6	(34.4,41.0)	38.2	(35.2,41.4)	0.6	(-4.3,5.6)
14 to 18	41.6	42.8	41.6	44.6	42.2	(39.9,44.6)	43.1	(40.7,45.6)	0.9	(-2.3,4.1)
12 to 18	44.7	46.2	45.7	48.7	45.5	(43.4,47.5)	47.2	(45.3,49.2)	1.7	(-1.0,4.5)
Youth aged 12 to 18										
Males	43.7	44.9	43.8	47.7	44.3	(41.3,47.4)	45.8	(43.0,48.5)	1.5	(-2.6,5.6)
Females	45.7	47.7	47.7	49.8	46.7	(43.9,49.5)	48.7	(45.8,51.7)	2.0	(-1.4,5.5)
White	48.3	47.3	49.8	51.4	47.8	(45.6,50.1)	50.6	(48.5,52.7)	2.8	(-0.2,5.8)
African American	40.6	44.4	39.9	40.5	42.7	(36.9,48.6)	40.2	(35.1,45.5)	-2.5	(-9.7,4.8)
Hispanic	33.5	43.0	32.7	47.3	38.3	(32.5,44.6)	40.1	(34.7,45.7)	1.7	(-6.6,10.1)
Risk score										
Higher risk	37.3	36.6	37.7	36.2	36.9	(33.8,40.2)	37.0	(33.8,40.3)	0.0	(-4.3,4.3)
Lower risk	49.9	51.7	51.4	56.7	50.8	(48.1,53.6)	54.0	(51.5,56.5)	3.2	(-0.4,6.7)
Sensation seeking										
High	42.4	42.5	43.2	44.3	42.4	(40.1,44.8)	43.7	(41.1,46.4)	1.3	(-2.0,4.5)
Low	47.4	50.2	49.2	53.8	48.9	(46.0,51.7)	51.6	(48.3,54.8)	2.7	(-1.9,7.4)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-43. Specific belief that parental[1] monitoring[2] will make their child feel they are invading his/her privacy, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of parents holding strong belief that parental monitoring will make their child feel they are invading his/her privacy (disagree)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	18.5	18.8	19.2	17.3	18.6	(16.4,21.1)	18.2	(16.2,20.5)	-0.4	(-2.9,2.2)
14 to 15	16.9	12.7	15.9	13.5	14.7	(12.0,18.1)	14.8	(12.3,17.6)	0.0	(-3.9,4.0)
16 to 18	14.5	13.9	9.2	11.7	14.2	(11.5,17.3)	10.5	(8.3,13.2)	-3.7	*(-7.2,-0.1)
14 to 18	15.6	13.3	12.5	12.5	14.4	(12.5,16.6)	12.5	(10.8,14.4)	-2.0	(-4.5,0.6)
12 to 18	16.4	14.9	14.5	13.9	15.7	(14.0,17.4)	14.2	(12.8,15.7)	-1.5	(-3.5,0.6)
Youth aged 12 to 18										
Males	15.7	13.9	13.3	14.0	14.8	(12.8,17.0)	13.7	(11.8,15.8)	-1.1	(-3.8,1.5)
Females	17.2	16.1	15.7	13.8	16.6	(14.5,18.9)	14.7	(12.6,17.1)	-1.9	(-4.8,1.1)
White	14.1	11.2	11.1	12.3	12.6	(11.3,14.1)	11.7	(10.1,13.5)	-1.0	(-3.0,1.0)
African American	22.1	18.3	20.3	20.4	20.1	(15.9,25.1)	20.3	(16.0,25.5)	0.3	(-5.2,5.7)
Hispanic	20.4	24.7	23.4	14.7	22.6	(16.6,30.0)	19.0	(13.6,25.9)	-3.7	(-14.3,7.0)
Risk score										
Higher risk	14.9	11.1	9.7	10.4	13.0	(10.5,16.1)	10.0	(8.0,12.5)	-3.0	(-6.4,0.5)
Lower risk	17.6	16.7	17.5	16.2	17.1	(15.0,19.5)	16.9	(14.8,19.1)	-0.3	(-3.3,2.8)
Sensation seeking										
High	14.3	11.9	14.7	11.8	13.1	(11.3,15.2)	13.3	(11.3,15.6)	0.1	(-2.5,2.8)
Low	19.1	17.4	14.3	16.6	18.2	(15.9,20.8)	15.5	(13.6,17.6)	-2.7	(-5.6,0.1)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-44. Summary scale of specific beliefs about effectiveness of parental[1] monitoring[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Summary scale of specific beliefs about effectiveness of parental monitoring (-2 to +2) (where higher scores represent stronger promonitoring beliefs)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	1.13	1.15	1.15	1.17	1.14	(1.11,1.17)	1.16	(1.13,1.19)	0.02	(-0.02,0.06)
14 to 15	1.05	1.02	0.99	1.04	1.04	(0.99,1.08)	1.01	(0.95,1.08)	-0.02	(-0.09,0.05)
16 to 18	0.88	0.90	0.89	0.91	0.89	(0.84,0.94)	0.90	(0.85,0.94)	0.01	(-0.05,0.07)
14 to 18	0.96	0.96	0.94	0.97	0.96	(0.92,0.99)	0.95	(0.91,0.99)	0.00	(-0.05,0.04)
12 to 18	1.01	1.01	1.00	1.03	1.01	(0.98,1.04)	1.01	(0.98,1.05)	0.00	(-0.03,0.04)
Youth aged 12 to 18										
Males	0.98	1.00	0.95	1.02	0.99	(0.95,1.03)	0.99	(0.94,1.03)	0.00	(-0.06,0.05)
Females	1.04	1.03	1.05	1.04	1.03	(1.00,1.07)	1.05	(1.00,1.09)	0.01	(-0.03,0.06)
White	1.05	1.02	1.03	1.04	1.03	(1.00,1.06)	1.03	(1.00,1.07)	0.00	(-0.03,0.04)
African American	1.00	1.01	1.04	1.07	1.01	(0.92,1.09)	1.06	(0.99,1.12)	0.05	(-0.05,0.15)
Hispanic	0.85	0.98	0.81	0.96	0.92	(0.84,0.99)	0.88	(0.79,0.98)	-0.03	(-0.14,0.07)
Risk score										
Higher risk	0.87	0.84	0.86	0.83	0.86	(0.80,0.91)	0.85	(0.80,0.90)	-0.01	(-0.07,0.05)
Lower risk	1.10	1.12	1.09	1.15	1.11	(1.08,1.14)	1.12	(1.09,1.16)	0.01	(-0.03,0.05)
Sensation seeking										
High	0.96	0.95	0.95	0.96	0.96	(0.92,0.99)	0.95	(0.91,1.00)	0.00	(-0.06,0.05)
Low	1.06	1.08	1.07	1.11	1.07	(1.03,1.11)	1.09	(1.06,1.13)	0.02	(-0.02,0.07)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-45. Specific intention to perform parental[1] monitoring[2] by requiring child to be home at specific time at night, by age of child

	Percent of parents reporting strong intentions to require child to be home at specific time at night									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	Wave 1 %	Wave 2 %	Wave 3 %	Wave 4 %	%	95% CI	%	95% CI	Est	95% CI
12 to 13	85.5	88.6	87.9	88.5	87.1	(84.9,89.0)	88.2	(86.3,89.9)	1.1	(-1.5,3.8)
14 to 15	83.9	84.4	87.6	87.5	84.1	(80.9,86.9)	87.5	(84.6,90.0)	3.4	(-0.4,7.2)
16 to 18	69.1	72.1	70.1	71.2	70.6	(66.5,74.4)	70.7	(66.2,74.7)	0.1	(-5.3,5.5)
14 to 18	75.8	77.9	78.6	78.4	76.9	(73.9,79.5)	78.5	(75.5,81.2)	1.6	(-1.8,5.1)
12 to 18	78.7	81.0	81.4	81.4	79.9	(77.5,82.0)	81.4	(79.1,83.5)	1.5	(-1.2,4.2)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-46. Specific intention to perform parental[1] monitoring[2] by limiting the time child spends with other children without adult supervision, by age of child

	Percent of parents reporting strong intentions to limit the time child spends with other children without adult supervision									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	58.5	59.0	57.9	61.8	58.8	(55.4,62.0)	59.8	(56.7,62.9)	1.1	(-3.3,5.4)
14 to 15	48.6	49.9	48.8	50.5	49.3	(45.3,53.3)	49.6	(46.6,52.7)	0.4	(-4.9,5.6)
16 to 18	27.1	23.3	29.1	30.8	25.2	(21.9,28.8)	30.0	(26.4,33.8)	4.8	(-0.2,9.8)
14 to 18	36.9	35.8	38.7	39.5	36.3	(33.7,39.0)	39.1	(36.7,41.6)	2.8	(-1.0,6.5)
12 to 18	43.2	42.7	44.4	46.1	42.9	(40.7,45.2)	45.2	(43.3,47.2)	2.3	(-0.8,5.4)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-47. Specific intention to perform parental[1] monitoring[2] by knowing what child is doing when he or she is away from home, by age of child

	Percent of parents reporting strong intentions to know what child is doing when she or he is away from home									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	66.2	67.2	71.4	71.7	66.7	(64.1,69.2)	71.5	(68.6,74.3)	4.8	*(1.4,8.3)
14 to 15	62.1	64.3	62.9	65.8	63.2	(59.8,66.6)	64.3	(60.6,67.8)	1.0	(-3.6,5.7)
16 to 18	46.8	51.5	48.7	47.7	49.2	(45.4,53.0)	48.1	(44.6,51.7)	-1.0	(-6.2,4.2)
14 to 18	53.8	57.5	55.6	55.6	55.7	(53.0,58.3)	55.6	(52.7,58.5)	-0.1	(-3.9,3.8)
12 to 18	57.4	60.4	60.3	60.4	58.9	(56.9,60.9)	60.3	(58.2,62.4)	1.4	(-1.5,4.3)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-48. Specific intention to perform parental[1] monitoring[2] by personally knowing child's friends well, by age of child

	Percent of parents reporting strong intentions to personally know child's friends well									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	56.5	59.8	59.2	59.1	58.2	(55.7,60.7)	59.1	(56.3,61.9)	1.0	(-2.5,4.5)
14 to 15	54.3	55.9	50.4	55.2	55.2	(51.1,59.1)	52.7	(48.9,56.4)	-2.5	(-8.0,3.0)
16 to 18	44.8	47.8	38.3	48.3	46.3	(42.0,50.7)	43.6	(39.7,47.5)	-2.7	(-8.2,2.7)
14 to 18	49.1	51.6	44.2	51.3	50.4	(47.3,53.5)	47.8	(44.9,50.6)	-2.6	(-6.6,1.3)
12 to 18	51.3	54.0	48.6	53.6	52.7	(50.5,54.9)	51.1	(48.8,53.5)	-1.6	(-4.6,1.5)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-49. Specific intention to perform parental[1] monitoring[2] by knowing what child's plans are for the coming day, by age of child

	Percent of parents reporting strong intentions to know what child's plans are for the coming day									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Age of child	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
12 to 13	61.3	61.3	66.2	62.7	61.3	(58.4,64.1)	64.4	(61.5,67.2)	3.1	(-1.0,7.3)
14 to 15	52.8	56.6	55.1	56.1	54.7	(50.5,58.9)	55.6	(51.7,59.5)	0.9	(-5.3,7.0)
16 to 18	43.0	45.6	40.6	46.0	44.3	(40.2,48.5)	43.5	(39.5,47.6)	-0.8	(-6.6,5.0)
14 to 18	47.5	50.7	47.7	50.5	49.1	(45.7,52.6)	49.1	(46.4,51.8)	0.0	(-4.7,4.7)
12 to 18	51.5	53.8	53.2	54.1	52.7	(50.0,55.4)	53.6	(51.5,55.8)	0.9	(-2.8,4.6)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-50. Summary scale of specific intentions to perform parental[1] monitoring[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Summary scale of parents reporting strong intentions to perform parental monitoring (-2 to +2) (where higher scores represent stronger promonitoring intentions)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	1.51	1.54	1.53	1.56	1.53	(1.50,1.55)	1.55	(1.52,1.58)	0.02	(-0.02,0.06)
14 to 15	1.39	1.43	1.43	1.48	1.41	(1.36,1.46)	1.45	(1.41,1.49)	0.04	(-0.02,0.10)
16 to 18	1.06	1.10	1.08	1.13	1.08	(1.03,1.13)	1.11	(1.05,1.17)	0.03	(-0.05,0.11)
14 to 18	1.21	1.25	1.25	1.29	1.23	(1.20,1.27)	1.27	(1.23,1.31)	0.04	(-0.01,0.09)
12 to 18	1.30	1.34	1.33	1.37	1.32	(1.29,1.34)	1.35	(1.32,1.38)	0.03	(0.00,0.07)
Youth aged 12 to 18										
Males	1.26	1.29	1.27	1.36	1.27	(1.24,1.31)	1.32	(1.28,1.36)	0.05	(-0.01,0.10)
Females	1.34	1.39	1.40	1.37	1.37	(1.33,1.40)	1.38	(1.34,1.43)	0.02	(-0.04,0.07)
White	1.31	1.35	1.36	1.38	1.33	(1.30,1.36)	1.37	(1.34,1.40)	0.04	(-0.01,0.08)
African American	1.29	1.32	1.31	1.36	1.30	(1.24,1.37)	1.33	(1.25,1.42)	0.03	(-0.07,0.13)
Hispanic	1.27	1.29	1.20	1.35	1.28	(1.21,1.35)	1.28	(1.20,1.35)	0.00	(-0.10,0.09)
Risk score										
Higher risk	1.07	1.11	1.14	1.12	1.09	(1.04,1.14)	1.13	(1.07,1.19)	0.05	(-0.03,0.12)
Lower risk	1.46	1.48	1.45	1.52	1.47	(1.44,1.49)	1.49	(1.45,1.52)	0.02	(-0.02,0.05)
Sensation seeking										
High	1.23	1.25	1.27	1.29	1.24	(1.20,1.28)	1.28	(1.24,1.32)	0.05	(-0.01,0.10)
Low	1.38	1.44	1.41	1.45	1.41	(1.37,1.45)	1.43	(1.40,1.46)	0.02	(-0.03,0.07)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-51. Summary measure of general attitudes toward parental[1] monitoring[2], by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Summary scale of general attitude toward parental monitoring (1 to 7) (where higher score represents stronger promonitoring attitudes)									
					Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	Wave 1 Mean	Wave 2 Mean	Wave 3 Mean	Wave 4 Mean	Est	95% CI	Est	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	6.37	6.35	6.43	6.46	6.36	(6.32,6.41)	6.44	(6.41,6.48)	0.08	*(0.03,0.14)
14 to 15	6.15	6.19	6.20	6.26	6.17	(6.10,6.24)	6.23	(6.17,6.29)	0.06	(-0.04,0.15)
16 to 18	5.90	5.96	6.03	6.02	5.93	(5.86,6.00)	6.02	(5.95,6.10)	0.10	*(0.01,0.18)
14 to 18	6.01	6.07	6.11	6.12	6.04	(5.99,6.09)	6.12	(6.06,6.17)	0.08	*(0.01,0.14)
12 to 18	6.12	6.15	6.21	6.22	6.14	(6.10,6.18)	6.22	(6.17,6.26)	0.08	*(0.03,0.13)
Youth aged 12 to 18										
Males	6.04	6.08	6.12	6.17	6.06	(6.00,6.12)	6.14	(6.09,6.20)	0.08	*(0.01,0.15)
Females	6.20	6.23	6.29	6.29	6.21	(6.16,6.27)	6.29	(6.24,6.34)	0.08	*(0.01,0.14)
White	6.07	6.12	6.17	6.15	6.09	(6.05,6.14)	6.16	(6.11,6.21)	0.07	*(0.01,0.12)
African American	6.26	6.13	6.30	6.33	6.19	(6.07,6.31)	6.31	(6.22,6.40)	0.12	(-0.01,0.26)
Hispanic	6.28	6.37	6.28	6.43	6.33	(6.22,6.44)	6.36	(6.25,6.47)	0.03	(-0.13,0.19)
Risk score										
Higher risk	5.84	5.86	5.92	5.98	5.85	(5.78,5.93)	5.95	(5.87,6.03)	0.10	*(0.01,0.19)
Lower risk	6.31	6.32	6.39	6.37	6.32	(6.28,6.36)	6.38	(6.34,6.42)	0.06	*(0.01,0.11)
Sensation seeking										
High	5.99	6.05	6.11	6.11	6.02	(5.97,6.08)	6.11	(6.05,6.17)	0.08	*(0.01,0.16)
Low	6.27	6.26	6.34	6.37	6.27	(6.20,6.33)	6.35	(6.30,6.40)	0.09	*(0.03,0.15)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These questions were repeated separately for each sample child.

Table 6-52. Use of marijuana among youth as reported by parents[1,2] and their children, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth who have never used marijuana in the past 12 months									
	Parent perspective									
	Child perspective									
	Wave 1	Wave 2	Wave 3	Wave 4	Average for Waves 1 and 2 (Year 2000)		Average for Waves 3 and 4 (Year 2001)		Change from Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**97.2**	**98.6**	**98.8**	**98.9**	**97.9**	**(97.1,98.5)**	**98.9**	**(98.1,99.3)**	**1.0**	***(0.1,1.9)**
	96.7	96.8	98.0	96.8	96.7	(95.6,97.6)	97.4	(96.1,98.3)	0.6	(-0.8,2.1)
14 to 15	**91.4**	**90.2**	**91.5**	**90.3**	**90.8**	**(87.8,93.1)**	**90.9**	**(88.3,93.0)**	**0.1**	**(-3.8,4.0)**
	88.8	88.5	85.6	86.9	88.7	(85.4,91.3)	86.2	(83.5,88.6)	-2.5	(-5.9,1.0)
16 to 18	**80.4**	**81.5**	**82.5**	**81.8**	**80.9**	**(77.9,83.6)**	**82.1**	**(78.4,85.3)**	**1.2**	**(-3.2,5.6)**
	71.1	70.7	72.4	73.9	70.9	(67.2,74.4)	73.2	(69.7,76.4)	2.3	(-2.3,6.9)
14 to 18	**85.4**	**85.6**	**86.9**	**85.5**	**85.5**	**(83.5,87.2)**	**86.2**	**(83.7,88.4)**	**0.7**	**(-1.9,3.4)**
	79.0	79.0	78.7	79.5	79.0	(76.7,81.1)	79.1	(76.6,81.4)	0.1	(-2.9,3.1)
12 to 18	**88.8**	**89.4**	**90.4**	**89.5**	**89.1**	**(87.7,90.4)**	**90.0**	**(88.2,91.5)**	**0.8**	**(-1.0,2.7)**
	84.1	84.2	84.4	84.7	84.2	(82.5,85.7)	84.5	(82.7,86.2)	0.3	(-1.9,2.5)

Table 6-52. Use of marijuana among youth as reported by parents[1,2] and their children, by youth age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent of youth who have never used marijuana in the past 12 months									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	**85.4**	**82.0**	**83.8**	**84.3**	**83.7**	**(80.3,86.7)**	**84.1**	**(80.5,87.1)**	**0.3**	**(-3.9,4.6)**
	76.9	76.0	77.1	79.5	76.4	(72.3,80.2)	78.3	(75.0,81.3)	1.9	(-3.2,7.0)
Females	**85.3**	**89.4**	**90.1**	**86.8**	**87.3**	**(84.8,89.5)**	**88.5**	**(85.2,91.1)**	**1.1**	**(-2.4,4.7)**
	81.1	82.2	80.3	79.6	81.6	(78.8,84.2)	79.9	(76.4,83.0)	-1.7	(-5.7,2.3)
White	**85.1**	**84.1**	**87.7**	**85.5**	**84.6**	**(82.2,86.7)**	**86.6**	**(83.9,88.9)**	**2.0**	**(-1.1,5.2)**
	78.0	76.5	76.9	78.3	77.3	(74.4,80.0)	77.6	(74.3,80.6)	0.3	(-3.8,4.4)
African American	**87.0**	**85.5**	**79.4**	**85.6**	**86.2**	**(79.9,90.8)**	**82.6**	**(74.4,88.5)**	**-3.7**	**(-11.7,4.4)**
	84.2	80.2	85.1	83.8	82.1	(76.3,86.8)	84.4	(79.2,88.5)	2.3	(-4.3,8.9)
Hispanic	**84.9**	**91.4**	**88.2**	**87.3**	**88.2**	**(83.4,91.7)**	**87.7**	**(80.6,92.5)**	**-0.4**	**(-7.4,6.5)**
	79.2	87.1	77.4	83.3	83.2	(77.4,87.8)	80.4	(73.9,85.6)	-2.8	(-9.7,4.1)
Risk score										
Higher risk	**75.7**	**75.3**	**79.5**	**75.7**	**75.5**	**(72.3,78.5)**	**77.6**	**(74.0,80.8)**	**2.1**	**(-2.4,6.6)**
	64.0	61.5	62.4	65.5	62.8	(59.3,66.1)	64.0	(60.0,67.7)	1.2	(-3.8,6.2)
Lower risk	**96.5**	**96.0**	**94.7**	**95.5**	**96.3**	**(94.4,97.5)**	**95.1**	**(91.8,97.1)**	**-1.1**	**(-4.2,2.0)**
	96.4	96.7	96.0	94.2	96.6	(94.6,97.8)	95.1	(93.0,96.6)	-1.5	(-3.6,0.6)
Sensation seeking										
High	**80.3**	**81.3**	**84.3**	**81.0**	**80.8**	**(78.3,83.1)**	**82.7**	**(79.6,85.4)**	**1.9**	**(-1.7,5.4)**
	70.5	69.4	71.5	73.6	70.0	(66.9,72.9)	72.5	(69.1,75.8)	2.6	(-1.9,7.0)
Low	**93.2**	**91.3**	**91.9**	**92.4**	**92.2**	**(89.0,94.5)**	**92.2**	**(88.6,94.7)**	**0.0**	**(-3.6,3.6)**
	92.6	91.7	91.5	88.7	92.1	(89.2,94.3)	90.1	(87.2,92.3)	-2.1	(-5.1,1.0)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-53. Intentions to use marijuana once or twice among youth as reported by parents[1,2] and their children, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth who definitely will not use marijuana even once or twice in the next 12 months									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**86.6**	**89.4**	**86.9**	**84.9**	**88.0**	**(85.9,89.9)**	**85.9**	**(83.6,88.0)**	**-2.1**	**(-4.7,0.4)**
	87.5	89.8	88.5	89.0	88.7	(86.8,90.3)	88.7	(86.8,90.4)	0.1	(-2.3,2.5)
14 to 15	**75.2**	**78.1**	**75.7**	**76.7**	**76.7**	**(73.4,79.6)**	**76.2**	**(72.8,79.2)**	**-0.5**	**(-4.5,3.5)**
	75.6	78.5	73.1	71.4	77.1	(73.4,80.4)	72.2	(69.0,75.3)	-4.8	*(-9.1,-0.6)
16 to 18	**69.6**	**74.5**	**59.1**	**68.7**	**72.0**	**(68.2,75.5)**	**64.2**	**(59.5,68.6)**	**-7.8**	***(-14.5,-1.1)**
	59.2	63.4	58.4	62.3	61.3	(57.7,64.8)	60.4	(56.1,64.6)	-0.9	(-6.0,4.3)
14 to 18	**72.2**	**76.1**	**67.2**	**72.2**	**74.1**	**(71.7,76.4)**	**69.7**	**(66.5,72.8)**	**-4.4**	***(-8.5,-0.3)**
	66.5	70.4	65.3	66.3	68.5	(66.2,70.6)	65.8	(62.7,68.7)	-2.7	(-6.0,0.6)
12 to 18	**76.4**	**80.1**	**73.1**	**76.0**	**78.2**	**(76.5,79.8)**	**74.5**	**(72.0,76.9)**	**-3.7**	***(-6.6,-0.8)**
	72.6	76.1	72.1	73.0	74.3	(72.6,76.0)	72.6	(70.3,74.7)	-1.8	(-4.2,0.6)

Table 6-53. Intentions to use marijuana once or twice among youth as reported by parents[1,2] and their children, by youth age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent of youth who definitely will not use marijuana even once or twice in the next 12 months									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth aged 12 to 13										
Males	**85.1**	**88.8**	**84.3**	**84.1**	**87.0**	**(84.1,89.4)**	**84.2**	**(80.7,87.2)**	**-2.8**	**(-6.6,1.1)**
	85.3	87.5	90.9	88.6	86.4	(83.8,88.7)	89.7	(87.4,91.7)	3.3	*(0.1,6.5)
Females	**88.2**	**90.1**	**89.6**	**85.8**	**89.1**	**(85.6,91.9)**	**87.7**	**(84.7,90.2)**	**-1.4**	**(-5.7,2.8)**
	89.9	92.2	86.0	89.4	91.1	(88.7,93.0)	87.7	(84.4,90.4)	-3.4	(-6.8,0.0)
White	**88.9**	**91.4**	**88.2**	**86.8**	**90.1**	**(87.4,92.3)**	**87.5**	**(84.1,90.3)**	**-2.6**	**(-6.2,0.9)**
	88.3	92.0	89.7	89.1	90.2	(88.0,91.9)	89.4	(87.0,91.4)	-0.8	(-3.8,2.2)
African American	**81.0**	**80.0**	**87.0**	**84.8**	**80.5**	**(72.8,86.4)**	**85.9**	**(80.3,90.1)**	**5.5**	**(-2.8,13.7)**
	92.6	84.9	93.6	90.7	88.6	(83.0,92.5)	92.1	(86.5,95.5)	3.5	(-2.0,9.0)
Hispanic	**80.7**	**89.2**	**77.7**	**75.2**	**84.9**	**(79.0,89.4)**	**76.4**	**(69.2,82.4)**	**-8.5**	**(-17.4,0.3)**
	81.4	82.5	80.7	87.7	82.0	(75.4,87.1)	84.3	(78.0,89.1)	2.4	(-4.4,9.2)
Risk score										
Higher risk	**66.2**	**82.3**	**77.6**	**73.1**	**72.8**	**(64.8,79.6)**	**75.1**	**(65.6,82.7)**	**2.3**	**(-7.5,12.1)**
	51.7	38.5	52.0	63.7	46.3	(38.4,54.4)	58.5	(45.7,70.1)	12.1	(-3.3,27.5)
Lower risk	**89.4**	**89.8**	**87.9**	**85.4**	**89.6**	**(87.3,91.5)**	**86.7**	**(84.2,88.8)**	**-2.9**	***(-5.7,-0.2)**
	92.1	94.0	91.9	92.3	93.1	(91.3,94.4)	92.1	(90.2,93.6)	-1.0	(-3.3,1.3)
Sensation seeking										
High	**83.4**	**86.6**	**84.6**	**83.0**	**85.0**	**(81.9,87.7)**	**83.8**	**(80.1,86.9)**	**-1.2**	**(-5.0,2.6)**
	76.7	80.1	76.8	80.0	78.5	(75.0,81.6)	78.4	(74.5,81.8)	-0.1	(-4.9,4.7)
Low	**88.9**	**91.2**	**88.3**	**85.8**	**90.1**	**(87.4,92.2)**	**87.0**	**(84.1,89.5)**	**-3.0**	**(-6.7,0.7)**
	95.4	97.0	96.8	95.7	96.2	(94.6,97.4)	96.2	(93.9,97.7)	0.0	(-2.0,1.9)

Table 6-53. Intentions to use marijuana once or twice among youth as reported by parents[1,2] and their children, by youth age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent of youth who definitely will not use marijuana even once or twice in the next 12 months									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	**69.7**	**72.1**	**60.7**	**71.4**	**70.9**	**(67.1,74.4)**	**66.1**	**(61.3,70.6)**	**-4.9**	**(-10.8,1.1)**
	64.1	69.5	63.7	66.1	66.9	(62.6,70.8)	64.9	(60.7,69.0)	-1.9	(-7.3,3.5)
Females	**74.7**	**80.5**	**74.2**	**73.1**	**77.6**	**(74.6,80.3)**	**73.7**	**(70.1,76.9)**	**-3.9**	**(-8.5,0.6)**
	69.0	71.3	67.0	66.4	70.1	(66.3,73.7)	66.7	(63.5,69.7)	-3.5	(-8.3,1.4)
White	**72.3**	**76.3**	**67.0**	**72.5**	**74.3**	**(71.5,76.9)**	**69.8**	**(66.2,73.1)**	**-4.5**	***(-9.0,-0.1)**
	66.2	67.7	63.3	65.8	67.0	(64.1,69.7)	64.6	(61.0,68.0)	-2.4	(-6.5,1.7)
African American	**71.9**	**72.7**	**64.4**	**65.5**	**72.3**	**(65.8,78.0)**	**64.9**	**(56.0,72.9)**	**-7.3**	**(-18.1,3.4)**
	67.5	71.1	67.8	70.2	69.3	(63.2,74.8)	69.0	(61.5,75.6)	-0.3	(-9.4,8.7)
Hispanic	**72.3**	**77.2**	**67.3**	**77.4**	**74.8**	**(69.1,79.7)**	**72.4**	**(65.3,78.6)**	**-2.4**	**(-10.7,5.9)**
	67.9	80.5	71.1	65.6	74.4	(68.2,79.7)	68.3	(61.2,74.7)	-6.0	(-14.3,2.2)
Risk score										
Higher risk	**62.1**	**67.9**	**55.9**	**61.8**	**64.9**	**(60.9,68.8)**	**58.8**	**(54.5,63.1)**	**-6.1**	***(-11.7,-0.5)**
	50.6	53.3	42.8	47.7	51.9	(48.0,55.8)	45.2	(40.6,49.9)	-6.7	*(-12.6,-0.8)
Lower risk	**83.3**	**84.5**	**79.1**	**83.2**	**83.9**	**(80.9,86.6)**	**81.2**	**(77.4,84.5)**	**-2.7**	**(-7.1,1.7)**
	86.0	89.8	88.0	85.2	88.0	(85.0,90.4)	86.5	(83.5,89.0)	-1.4	(-4.7,1.8)
Sensation seeking										
High	**66.5**	**71.3**	**62.7**	**67.6**	**68.8**	**(65.5,72.0)**	**65.1**	**(61.4,68.6)**	**-3.7**	**(-8.6,1.1)**
	55.6	58.0	54.8	55.2	56.8	(53.4,60.1)	55.0	(51.4,58.6)	-1.8	(-6.2,2.6)
Low	**80.9**	**82.4**	**76.3**	**79.5**	**81.7**	**(78.4,84.6)**	**78.0**	**(73.2,82.2)**	**-3.7**	**(-9.3,1.9)**
	84.4	87.4	84.1	83.2	86.0	(82.2,89.1)	83.6	(80.0,86.7)	-2.3	(-6.6,1.9)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-54. Intentions to use marijuana regularly among youth as reported by parents[1,2] and their children, by youth age, gender, race/ethnicity, risk score, and sensation seeking

	Percent of youth who definitely will not use marijuana regularly in the next 12 months									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
All youth aged 12 to 18										
12 to 13	**90.7**	**92.5**	**90.9**	**90.7**	**91.6**	**(89.8,93.1)**	**90.8**	**(89.2,92.2)**	**-0.8**	**(-3.1,1.5)**
	94.4	96.1	94.5	95.0	95.2	(94.1,96.2)	94.8	(93.4,95.9)	-0.5	(-1.9,1.0)
14 to 15	**83.3**	**85.1**	**84.5**	**84.0**	**84.2**	**(81.4,86.6)**	**84.2**	**(81.2,86.8)**	**0.0**	**(-3.3,3.3)**
	89.6	89.6	84.4	84.8	89.6	(87.3,91.6)	84.6	(81.7,87.0)	-5.1	*(-8.4,-1.8)
16 to 18	**75.9**	**79.0**	**67.7**	**75.8**	**77.4**	**(74.0,80.5)**	**72.0**	**(67.7,75.9)**	**-5.5**	**(-11.3,0.4)**
	76.2	74.5	72.9	76.1	75.4	(72.0,78.5)	74.6	(70.9,77.9)	-0.8	(-5.3,3.6)
14 to 18	**79.3**	**81.8**	**75.9**	**79.4**	**80.5**	**(78.7,82.3)**	**77.7**	**(74.8,80.3)**	**-2.9**	**(-6.0,0.2)**
	82.2	81.5	78.3	79.9	81.9	(79.8,83.7)	79.1	(76.4,81.5)	-2.8	(-5.7,0.1)
12 to 18	**82.6**	**85.0**	**80.3**	**82.7**	**83.8**	**(82.3,85.2)**	**81.5**	**(79.4,83.4)**	**-2.3**	***(-4.5,-0.1)**
	85.7	85.8	83.1	84.4	85.7	(84.2,87.2)	83.7	(81.8,85.5)	-2.0	(-4.2,0.1)

Table 6-54. Intentions to use marijuana regularly among youth as reported by parents[1,2] and their children, by youth age, gender, race/ethnicity, risk score, and sensation seeking (continued)

	Percent of youth who definitely will not use marijuana regularly in the next 12 months									
	Parent perspective									
	Child perspective									
					Average for Waves		Average for Waves		Change from	
	Wave 1	Wave 2	Wave 3	Wave 4	1 and 2 (Year 2000)		3 and 4 (Year 2001)		Year 2000 to Year 2001	
Characteristics	%	%	%	%	%	95% CI	%	95% CI	Est	95% CI
Youth aged 14 to 18										
Males	**79.4**	**77.8**	**68.9**	**78.4**	**78.6**	**(75.1,81.7)**	**73.7**	**(69.4,77.6)**	**-4.9**	**(-10.1,0.3)**
	80.1	79.2	76.0	79.5	79.6	(75.9,83.0)	77.8	(74.0,81.2)	-1.9	(-6.7,2.9)
Females	**79.1**	**86.3**	**83.3**	**80.4**	**82.6**	**(79.9,85.1)**	**81.8**	**(78.5,84.7)**	**-0.8**	**(-4.6,3.0)**
	84.3	84.0	80.8	80.2	84.1	(81.0,86.8)	80.5	(77.4,83.3)	-3.7	(-7.6,0.2)
White	**82.1**	**82.1**	**78.1**	**81.5**	**82.1**	**(79.9,84.1)**	**79.8**	**(76.7,82.6)**	**-2.3**	**(-5.9,1.3)**
	83.0	80.6	77.2	80.5	81.8	(79.1,84.2)	78.9	(75.6,81.8)	-3.0	(-6.9,1.0)
African American	**74.0**	**81.1**	**69.8**	**70.2**	**77.6**	**(72.1,82.3)**	**70.0**	**(62.1,76.9)**	**-7.6**	**(-16.4,1.2)**
	86.2	82.5	82.3	81.3	84.3	(78.9,88.5)	81.8	(75.5,86.7)	-2.5	(-10.1,5.2)
Hispanic	**72.2**	**80.8**	**70.0**	**80.2**	**76.6**	**(71.4,81.0)**	**75.1**	**(68.1,81.0)**	**-1.5**	**(-8.9,6.0)**
	76.2	86.1	79.5	76.6	81.3	(75.9,85.7)	78.0	(71.3,83.5)	-3.2	(-10.5,4.0)
Risk score										
Higher risk	**70.4**	**72.2**	**68.0**	**72.0**	**71.3**	**(67.9,74.4)**	**70.0**	**(65.8,73.9)**	**-1.3**	**(-6.7,4.1)**
	70.0	68.5	63.7	66.7	69.2	(65.4,72.8)	65.2	(61.0,69.1)	-4.0	(-9.6,1.5)
Lower risk	**88.9**	**91.0**	**84.4**	**87.0**	**90.0**	**(87.6,92.0)**	**85.7**	**(82.4,88.5)**	**-4.3**	***(-7.7,-0.9)**
	96.2	97.0	93.3	93.3	96.6	(94.8,97.8)	93.3	(90.9,95.1)	-3.3	*(-5.5,-1.0)
Sensation seeking										
High	**75.5**	**77.7**	**72.9**	**77.4**	**76.6**	**(73.8,79.2)**	**75.1**	**(71.7,78.2)**	**-1.5**	**(-5.6,2.6)**
	75.3	73.1	71.2	73.8	74.2	(71.1,77.2)	72.5	(68.9,75.7)	-1.8	(-6.2,2.6)
Low	**84.5**	**86.8**	**82.4**	**82.4**	**85.7**	**(82.5,88.4)**	**82.4**	**(77.8,86.2)**	**-3.3**	**(-8.0,1.4)**
	93.2	92.9	91.2	89.1	93.0	(90.7,94.8)	90.1	(87.4,92.3)	-2.9	(-6.0,0.2)

[1]All parents and caregivers of youth aged 12 to 18 who live with their children.

[2]These parent questions were repeated separately for each sample child.

Table 6-55. Parental exposure[1] to general anti-drug advertising, by youth and parent characteristics

November 1999 through December 2001

Parents of Youth aged 12 to 18 by:	Percent of parents reporting each exposure level by child's age			
	Less than 4 times per month	4-11 times per month	12 or more times per month	Total row percent
Youth demographics				
12 to 18	30.9	26.7	42.5	100.0
12 to 13	29.1	28.5	42.5	100.0
14 to 18	29.6	27.9	42.5	100.0
Males	29.5	29.4	41.1	100.0
Females	29.7	26.4	44.0	100.0
White	31.1	30.2	38.6	100.0
African American	22.7	23.3	54.0	100.0
Hispanic	28.7	22.1	49.2	100.0
Parent demographics				
Males	29.0	30.2	40.8	100.0
Females	29.9	26.8	43.3	100.0
White	30.9	30.5	38.6	100.0
African American	22.5	22.2	55.3	100.0
Hispanic	28.1	23.1	48.8	100.0
Less than college	30.9	23.9	45.2	100.0
Some college +	28.4	31.6	40.0	100.0

[1]Limited to parents of nonusing youth aged 12 to 18.

Table 6-56. Parental exposure[1] to specific anti-drug advertising, by youth and parent characteristics

November 1999 through December 2001

Parents of Youth aged 12 to 18 by:	Percent of parents reporting each exposure level by child's age				
	Less than 1 time per month	1-3 times per month	4-11 times per month	12 or more times per month	Total row percent
Youth demographics					
12 to 18	26.8	33.1	29.2	10.9	100.0
12 to 13	24.9	32.9	31.4	10.7	100.0
14 to 18	25.5	32.9	30.8	10.8	100.0
Males	27.2	32.0	30.5	10.3	100.0
Females	23.7	33.9	31.0	11.3	100.0
White	25.7	34.9	30.4	9.0	100.0
African American	23.9	28.8	32.8	14.5	100.0
Hispanic	25.0	28.2	30.4	16.4	100.0
Parent demographics					
Males	25.5	34.3	30.9	9.3	100.0
Females	25.5	32.2	30.7	11.6	100.0
White	25.9	34.8	30.2	9.1	100.0
African American	23.2	29.2	33.3	14.3	100.0
Hispanic	25.2	26.8	32.0	16.0	100.0
Less than college	23.1	31.4	32.8	12.8	100.0
Some college +	27.7	34.3	29.0	9.0	100.0

[1]Limited to parents of nonusing youth aged 12 to 18.

Table 6-57. The relationship between parental exposure[1] to general anti-drug advertising and parents' cognitions about monitoring their children[2], by both youth and parent characteristics

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental cognitions, by age of child								
12 to 13	119.13 (115.59,122.67)	112.87 (106.62,119.13)	116.66 (108.69,124.62)	124.14 (117.83,130.45)	6.25 *(1.04,11.46)	0.015	0.05	11.26 *(2.90,19.63)
14 to 18	77.94 (72.98,82.89)	67.32 (59.18,75.47)	78.05 (69.15,86.95)	83.06 (75.16,90.95)	10.62 *(3.22,18.01)	0.003	0.07	15.73 *(4.76,26.71)
12 to 18	90.08 (86.38,93.78)	81.60 (75.19,88.02)	88.87 (82.21,95.54)	95.07 (89.00,101.14)	8.48 *(2.80,14.16)	0.002	0.06	13.47 *(4.80,22.13)
Parental cognitions, by child characteristics								
Males	81.72 (76.67,86.76)	73.02 (64.58,81.46)	83.11 (74.14,92.07)	86.03 (77.65,94.42)	8.70 *(1.47,15.92)	0.013	0.06	13.01 *(1.73,24.30)
Females	98.91 (94.09,103.74)	90.52 (81.64,99.40)	95.62 (87.45,103.79)	104.03 (95.72,112.34)	8.40 *(0.85,15.94)	0.016	0.06	13.51 *(2.51,24.51)
White	86.42 (81.95,90.88)	79.41 (72.42,86.40)	86.82 (79.50,94.13)	89.27 (81.25,97.30)	7.01 *(0.72,13.30)	0.047	0.04	9.87 (-0.68,20.41)
African American	96.47 (87.49,105.45)	79.45 (62.93,95.97)	97.61 (78.25,116.98)	105.35 (93.65,117.05)	17.02 *(2.98,31.06)	0.012	0.10	25.90 *(7.28,44.51)
Hispanic	102.09 (93.20,110.99)	95.22 (80.89,109.55)	96.01 (75.62,116.40)	109.47 (95.23,123.71)	6.87 (-6.03,19.78)		0.06	14.25 (-4.84,33.34)

Table 6-57. The relationship between parental exposure[1] to general anti-drug advertising and parents' cognitions about monitoring their children[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental cognitions, by parent characteristics								
Males	75.74 (69.00,82.49)	70.23 (58.81,81.64)	74.04 (62.38,85.69)	77.22 (67.22,87.22)	5.52 (-3.00,14.03)		0.03	6.99 (-6.29,20.27)
Females	97.54 (93.33,101.74)	87.16 (79.43,94.89)	97.32 (88.36,106.28)	104.05 (97.68,110.42)	10.37 *(3.14,17.61)	<0.001	0.07	16.89 *(7.21,26.57)
Less than college	86.42 (81.13,91.71)	78.62 (69.97,87.27)	83.81 (72.66,94.97)	92.45 (84.60,100.30)	7.80 *(0.24,15.35)	0.017	0.06	13.82 *(2.94,24.71)
Some college +	93.44 (88.55,98.34)	84.18 (75.60,92.76)	93.33 (84.92,101.74)	97.21 (89.11,105.30)	9.27 *(2.00,16.53)	0.013	0.06	13.03 *(1.14,24.92)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-58. The relationship between parental exposure[1] to specific anti-drug advertising and parents' cognitions about monitoring their children[2], by both youth and parent characteristics

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental cognitions, by age of child									
12 to 13	119.13 (115.59,122.67)	120.69 (112.16,129.21)	113.92 (107.46,120.38)	119.42 (113.12,125.72)	126.07 (114.72,137.41)	-1.56 (-9.32,6.19)		0.01	5.38 (-9.59,20.34)
14 to 18	77.94 (72.98,82.89)	73.28 (62.06,84.49)	78.49 (71.89,85.09)	78.74 (71.04,86.45)	86.73 (67.69,105.77)	4.66 (-3.75,13.08)		0.04	13.45 (-5.77,32.67)
12 to 18	90.08 (86.38,93.78)	87.62 (79.36,95.88)	88.84 (83.44,94.24)	90.42 (84.30,96.55)	97.74 (83.08,112.40)	2.46 (-4.11,9.03)		0.03	10.11 (-5.23,25.46)
Parental cognitions, by child characteristics									
Males	81.72 (76.67,86.76)	77.75 (67.22,88.28)	79.08 (71.37,86.79)	85.01 (75.50,94.52)	87.14 (70.74,103.54)	3.96 (-4.37,12.29)		0.03	9.38 (-8.83,27.60)
Females	98.91 (94.09,103.74)	99.69 (89.39,109.99)	98.62 (91.58,105.66)	96.25 (88.72,103.77)	107.83 (86.14,129.51)	-0.77 (-9.75,8.21)		0.03	8.14 (-14.02,30.30)
White	86.42 (81.95,90.88)	83.64 (74.11,93.17)	87.46 (80.90,94.02)	86.46 (79.71,93.20)	98.61 (78.04,119.19)	2.78 (-4.76,10.31)		0.04	14.97 (-6.59,36.54)
African American	96.47 (87.49,105.45)	76.50 (57.31,95.70)	94.99 (80.41,109.56)	105.33 (90.17,120.49)	112.07 (88.30,135.85)	19.97 *(3.80,36.14)		0.11	35.57 *(4.60,66.54)
Hispanic	102.09 (93.20,110.99)	110.69 (89.47,131.92)	94.10 (78.28,109.92)	98.59 (84.02,113.16)	82.88 (48.19,117.58)	-8.6 (-27.56,10.36)		-0.08	-27.81 (-70.95,15.33)

Table 6-58. The relationship between parental exposure[1] to specific anti-drug advertising and parents' cognitions about monitoring their children[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental cognitions, by parent characteristics									
Males	75.74	70.64	70.67	76.08	101.96	5.1	0.001	0.10	31.32
	(69.00,82.49)	(58.13,83.15)	(61.74,79.60)	(64.45,87.70)	(85.22,118.70)	(-5.17,15.38)			*(13.24,49.40)
Females	97.54	95.91	98.29	98.35	95.93	1.62		0.00	0.01
	(93.33,101.74)	(86.18,105.64)	(91.49,105.08)	(90.99,105.71)	(77.21,114.64)	(-6.28,9.52)			(-18.84,18.86)
Less than college	86.42	88.70	86.06	82.31	85.96	-2.28		-0.02	-2.74
	(81.13,91.71)	(76.28,101.12)	(77.31,94.82)	(73.62,91.01)	(66.24,105.67)	(-13.17,8.61)			(-25.12,19.63)
Some college +	93.44	87.05	91.00	97.91	110.10	6.39	0.035	0.08	23.04
	(88.55,98.34)	(78.54,95.56)	(83.39,98.61)	(89.23,106.59)	(88.55,131.64)	(-1.44,14.22)			*(0.06,46.03)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-59. The relationship between parental exposure[1] to general anti-drug advertising and parents' cognitions about talking to their children about drugs[2], by both youth and parent characteristics

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental cognitions, by age of child								
12 to 13	110.83 (106.12,115.54)	100.62 (92.43,108.82)	104.23 (98.52,109.95)	123.81 (116.29,131.32)	10.21 *(3.94,16.48)	<0.001	0.08	23.18 *(13.19,33.18)
14 to 18	95.38 (90.60,100.17)	78.31 (68.78,87.84)	88.94 (81.19,96.69)	110.97 (104.40,117.53)	17.07 *(9.78,24.37)	<0.001	0.12	32.65 *(20.54,44.77)
12 to 18	99.94 (96.14,103.74)	85.31 (78.72,91.89)	93.23 (87.22,99.24)	114.72 (108.87,120.57)	14.63 *(9.34,19.93)	<0.001	0.11	29.42 *(20.54,38.29)
Parental cognitions, by child characteristics								
Males	97.03 (92.68,101.37)	81.24 (72.36,90.12)	87.45 (80.01,94.89)	114.54 (108.71,120.37)	15.79 *(8.46,23.12)	<0.001	0.12	33.30 *(23.18,43.42)
Females	103.01 (97.31,108.72)	89.53 (80.16,98.90)	99.98 (91.32,108.65)	114.90 (106.65,123.15)	13.48 *(6.46,20.51)	<0.001	0.09	25.37 *(13.51,37.24)
White	90.47 (86.21,94.72)	71.02 (63.00,79.05)	88.61 (83.01,94.21)	107.50 (101.37,113.64)	19.45 *(13.65,25.24)	<0.001	0.14	36.48 *(26.01,46.96)
African American	123.56 (111.22,135.90)	114.94 (93.81,136.07)	105.07 (85.37,124.76)	134.30 (119.51,149.09)	8.62 (-10.66,27.89)		0.05	19.36 (-5.65,44.37)
Hispanic	122.21 (114.61,129.82)	120.77 (107.17,134.38)	113.26 (96.90,129.62)	128.80 (115.55,142.05)	1.44 (-9.99,12.87)		0.05	8.02 (-9.81,25.86)

Table 6-59. The relationship between parental exposure[1] to general anti-drug advertising and parents' cognitions about talking to their children about drugs[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental cognitions, by parent characteristics								
Males	87.07 (81.16,92.98)	68.25 (56.19,80.31)	79.57 (69.82,89.31)	104.84 (95.80,113.88)	18.83 *(9.59,28.06)	<0.001	0.12	36.59 *(20.99,52.19)
Females	106.63 (101.39,111.87)	93.64 (84.61,102.67)	101.00 (93.04,108.96)	119.69 (112.09,127.29)	12.99 *(6.32,19.65)	<0.001	0.10	26.05 *(14.89,37.22)
Less than college	105.99 (101.03,110.95)	91.32 (81.69,100.94)	100.03 (91.12,108.94)	118.25 (110.29,126.20)	14.67 *(7.00,22.34)	<0.001	0.10	26.93 *(15.14,38.71)
Some college +	94.22 (88.88,99.56)	78.46 (68.68,88.24)	88.25 (79.49,97.02)	110.87 (103.27,118.47)	15.76 *(8.69,22.83)	<0.001	0.12	32.41 *(19.86,44.97)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-60. The relationship between parental exposure[1] to specific anti-drug advertising and parents' cognitions about talking to their children about drugs[2], by both youth and parent characteristics

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental cognitions, by age of child									
12 to 13	110.83 (106.12,115.54)	105.15 (97.08,113.22)	107.12 (100.19,114.05)	115.42 (107.59,123.25)	124.51 (109.10,139.92)	5.68 (-1.39,12.75)	0.006	0.08	19.35 *(3.76,34.95)
14 to 18	95.38 (90.60,100.17)	87.68 (77.13,98.23)	89.26 (83.00,95.52)	104.29 (97.60,110.97)	110.77 (95.52,126.01)	7.7 (-0.91,16.32)	0.011	0.08	23.09 *(4.98,41.20)
12 to 18	99.94 (96.14,103.74)	92.97 (85.66,100.28)	94.48 (89.33,99.62)	107.48 (101.90,113.07)	114.61 (102.69,126.53)	6.97 *(0.66,13.28)	0.002	0.08	21.65 *(7.89,35.40)
Parental cognitions, by child characteristics									
Males	97.03 (92.68,101.37)	88.06 (77.84,98.28)	90.25 (82.44,98.06)	105.24 (97.77,112.72)	124.14 (112.59,135.69)	8.97 (-0.31,18.24)	<0.001	0.11	36.08 *(20.00,52.16)
Females	103.01 (97.31,108.72)	98.96 (89.03,108.89)	98.72 (91.35,106.09)	109.89 (101.98,117.80)	105.54 (86.15,124.93)	4.05 (-4.20,12.29)		0.04	6.58 (-13.08,26.24)
White	90.47 (86.21,94.72)	77.39 (68.03,86.76)	85.90 (79.48,92.32)	103.14 (97.03,109.25)	109.71 (94.73,124.68)	13.08 *(5.34,20.81)	<0.001	0.11	32.31 *(14.07,50.55)
African American	123.56 (111.22,135.90)	118.97 (97.74,140.20)	114.69 (98.97,130.41)	126.64 (109.93,143.36)	134.77 (112.14,157.41)	4.59 (-14.05,23.24)		0.05	15.81 (-12.28,43.89)
Hispanic	122.21 (114.61,129.82)	125.65 (108.47,142.84)	115.54 (99.34,131.75)	119.69 (107.68,131.70)	114.84 (86.48,143.20)	-3.44 (-19.59,12.71)		-0.02	-10.81 (-48.48,26.85)

Table 6-60. The relationship between parental exposure[1] to specific anti-drug advertising and parents' cognitions about talking to their children about drugs[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental cognitions, by parent characteristics									
Males	87.07 (81.16,92.98)	79.49 (68.67,90.31)	78.88 (69.79,87.98)	94.53 (84.09,104.96)	108.63 (87.73,129.53)	7.58 (-1.56,16.72)	0.002	0.12	29.14 *(6.12,52.16)
Females	106.63 (101.39,111.87)	99.54 (90.14,108.95)	102.59 (95.29,109.89)	114.64 (107.50,121.79)	117.18 (103.87,130.49)	7.08 (-0.61,14.78)	0.028	0.05	17.63 *(2.78,32.49)
Less than college	105.99 (101.03,110.95)	98.33 (87.34,109.32)	102.28 (94.73,109.83)	108.09 (99.61,116.58)	116.05 (102.17,129.93)	7.66 (-2.50,17.81)		0.05	17.72 *(0.10,35.35)
Some college +	94.22 (88.88,99.56)	87.96 (76.65,99.27)	86.96 (79.87,94.05)	106.62 (98.77,114.47)	112.24 (93.81,130.67)	6.26 (-2.55,15.07)	0.017	0.09	24.28 *(1.57,47.00)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-61. The relationship between parental exposure[1] to general anti-drug advertising and parents' monitoring behavior[2], by both youth and parent characteristics
November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental behaviors, by age of child								
12 to 13	1.73 (1.68,1.78)	1.73 (1.63,1.82)	1.72 (1.65,1.79)	1.74 (1.67,1.82)	0.00 (-0.08,0.08)		0.01	0.02 (-0.09,0.13)
14 to 18	1.32 (1.26,1.37)	1.30 (1.21,1.39)	1.31 (1.22,1.41)	1.35 (1.27,1.43)	0.02 (-0.06,0.10)		0.02	0.05 (-0.06,0.16)
12 to 18	1.44 (1.40,1.48)	1.43 (1.36,1.50)	1.43 (1.35,1.50)	1.47 (1.40,1.53)	0.01 (-0.06,0.07)		0.01	0.03 (-0.06,0.12)
Parental behaviors, by child characteristics								
Males	1.34 (1.28,1.39)	1.35 (1.26,1.45)	1.36 (1.26,1.46)	1.33 (1.25,1.41)	-0.02 (-0.10,0.07)		-0.01	-0.02 (-0.14,0.10)
Females	1.55 (1.49,1.60)	1.51 (1.42,1.61)	1.50 (1.42,1.59)	1.60 (1.51,1.69)	0.03 (-0.05,0.12)		0.03	0.08 (-0.05,0.22)
White	1.47 (1.42,1.52)	1.47 (1.39,1.56)	1.46 (1.38,1.53)	1.48 (1.41,1.56)	-0.01 (-0.07,0.06)		0.00	0.01 (-0.08,0.10)
African American	1.33 (1.24,1.42)	1.21 (1.00,1.41)	1.42 (1.23,1.61)	1.40 (1.29,1.51)	0.12 (-0.04,0.29)		0.07	0.19 (-0.04,0.42)
Hispanic	1.43 (1.31,1.54)	1.49 (1.28,1.70)	1.25 (1.02,1.48)	1.47 (1.29,1.64)	-0.07 (-0.26,0.13)		-0.01	-0.02 (-0.32,0.27)

Table 6-61. The relationship between parental exposure[1] to general anti-drug advertising and parents' monitoring behavior[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental behaviors, by parent characteristics								
Males	1.37 (1.30,1.43)	1.36 (1.24,1.48)	1.32 (1.22,1.42)	1.40 (1.30,1.50)	0.01 (-0.09,0.11)		0.02	0.04 (-0.10,0.19)
Females	1.48 (1.43,1.52)	1.47 (1.39,1.55)	1.49 (1.40,1.58)	1.50 (1.43,1.57)	0.01 (-0.07,0.09)		0.01	0.03 (-0.08,0.14)
Less than college	1.34 (1.29,1.39)	1.31 (1.21,1.41)	1.26 (1.17,1.36)	1.44 (1.37,1.51)	0.03 (-0.05,0.12)		0.05	0.13 *(0.00,0.26)
Some college +	1.52 (1.46,1.58)	1.56 (1.46,1.66)	1.55 (1.47,1.63)	1.48 (1.40,1.57)	-0.03 (-0.12,0.05)		-0.03	-0.07 (-0.19,0.04)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-62. The relationship between parental exposure[1] to specific anti-drug advertising and parents' monitoring behavior[2], by both youth and parent characteristics

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental behaviors, by age of child									
12 to 13	1.73 (1.68,1.78)	1.78 (1.68,1.88)	1.68 (1.59,1.76)	1.73 (1.63,1.82)	1.73 (1.59,1.87)	-0.05 (-0.13,0.03)		-0.01	-0.05 (-0.22,0.13)
14 to 18	1.32 (1.26,1.37)	1.30 (1.20,1.41)	1.30 (1.21,1.39)	1.33 (1.26,1.41)	1.37 (1.18,1.55)	0.02 (-0.07,0.10)		0.02	0.06 (-0.16,0.29)
12 to 18	1.44 (1.40,1.48)	1.45 (1.36,1.53)	1.41 (1.34,1.48)	1.45 (1.38,1.51)	1.47 (1.33,1.60)	-0.01 (-0.07,0.06)		0.01	0.02 (-0.14,0.19)
Parental behaviors, by child characteristics									
Males	1.34 (1.28,1.39)	1.33 (1.22,1.44)	1.30 (1.20,1.40)	1.34 (1.24,1.43)	1.43 (1.28,1.57)	0.01 (-0.09,0.10)	0.018	0.03	0.10 (-0.10,0.29)
Females	1.55 (1.49,1.60)	1.59 (1.47,1.71)	1.52 (1.44,1.60)	1.56 (1.48,1.64)	1.51 (1.29,1.73)	-0.04 (-0.14,0.06)		-0.02	-0.08 (-0.32,0.16)
White	1.47 (1.42,1.52)	1.46 (1.37,1.55)	1.48 (1.38,1.57)	1.48 (1.41,1.55)	1.55 (1.40,1.71)	0.01 (-0.06,0.08)		0.03	0.09 (-0.08,0.27)
African American	1.33 (1.24,1.42)	1.24 (1.07,1.41)	1.29 (1.14,1.44)	1.38 (1.20,1.55)	1.35 (1.09,1.61)	0.09 (-0.04,0.23)		0.04	0.11 (-0.19,0.41)
Hispanic	1.43 (1.31,1.54)	1.55 (1.31,1.79)	1.24 (1.06,1.42)	1.42 (1.21,1.62)	1.29 (1.03,1.55)	-0.13 (-0.32,0.07)		-0.07	-0.26 (-0.63,0.10)

Table 6-62. The relationship between parental exposure[1] to specific anti-drug advertising and parents' monitoring behavior[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental behaviors, by parent characteristics									
Males	1.37 (1.30,1.43)	1.34 (1.21,1.47)	1.32 (1.20,1.44)	1.36 (1.24,1.47)	1.54 (1.37,1.70)	0.03 (-0.08,0.14)	0.030	0.06	0.20 (-0.01,0.40)
Females	1.48 (1.43,1.52)	1.50 (1.40,1.60)	1.46 (1.37,1.55)	1.49 (1.42,1.57)	1.44 (1.26,1.62)	-0.02 (-0.11,0.07)		-0.02	-0.06 (-0.27,0.15)
Less than college	1.34 (1.29,1.39)	1.36 (1.23,1.49)	1.30 (1.20,1.39)	1.33 (1.25,1.42)	1.38 (1.23,1.53)	-0.02 (-0.12,0.09)		0.01	0.02 (-0.19,0.22)
Some college +	1.52 (1.46,1.58)	1.53 (1.44,1.62)	1.50 (1.41,1.59)	1.55 (1.45,1.65)	1.56 (1.35,1.77)	-0.01 (-0.09,0.07)		0.01	0.03 (-0.20,0.26)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-63. The relationship between parental exposure[1] to general anti-drug advertising and parents' talking behavior[2], by both youth and parent characteristics
November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental behaviors, by age of child								
12 to 13	2.34 (2.28,2.39)	2.20 (2.11,2.28)	2.33 (2.26,2.41)	2.47 (2.38,2.55)	0.14 *(0.07,0.21)	<0.001	0.10	0.27 *(0.15,0.39)
14 to 18	2.30 (2.26,2.35)	2.18 (2.10,2.27)	2.31 (2.21,2.40)	2.42 (2.36,2.48)	0.12 *(0.04,0.19)	<0.001	0.09	0.23 *(0.12,0.35)
12 to 18	2.31 (2.27,2.35)	2.19 (2.12,2.26)	2.31 (2.24,2.38)	2.43 (2.38,2.49)	0.12 *(0.06,0.18)	<0.001	0.09	0.24 *(0.15,0.34)
Parental behaviors, by child characteristics								
Males	2.34 (2.29,2.38)	2.27 (2.18,2.35)	2.29 (2.19,2.39)	2.45 (2.39,2.52)	0.07 (0.00,0.15)	<0.001	0.08	0.19 *(0.08,0.30)
Females	2.28 (2.23,2.33)	2.11 (2.01,2.20)	2.34 (2.27,2.42)	2.41 (2.34,2.48)	0.18 *(0.10,0.25)	<0.001	0.11	0.30 *(0.19,0.42)
White	2.28 (2.23,2.32)	2.12 (2.04,2.21)	2.31 (2.25,2.37)	2.41 (2.35,2.47)	0.15 *(0.08,0.22)	<0.001	0.11	0.29 *(0.18,0.39)
African American	2.38 (2.26,2.49)	2.38 (2.22,2.54)	2.20 (1.91,2.49)	2.48 (2.32,2.64)	0.00 (-0.18,0.17)		0.04	0.10 (-0.15,0.35)
Hispanic	2.47 (2.39,2.56)	2.40 (2.25,2.56)	2.56 (2.42,2.70)	2.49 (2.37,2.62)	0.07 (-0.05,0.19)		0.03	0.09 (-0.10,0.28)

Table 6-63. The relationship between parental exposure[1] to general anti-drug advertising and parents' talking behavior[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental behaviors, by parent characteristics								
Males	2.18 (2.12,2.24)	2.03 (1.91,2.16)	2.17 (2.08,2.27)	2.33 (2.25,2.41)	0.15 *(0.05,0.24)	<0.001	0.10	0.30 *(0.16,0.44)
Females	2.38 (2.33,2.44)	2.26 (2.18,2.35)	2.39 (2.30,2.49)	2.48 (2.41,2.56)	0.12 *(0.04,0.19)	<0.001	0.09	0.22 *(0.10,0.33)
Less than college	2.33 (2.26,2.39)	2.21 (2.11,2.30)	2.33 (2.23,2.43)	2.45 (2.37,2.54)	0.12 *(0.03,0.20)	<0.001	0.09	0.25 *(0.12,0.38)
Some college +	2.30 (2.25,2.35)	2.16 (2.07,2.26)	2.30 (2.19,2.40)	2.41 (2.34,2.47)	0.13 *(0.05,0.21)	<0.001	0.09	0.24 *(0.13,0.36)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-64. The relationship between parental exposure[1] to specific anti-drug advertising and parents' talking behavior[2], by both youth and parent characteristics

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental behaviors, by age of child									
12 to 13	2.34 (2.28,2.39)	2.23 (2.15,2.31)	2.31 (2.23,2.38)	2.39 (2.30,2.49)	2.54 (2.41,2.68)	0.11 *(0.04,0.18)	<0.001	0.12	0.31 *(0.16,0.47)
14 to 18	2.30 (2.26,2.35)	2.25 (2.16,2.33)	2.24 (2.17,2.31)	2.40 (2.32,2.48)	2.39 (2.22,2.56)	0.06 (-0.02,0.14)	0.023	0.08	0.14 (-0.05,0.33)
12 to 18	2.31 (2.27,2.35)	2.24 (2.17,2.31)	2.26 (2.20,2.32)	2.40 (2.33,2.47)	2.43 (2.30,2.56)	0.07 *(0.01,0.14)	<0.001	0.09	0.19 *(0.05,0.33)
Parental behaviors, by child characteristics									
Males	2.34 (2.29,2.38)	2.26 (2.16,2.35)	2.33 (2.26,2.40)	2.41 (2.32,2.50)	2.40 (2.21,2.58)	0.08 (-0.01,0.16)		0.07	0.14 (-0.08,0.36)
Females	2.28 (2.23,2.33)	2.22 (2.11,2.32)	2.19 (2.10,2.28)	2.39 (2.31,2.46)	2.46 (2.28,2.64)	0.07 (-0.03,0.16)	0.002	0.10	0.24 *(0.06,0.43)
White	2.28 (2.23,2.32)	2.13 (2.03,2.23)	2.25 (2.19,2.31)	2.38 (2.31,2.45)	2.34 (2.17,2.51)	0.15 *(0.07,0.23)	0.005	0.09	0.21 *(0.04,0.39)
African American	2.38 (2.26,2.49)	2.42 (2.25,2.59)	2.25 (2.05,2.45)	2.45 (2.23,2.68)	2.48 (2.18,2.78)	-0.05 (-0.22,0.13)		0.07	0.06 (-0.28,0.40)
Hispanic	2.47 (2.39,2.56)	2.54 (2.39,2.69)	2.33 (2.15,2.50)	2.51 (2.37,2.64)	S (S)	-0.07 (-0.19,0.06)		0.08	S (S)

Table 6-64. The relationship between parental exposure[1] to specific anti-drug advertising and parents' talking behavior[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental behaviors, by parent characteristics									
Males	2.18 (2.12,2.24)	2.05 (1.92,2.17)	2.15 (2.05,2.25)	2.28 (2.17,2.40)	2.26 (2.00,2.52)	0.13 *(0.02,0.24)		0.08	0.22 (-0.07,0.51)
Females	2.38 (2.33,2.44)	2.33 (2.24,2.43)	2.32 (2.24,2.40)	2.46 (2.39,2.53)	2.50 (2.36,2.65)	0.05 (-0.03,0.13)	0.004	0.09	0.17 *(0.00,0.33)
Less than college	2.33 (2.26,2.39)	2.26 (2.16,2.36)	2.21 (2.10,2.33)	2.44 (2.36,2.51)	2.42 (2.25,2.59)	0.06 (-0.01,0.14)	0.021	0.08	0.16 (-0.02,0.34)
Some college +	2.30 (2.25,2.35)	2.22 (2.12,2.32)	2.29 (2.23,2.36)	2.36 (2.26,2.46)	2.44 (2.24,2.63)	0.08 (-0.02,0.17)	0.030	0.09	0.22 (-0.03,0.46)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-65. The relationship between parental exposure[1] to general anti-drug advertising and parents' reports of fun activities[2], by both youth and parent characteristics

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental reports, by age of child								
12 to 13	0.75 (0.73,0.77)	0.72 (0.68,0.75)	0.76 (0.73,0.80)	0.76 (0.73,0.79)	0.03 (0.00,0.06)	0.039	0.04	0.05 *(0.00,0.09)
14 to 18	0.58 (0.56,0.60)	0.50 (0.46,0.54)	0.59 (0.55,0.63)	0.63 (0.60,0.66)	0.08 *(0.05,0.11)	<0.001	0.10	0.13 *(0.08,0.17)
12 to 18	0.63 (0.61,0.65)	0.57 (0.54,0.60)	0.64 (0.61,0.67)	0.67 (0.64,0.69)	0.06 *(0.04,0.09)	<0.001	0.08	0.10 *(0.06,0.13)
Parental reports, by child characteristics								
Males	0.61 (0.59,0.63)	0.56 (0.52,0.60)	0.64 (0.60,0.68)	0.63 (0.60,0.67)	0.05 *(0.01,0.08)	0.003	0.06	0.07 *(0.02,0.12)
Females	0.65 (0.63,0.68)	0.58 (0.53,0.62)	0.64 (0.60,0.68)	0.70 (0.67,0.73)	0.08 *(0.04,0.11)	<0.001	0.11	0.13 *(0.07,0.18)
White	0.65 (0.63,0.67)	0.60 (0.56,0.63)	0.65 (0.61,0.68)	0.69 (0.66,0.72)	0.05 *(0.02,0.08)	<0.001	0.08	0.10 *(0.05,0.14)
African American	0.58 (0.54,0.63)	0.50 (0.43,0.57)	0.62 (0.52,0.72)	0.60 (0.55,0.66)	0.08 *(0.02,0.14)	0.015	0.08	0.10 *(0.02,0.18)
Hispanic	0.58 (0.55,0.62)	0.49 (0.42,0.56)	0.57 (0.47,0.68)	0.64 (0.57,0.70)	0.09 *(0.03,0.15)	<0.001	0.12	0.14 *(0.06,0.22)

Table 6-65. The relationship between parental exposure[1] to general anti-drug advertising and parents' reports of fun activities[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental reports, by parent characteristics								
Males	0.65 (0.62,0.67)	0.56 (0.51,0.62)	0.67 (0.62,0.72)	0.68 (0.65,0.72)	0.08 *(0.04,0.12)	<0.001	0.10	0.12 *(0.06,0.18)
Females	0.62 (0.60,0.64)	0.57 (0.53,0.61)	0.62 (0.58,0.66)	0.66 (0.63,0.69)	0.05 *(0.02,0.08)	<0.001	0.07	0.09 *(0.04,0.13)
Less than college	0.58 (0.56,0.60)	0.53 (0.48,0.57)	0.59 (0.54,0.64)	0.62 (0.59,0.65)	0.05 *(0.02,0.09)	0.002	0.08	0.09 *(0.03,0.15)
Some college +	0.68 (0.65,0.70)	0.62 (0.57,0.66)	0.67 (0.63,0.71)	0.72 (0.68,0.75)	0.06 *(0.02,0.10)	<0.001	0.08	0.10 *(0.05,0.15)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-66. The relationship between parental exposure[1] to specific anti-drug advertising and parents' reports of fun activities[2], by both youth and parent characteristics

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental reports, by age of child									
12 to 13	0.75 (0.73,0.77)	0.73 (0.69,0.77)	0.73 (0.70,0.77)	0.76 (0.73,0.80)	0.75 (0.69,0.82)	0.02 (-0.02,0.05)		0.02	0.02 (-0.06,0.10)
14 to 18	0.58 (0.56,0.60)	0.51 (0.47,0.55)	0.59 (0.55,0.62)	0.58 (0.54,0.62)	0.69 (0.62,0.76)	0.07 *(0.03,0.10)	<0.001	0.12	0.18 *(0.09,0.26)
12 to 18	0.63 (0.61,0.65)	0.58 (0.55,0.61)	0.63 (0.60,0.66)	0.63 (0.60,0.66)	0.71 (0.65,0.77)	0.05 *(0.02,0.08)	<0.001	0.09	0.13 *(0.06,0.20)
Parental reports, by child characteristics									
Males	0.61 (0.59,0.63)	0.52 (0.48,0.56)	0.60 (0.56,0.64)	0.63 (0.59,0.67)	0.71 (0.62,0.79)	0.09 *(0.05,0.12)	<0.001	0.13	0.18 *(0.09,0.28)
Females	0.65 (0.63,0.68)	0.65 (0.60,0.70)	0.65 (0.62,0.69)	0.64 (0.60,0.68)	0.71 (0.63,0.79)	0.01 (-0.04,0.05)		0.04	0.06 (-0.04,0.16)
White	0.65 (0.63,0.67)	0.62 (0.59,0.66)	0.64 (0.61,0.68)	0.66 (0.61,0.70)	0.72 (0.65,0.80)	0.03 (0.00,0.06)	0.016	0.07	0.10 *(0.02,0.19)
African American	0.58 (0.54,0.63)	0.45 (0.37,0.54)	0.63 (0.56,0.71)	0.58 (0.52,0.64)	0.62 (0.48,0.76)	0.13 *(0.07,0.19)		0.11	0.17 (0.00,0.34)
Hispanic	0.58 (0.55,0.62)	0.52 (0.42,0.62)	0.55 (0.47,0.63)	0.57 (0.52,0.63)	0.75 (0.61,0.88)	0.06 (-0.03,0.15)	0.008	0.18	0.22 *(0.05,0.40)

Table 6-66. The relationship between parental exposure[1] to specific anti-drug advertising and parents' reports of fun activities[2], by both youth and parent characteristics (continued)

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental reports, by parent characteristics									
Males	0.65 (0.62,0.67)	0.64 (0.58,0.70)	0.63 (0.59,0.67)	0.63 (0.58,0.69)	0.75 (0.67,0.84)	0.01 (-0.05,0.06)	0.042	0.07	0.11 *(0.01,0.22)
Females	0.62 (0.60,0.64)	0.55 (0.51,0.59)	0.63 (0.59,0.66)	0.63 (0.60,0.67)	0.69 (0.61,0.76)	0.07 *(0.04,0.11)	0.002	0.10	0.14 *(0.06,0.22)
Less than college	0.58 (0.56,0.60)	0.52 (0.47,0.57)	0.58 (0.54,0.62)	0.59 (0.56,0.62)	0.64 (0.56,0.73)	0.06 *(0.02,0.11)	0.016	0.09	0.13 *(0.03,0.23)
Some college +	0.68 (0.65,0.70)	0.64 (0.59,0.68)	0.67 (0.63,0.71)	0.67 (0.63,0.72)	0.78 (0.71,0.84)	0.04 (0.00,0.07)	0.001	0.10	0.14 *(0.06,0.22)

[1]Limited to parents of nonusing youth aged 12 to 18.

[2]Measurement of this construct is detailed in Appendix E.

Table 6-67. The relationship between parental exposure to general anti-drug advertising and youth use of marijuana in the past 12 months, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental reports, by age of child								
12 to 13	2.9 (2.2,3.7)	3.5 (2.0,5.0)	1.2 (0.3,2.1)	4.0 (2.7,5.4)	-0.6 (-1.9,0.7)		0.01	0.5 (-1.5,2.6)
14 to 18	20.9 (19.1,22.6)	21.1 (18.3,23.8)	20.6 (17.5,23.8)	21.0 (18.0,24.0)	-0.2 (-2.8,2.4)		0.00	0.0 (-4.1,4.1)
12 to 18	15.6 (14.3,16.8)	15.5 (13.6,17.5)	15.2 (12.9,17.5)	16.1 (13.8,18.4)	0.0 (-1.9,1.9)		0.01	0.6 (-2.6,3.7)
Parental reports, by child characteristics								
Male	16.5 (14.8,18.3)	16.0 (13.3,18.7)	15.6 (12.4,18.8)	17.9 (14.2,21.6)	0.5 (-2.4,3.4)		0.02	1.9 (-3.1,6.9)
Female	14.5 (12.9,16.2)	15.0 (12.2,17.9)	14.7 (11.6,17.8)	14.3 (11.5,17.0)	-0.5 (-3.1,2.1)		-0.01	-0.7 (-4.8,3.3)
White	16.4 (14.8,18.0)	17.1 (14.2,20.0)	15.7 (13.1,18.2)	17.6 (14.3,20.9)	-0.6 (-3.4,2.1)		0.00	0.5 (-4.2,5.2)
African American	12.8 (10.2,15.4)	13.0 (7.6,18.4)	11.9 (6.9,16.9)	12.2 (8.5,15.9)	-0.2 (-5.1,4.7)		-0.01	-0.8 (-7.1,5.5)
Hispanic	14.3 (10.9,17.8)	9.7 (5.5,13.9)	16.9 (7.7,26.2)	14.6 (10.0,19.3)	4.6 *(0.3,8.9)	0.034	0.06	4.9 (-1.6,11.5)

Table 6-67. The relationship between parental exposure to general anti-drug advertising and youth use of marijuana in the past 12 months, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Percent of youth by parent exposure level				Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)				
Parental reports, by child								
Risk score								
Higher risk	35.6	35.0	34.3	36.9	0.6		0.02	1.9
	(33.1,38.1)	(31.1,38.9)	(29.8,38.9)	(32.7,41.1)	(-3.1,4.3)			(-4.2,8.0)
Lower risk	3.0	3.2	3.0	2.9	-0.2		-0.01	-0.3
	(2.1,3.8)	(1.6,4.7)	(1.1,4.9)	(1.8,4.0)	(-1.5,1.1)			(-2.2,1.7)
Sensation seeking								
High	23.6	22.8	23.1	24.5	0.8		0.02	1.7
	(21.7,25.5)	(19.5,26.1)	(19.7,26.5)	(21.2,27.8)	(-2.3,3.9)			(-3.3,6.6)
Low	5.8	6.6	5.0	6.1	-0.9		-0.01	-0.6
	(4.5,7.1)	(4.1,9.1)	(3.3,6.6)	(3.9,8.2)	(-2.9,1.2)			(-3.5,2.4)
Parental reports, by parent characteristics								
Males	14.9	12.8	15.2	16.3	2.1		0.04	3.5
	(12.2,17.6)	(9.9,15.7)	(11.8,18.6)	(11.9,20.7)	(-0.6,4.8)			(-1.4,8.3)
Females	15.9	16.8	15.2	16.0	-0.9		-0.01	-0.9
	(14.4,17.4)	(14.0,19.7)	(12.0,18.4)	(13.3,18.6)	(-3.4,1.5)			(-4.7,3.0)
Less than college	16.5	15.7	17.2	16.0	0.8		0.00	0.3
	(14.6,18.3)	(12.3,19.0)	(12.8,21.6)	(13.5,18.5)	(-2.2,3.8)			(-3.8,4.5)
Some college +	14.7	15.3	13.6	16.4	-0.5		0.01	1.1
	(13.0,16.5)	(12.1,18.5)	(10.5,16.7)	(12.7,20.0)	(-3.3,2.2)			(-3.9,6.1)

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).

Table 6-68. The relationship between parental exposure to specific anti-drug advertising and youth use of marijuana in past 12 months, by age, gender, race/ethnicity, risk score, and sensation seeking

November 1999 through December 2001

Characteristics	Exposure level of parents (real or hypothetical)					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental reports, by age of child									
12 to 13	2.9	2.2	3.7	2.7	3.1	0.7		0.01	0.9
	(2.2,3.7)	(1.1,3.4)	(2.2,5.1)	(1.4,4.0)	(1.0,5.3)	(-0.4,1.7)			(-1.4,3.3)
14 to 18	20.9	20.3	20.9	20.3	26.5	0.6		0.05	6.2
	(19.1,22.6)	(16.9,23.6)	(17.8,24.0)	(17.7,23.0)	(18.8,34.2)	(-2.2,3.4)			(-1.9,14.4)
12 to 18	15.6	14.8	15.9	15.3	20.0	0.8		0.05	5.2
	(14.3,16.8)	(12.5,17.1)	(13.5,18.2)	(13.2,17.4)	(13.9,26.1)	(-1.2,2.7)			(-1.2,11.6)
Parental reports, by child characteristics									
Male	16.5	15.4	18.6	16.2	20.4	1.2		0.04	5.0
	(14.8,18.3)	(12.0,18.7)	(15.4,21.9)	(13.1,19.4)	(12.1,28.7)	(-1.6,4.0)			(-4.2,14.3)
Female	14.5	14.1	13.1	14.3	19.6	0.4		0.06	5.5
	(12.9,16.2)	(10.7,17.5)	(10.1,16.0)	(11.3,17.3)	(11.8,27.4)	(-2.6,3.5)			(-2.7,13.8)
White	16.4	15.1	17.0	15.1	25.7	1.4	0.038	0.08	10.7
	(14.8,18.0)	(12.4,17.8)	(14.0,20.1)	(12.8,17.4)	(16.6,34.9)	(-1.0,3.7)			*(1.5,19.8)
African American	12.8	14.4	11.6	13.0	13.7	-1.6		0.00	-0.7
	(10.2,15.4)	(7.9,21.0)	(7.8,15.4)	(7.6,18.3)	(6.7,20.7)	(-7.5,4.3)			(-10.6,9.1)
Hispanic	14.3	15.3	14.4	15.2	8.6	-1.0		-0.07	-6.7
	(10.9,17.8)	(7.5,23.0)	(7.9,21.0)	(9.5,21.0)	(4.3,12.8)	(-7.7,5.6)			(-15.5,2.1)

Table 6-68. The relationship between parental exposure to specific anti-drug advertising and youth use of marijuana in past 12 months, by age, gender, race/ethnicity, risk score, and sensation seeking (continued)

November 1999 through December 2001

Characteristics	Percent of youth by parent exposure level					Direct Campaign effect (C1-C2)	Significance level of monotone dose-response relationship, if p<.05	Spearman's rho (rank order correlation)	Potential maximum Campaign effect (C5-C2)
	Actual during period (C1)	Less than 1 time per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)				
Parental reports, by child characteristics									
Risk score									
Higher risk	35.6	33.7	37.0	34.0	46.8	1.8	0.045	0.09	13.1
	(33.1,38.1)	(28.9,38.5)	(32.6,41.5)	(29.4,38.6)	(35.8,57.8)	(-2.5,6.1)			*(1.3,24.9)
Lower risk	3.0	4.1	2.5	2.4	1.6	-1.2		-0.05	-2.5
	(2.1,3.8)	(1.6,6.6)	(1.3,3.6)	(1.3,3.6)	(0.6,2.7)	(-3.1,0.8)			(-5.4,0.4)
Sensation seeking									
High	23.6	22.0	24.2	22.6	31.4	1.6		0.07	9.5
	(21.7,25.5)	(18.1,25.8)	(20.8,27.7)	(19.4,25.8)	(22.0,40.9)	(-1.8,5.1)			(-0.4,19.3)
Low	5.8	6.1	5.6	6.4	8.5	-0.4		0.04	2.4
	(4.5,7.1)	(3.9,8.4)	(3.1,8.1)	(4.1,8.6)	(2.4,14.6)	(-2.4,1.6)			(-4.0,8.8)
Parental reports, by parent characteristics									
Males	14.9	14.5	16.4	14.9	15.6	0.5		0.01	1.1
	(12.2,17.6)	(9.7,19.3)	(11.9,20.9)	(11.6,18.2)	(8.4,22.7)	(-3.3,4.3)			(-7.7,9.9)
Females	15.9	14.9	15.6	15.5	21.8	0.9		0.06	6.9
	(14.4,17.4)	(12.0,17.9)	(12.6,18.5)	(12.5,18.6)	(13.6,30.0)	(-1.8,3.6)			(-1.6,15.5)
Less than college	16.5	15.5	16.8	15.7	19.0	1.0		0.03	3.5
	(14.6,18.3)	(11.6,19.3)	(13.3,20.2)	(13.1,18.4)	(11.7,26.3)	(-2.5,4.4)			(-5.0,12.0)
Some college +	14.7	14.2	15.1	14.7	21.3	0.6		0.06	7.1
	(13.0,16.5)	(11.2,17.2)	(12.7,17.4)	(11.2,18.2)	(11.3,31.3)	(-1.7,2.8)			(-3.2,17.5)

NOTE: Direct campaign effects are estimated by comparing mean cognitive outcomes observed (C1) to projections of what those means would have been in the absence of the Media Campaign (C2).