

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

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

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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).

This program has progressed through three phases of increasing complexity and intensity. Phases I and II are not discussed in this report. ONDCP has other reports available that evaluate those phases. This report focuses on Phase III, which began in September 1999 and is planned to run at least until 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 second semiannual report of the Westat and Annenberg evaluation of Phase III of the Media Campaign.

This report by Westat and Annenberg provides six types of information:

1. A brief update and description of the Media Campaign’s activities to date;
2. A review of the logic and approach of the evaluation;
3. Statistics on the level of exposure to messages achieved by the Media Campaign in 16 months of Phase III;
4. Evidence for change in the behaviors, beliefs, attitudes, and intentions of both parents and youth between the first two waves of data collection. On average, Wave 1 respondents were interviewed 6 months before Wave 2 respondents, so the time period for change is brief;
5. A description of the overall pattern for these outcome measures, combining Wave 1 and Wave 2 data with some examination of the differences among important subgroups of society. While this repeats some of the results presented in the first semi-annual report, the addition of approximately 60 percent additional sample permits greater precision in estimates; and
6. Evidence for association of exposure and the outcomes, with statistical controls for potential confounders, to serve as the basis for a preliminary look at Campaign effects.

This executive summary focuses on evidence for Campaign associated change in youth and parent outcomes. However, the Campaign effects analyses in this report are only a first look. There has been relatively little time for the Campaign to produce detectable changes in the

outcomes. Available data, which include only cross-sectional samples, permit, at best, tentative claims about short term direct effects on individuals. Later rounds of data collection will allow a longer period for change to have occurred; this may permit analyses of effects that are mediated through parents and social networks, and with the accretion of repeated measurements of the same respondents over time, it will be possible to have a stronger basis for causal inferences. Indeed, conclusive evidence will take a few years to accumulate. The final report is scheduled for spring 2004. At that time, the sample youth and their parents will have been studied for 3 to 4 years.

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 targets paid advertising at youth aged 9 to 18, 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.

ONDCP performs overall and day-to-day 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 pro bono 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); and
- Fleishman-Hillard, a public relations firm, which coordinates the non-advertising components of the Media Campaign.

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 broadcast 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 two waves of an in-home survey. Wave 1 included 3,312 youth from 9 to 18 years old and 2,293 of their parents undertaken between November 1999 and May 2000; Wave 2 included 2362 youth and 1632 of their parents interviewed between July and December 2000. These respondents represent the approximately 40 million youth and 43 million of their parents who are the target audience for the Media Campaign. The name of this survey is the National Survey of Parents and Youth (NSPY).

NSPY was designed to represent youth living in homes in the United States. Sampling of eligible youth was designed to produce approximately equal sized samples within three age subgroups (9-11, 12-13, 14-18). 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 drawn in the rare event where the two sample youth were not siblings.

The interviewers for NSPY achieved a response rate of 65 percent for youth and 63 percent for parents in Wave 2. Final estimates are adjusted for nonresponse, for differences with known population characteristics, with confidence intervals accounting for the complex sample design.

NSPY questionnaires were administered in respondents' homes on 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 respondent. All sensitive questions and answer categories appeared on the laptop screen and were said to the respondent in a recorded voice over headphones 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 their beliefs, attitudes, intentions, and behaviors with regard to their interactions with their

children. These included talk with their children about drugs, parental monitoring of children's lives, and involvement in activities with their children.

Ad exposure was measured in NSPY for both youth and parents by playing current or very recent TV and radio advertisements for respondents on laptop computers 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, there were some unaided questions about 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

Across its multiple media outlets, the Media Campaign reports that it purchased enough advertising time to achieve an expected exposure to 2.6 youth-targeted ads per week for the average youth and to 2.2 parent-targeted ads per week for the average parent over the 70-week period covered by this report (September 1999 through December 2000). These estimates include Campaign advertisements intended for either general market youths or general market adults; they do not include exposure by youth or parents to advertisements intended for other audiences, often called "spill."

- During the second half of 2000 (i.e., Wave 2), the Campaign began to focus more intensively on youths and less intensively on their parents. (See Figures ES-1 and ES-2.) Between September, 1999 through May 2000, and June through December 2000, parent exposure declined from 2.7 to 1.5 expected exposures per week, while youth exposures were stable across waves at 2.6 per week, although this reflected a summer reduction and a fall increase.
- For adults, the primary media buys, as reported by Ogilvy, the media buyer for the Media Campaign, were in outdoor media (33%), network radio (31%), network television (22%), magazines (9%), and newspapers (4%), where the percentages refer to the percent of exposures through each channel. The Internet and ads in cinema account for the remaining 1 percent of GRPs. For youth, the primary media buys, as reported by Ogilvy, were on network television (22%) and network radio (19%) with the rest on in-school television (16%), spot buys of radio (9%) and television (12%), and in magazines (8%). The remaining 14 percent of youth GRPs were allocated to the internet (3%), basketball backboards (5%), arcades (2%), and nontraditional media (4%).
- Over the entire period, parents had much less opportunity than did their children to be exposed to targeted television advertising. The Campaign purchased enough youth targeted television to achieve 1.3 exposures per week; for adults the targeted television advertising was designed to achieve only about 0.5 exposures per week.

Figure ES-1
Weekly youth-targeted general market GRPs
(September 1999 through December 2000)

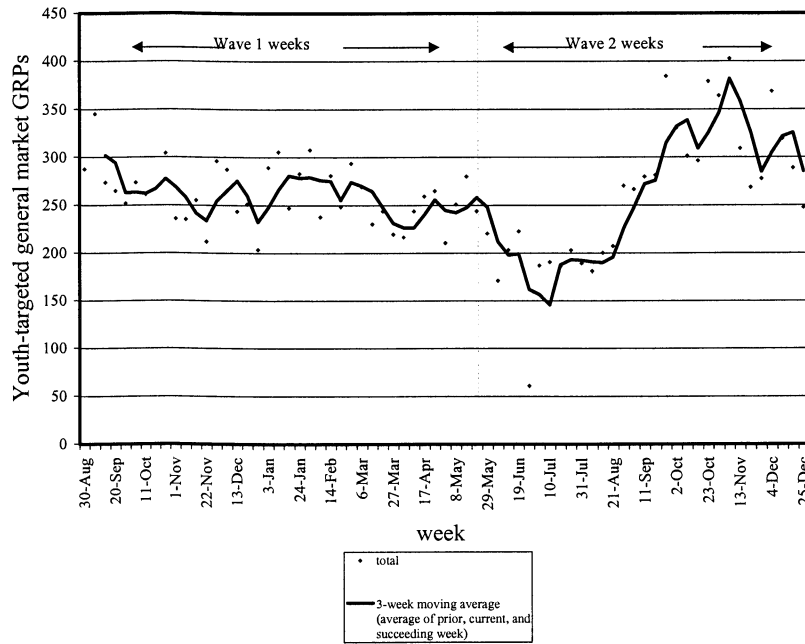
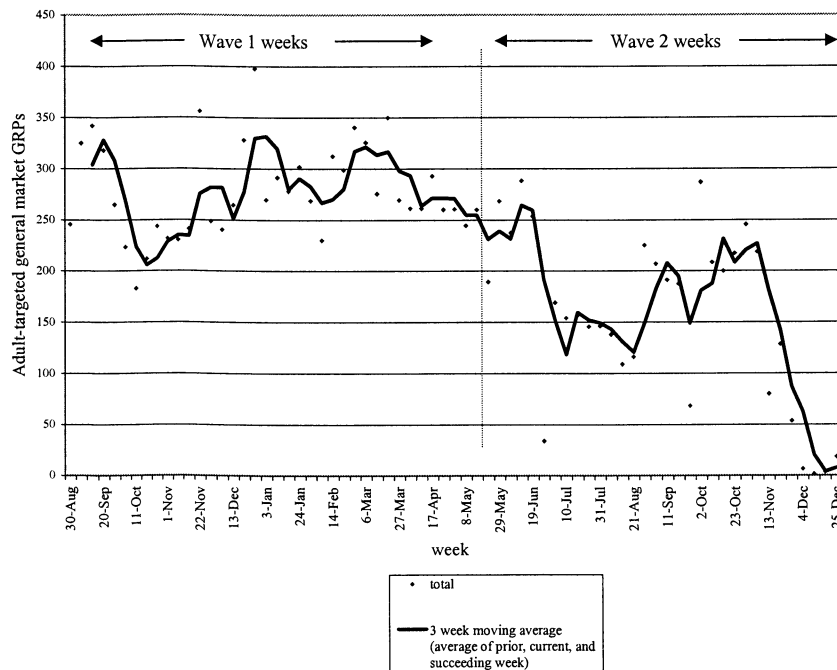


Figure ES-2
Weekly parent-targeted general market GRPs
(September 1999 through December 2000)



NSPY used two measures of exposure; the first is based on general recall of seeing anti-drug ads through all media, with the second based on aided recall of currently broadcast ads on television and radio.

- The decline in media purchases translated to a small but statistically significant decline in parent recall of media exposures (Table ES-1). The general exposure measure across all media showed little or no decline, while the aided TV ad measure showed only a small decline. Respondents during Wave 2 were interviewed throughout the July to December 2000 period; the decline in media purchases was particularly sharp only during the final 6 weeks of the period, so many study participants might have been only mildly affected by the decline (see Figure ES-2).
- Stable media purchases for youth translated into stable reports of exposures. Table ES-1 shows unchanging levels of exposed 9- to 13-year-olds, and a possible trend upward for 14- to 18-year-olds. (The Wave 1 to Wave 2 changes reported in this table for 14- to 18-year-olds are not significant; however other estimators, including mean aided exposures to television ads, and mean general exposure to all media do show significant upward gains for 14- to 18-year-olds (see Detail Tables 3-2, 3-20). Overall, there was little change in youth exposure over the year (see Chapter 3).

**Table ES-1
Change in Exposure to Campaign Advertising Across Waves**

Population	Exposure Measure: % seeing/hearing ads 1 or more times per week	Wave 1	Wave 2
Parents	General Exposure: Across all media	70%	70%
	Aided Exposure: TV ads	25%	22%*
	Aided Exposure: radio ads	10%	10%
Youth 9-11	General Exposure: Across all media	60%	57%
	Aided Exposure: TV ads	30%	32%
Youth 12-13	General Exposure: Across all media	72%	76%
	Aided Exposure: TV ads	40%	43%
	Aided Exposure: radio ads	NA	4%
Youth 14-18	General Exposure: Across all media	75%	77%
	Aided Exposure: TV ads	34%	37%
	Aided Exposure: radio	NA	4%

* Significant between waves change, $p < .05$.

NA: Radio use not measured for 9- to 11-year-olds at all and not for other youth during Wave 1.

Table ES-1 illustrates some other important patterns with regard to exposure:

- Exposure of parents to TV advertising based on the aided recall measure was sharply less than for youth, consistent with the lower buys in television for parents.
- Exposure of parents and youth to radio ads was minimal. The median aided recall of specific radio ads by parents and youth was 0 exposures in recent months. Fifty-three percent of the parents recalled none of the radio ads. Ten percent reported exposure once per week or more. Youth radio advertising was measured only during the second wave of NSPY, but that period shows similarity to the parent recall information. Sixty-four percent of youth did not recall hearing any of the radio ads that were on the air in the 2 months previous to their interview, while only 5 percent recalled hearing such ads once a week or more.
- The NSPY measures of aided recall for specific television ads correlate well with the Ogilvy data based on purchasing patterns and general media consumption, particularly for youth. Ads that should have higher viewership levels based on Ogilvy data usually have higher NSPY exposure estimates (see Appendix C).

The Internet

The data confirm that Internet use is very high and increasing among 12- to 18-year-olds and even among parents. But this does not translate into very much exposure to anti-drug information.

- There were no meaningful changes between waves in visits to sites where anti-drug information is to be found (“anti-drug sites”) by youth. A close to constant 10 percent or less of youth have visited such anti-drug sites even once in the past 6 months. There was, however, a slight but significant decline (8% to 5%) in the proportion of 14- to 18-year-olds who claimed to have visited sites with pro-drug information (“pro-drug sites”).
- Parents increased their use of the Internet (60% at Wave 1 and 68% at Wave 2) and this may have translated into more use of parenting-skill sites (7% to 9%). But the proportions of all parents visiting both those sites and other anti-drug sites (an average of 6% across both waves) remain small.

Exposures to Other Drug Messages

Both youth and parent audiences receive messages about drugs from other 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 purchased anti-drug media messages. Exposure to messages through these other public sources remains

high, but, with a few exceptions, there was not much change in them between waves (Table ES-2).

- Parents report slightly inconsistent change patterns. Weekly exposure to mass media stories about youth and drugs was very high, but declined slightly, while recall of hearing a lot about anti-drug programs and laws increased. A small, but increasing number reported hearing a lot about drug-related referenda. This was highest and increased most sharply among parents in the western part of the country (10% to 16%).
- Slightly less than one-third of all parents reported attending anti-drug and parent effectiveness programs in the past year. This involvement did not change for the entire population, but there was an apparent increase among the subgroup of urban parents for drug abuse prevention programs (from 25% to 33%).

Table ES-2
Change in Exposure to Drug-Related Communication Across Waves

Measure	Population	Wave 1	Wave 2
% In-school drug education past year	Youth 9-11	55%	56%
	Youth 12-13	76%	75%
	Youth 14-18	62%	62%
% extracurricular drug education past year	Youth 9-11	8%	8%
	Youth 12-13	6%	7%
	Youth 14-18	9%	7%
% weekly exposure to TV movies, sitcoms, or dramas with drugs and youth content	Youth 9-11	NA	NA
	Youth 12-13	18%	20%
	Youth 14-18	26%	24%
% weekly exposure to stories on at least one medium with drugs and youth content	Parents	85%	83%*
% hearing a lot about anti-drug programs in community in past year	Parents	32%	36%*
% hearing a lot about drug-related referenda in past year	Parents	6%	9%*
% attending drug prevention programs in past year	Parents	29%	32%
% attending parent effectiveness programs in past year	Parents	29%	31%

NA: not asked.

* Significant between waves change, $p < .05$.

Here are a few patterns that were noticed in the first semi-annual report and confirmed in this second semi-annual report with no strong evidence of change:

- Most youth report receiving anti-drug education in school during the past year and in previous years.
- Many fewer youth report that their involvement with extracurricular activities has led to anti-drug education.
- Youth see and hear a good deal about drug use among young people in the mass media. About one-quarter of all youth recalled weekly exposure to such stories on TV movies sitcoms, or dramas. More than 96 percent of all youth noticed media coverage about drug use among young people at least once a month.

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. Fewer 9- to 11-year-olds and 14- to 15-year-olds reported conversations about drugs with both parents and friends in Wave 2 than in Wave 1 (Table ES-3). There was a stable level of such conversations for the other two age cohorts. Parents, in describing the same conversations, claimed higher levels than their children, and their reports of drug-centered conversations remained stable between waves, unlike those of their 9- to 11- and 14- to 15-year-old children.

- Most youth have conversations about drugs, and many of them have such conversations frequently. The partners for such conversations shift sharply as youth mature. As youth mature, they are less likely to talk with their parents and more likely to talk with friends (see Table ES-3).
- In the course of conversation about drug use, young people of all ages discuss negative things about drugs; but many older youth also speak positively about drugs. For 12- to 13-year-olds, conversations with the theme “marijuana use isn’t so bad” occurred for only 10 percent of the respondents, at about one-fifth the rate as conversations about “bad things that happen if you use drugs.” Among 16- to 18-year-olds the pro-marijuana conversations are reported by 33 percent of the respondents, about three-fifths as often as discussions of the 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.

Table ES-3
Change in Drug-related Conversations Across Waves

% with two or more conversations in past 6 months	Population	Wave 1	Wave 2
With friends	Youth 9-11	29%	23%*
	Youth 12-13	45%	44%
	Youth 14-15	70%	52%*
	Youth 16-18	68%	71%
With parents	Youth 9-11	63%	57%*
	Youth 12-13	59%	56%
	Youth 14-15	59%	52%*
	Youth 16-18	48%	52%
With children	Parents of 9-11	71%	72%
	Parents of 12-13	80%	78%
	Parents of 14-15	82%	79%
	Parents of 16-18	78%	80%

* Between wave change significant at $p < .05$.

Differences among Subgroups in Campaign Exposure:

With the additional sample available from Wave 2, it was possible to detect more sensitively the overall subgroup differences in exposure to Campaign advertising and other public communication. Some of the major differences are summarized here:

- **Race and ethnicity:** Through many channels, African-American and Hispanic youth and parents were substantially more likely to be exposed to anti-drug ads and other information more than were white youth and parents. For both youth and parents, differences were substantial for Campaign TV ads, for print, movie, and outdoor channels; for general mass media exposures; for other sources of anti-drug information; and for talk about drugs and drug ads. For example, 50 percent of African American and Hispanic parents reported general exposure to anti-drug advertising three or more times per week, while 38 percent of white parents reported that level of exposure.
- **Parent gender:** Mothers, more than fathers, reported that they or their partner engaged with their children around the issue of drug use. They were more likely to report talk with their children about drugs generally and about drug ads (i.e., all drug ads including those sponsored by the Campaign). For example, 53 percent of mothers compared to 40 percent of fathers reported talk with their children about the drug ads. Although fathers tend to be heavier users of the internet than mothers, mothers were more likely to use the internet to obtain information about parenting skills.

- **Parent education:** College educated respondents reported lower levels of exposure to most anti-drug sources than did less well-educated respondents, including to specific TV and radio ads, and general ad exposure. They did report much higher use of the internet than parents with high school or less, and more visits to anti-drug sites and parenting skill sites.
- **Town and rural versus suburban and urban areas:** The mix of in-school and extra-curricular drug education varied by urbanicity. In-school drug education is slightly more common in town and rural areas, than in urban areas, while extracurricular drug education is less common in town and rural areas than in urban areas. Town and rural youth and parents had less overall exposure to anti-drug ads than urban parents. Town and rural parents were also more likely than suburban parents to use the internet to research parenting issues despite the finding that somewhat fewer town and rural parents use the internet.

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 trial use (i.e., using at least once in a lifetime) and regular use (i.e., using at least 10 or more times in a year) of marijuana and inhalants. NSPY includes questions about drug use primarily so that the correlations of cognitive variables (such as beliefs, attitudes, social norms, self-efficacy, and intentions) with actual usage can be studied. It was also designed to measure linkages in a theoretical model for Media Campaign action: linkages between ad exposure and attitudes, between attitudes and intentions, and between intentions and actions (drug use).

Because it has a larger sample and a long trend line, another survey sponsored by the Federal Government—Monitoring the Future (MTF) study—provides better measurements of change in drug use behaviors.

- The available data from the 1998 through 2000 annual MTF Surveys suggest that marijuana use has been stable since 1998. However, even the last of those measures was taken only about 7-8 months after the launch of Phase III, in spring of 2000, so it may have been too early to expect to see any substantial effects of the Phase III Media Campaign (see Figure ES-3).
- The NSPY comparisons between Wave 1 and Wave 2, although based on smaller samples, and with age rather than grade-defined cohorts, show similar stability in drug use throughout 2000 (Table ES-4).

Figure ES-3
Percentage of 8th, 10th, and 12th graders reporting annual marijuana use: MTF 1991-2000

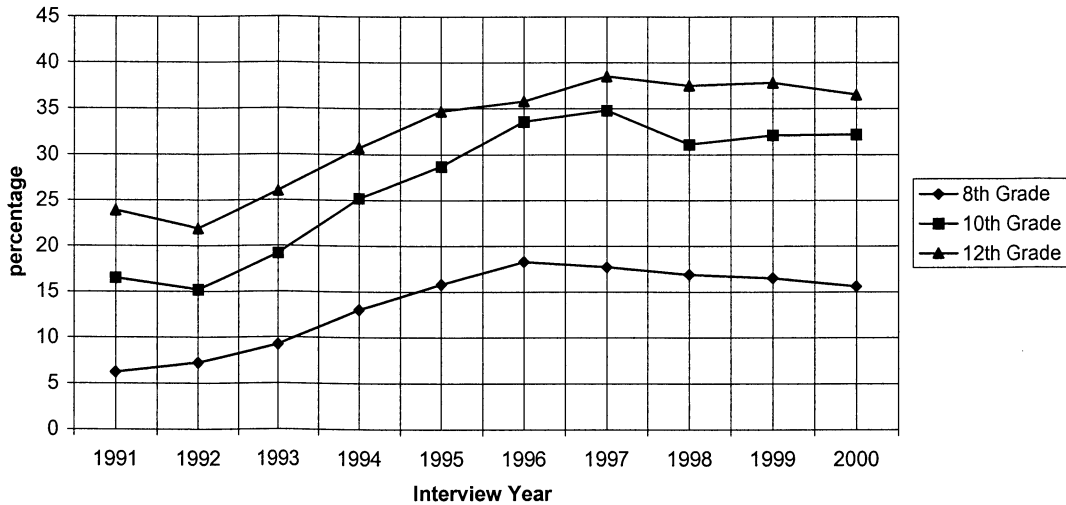


Table ES-4
Use of marijuana by age in 2000 (NSPY reports)

Marijuana use in the past year		
Age group	Wave 1 (%)	Wave 2 (%)
9-11	0.8	0.0
12-13	3.3	3.2
14-15	11.2	11.5
16-18	29.0	29.3

Campaign Effects

The Logic of Claiming Campaign Effects

The report provides a first analysis of Campaign effects. Formally, the analysis involves two complementary tests, establishing that there has been change and establishing that exposure to the Campaign is associated with outcomes. If the Campaign has been successful, there should be positive change in the outcomes. However change over time in outcomes may be due to other influences besides the Campaign. Thus, if the change is to be attributed to the Campaign, there also ought to be an association between exposure and the outcomes. Thus the strongest evidence will come from finding change and finding association. If both of those are found, there is good reason to claim support for Campaign effects.

In practice, the application of the test is constrained. The analysis of change for this report is not definitive: Wave 1 was collected during early months of phase III, and there was relatively little time for additional change to occur, given only 6 months between Waves 1 and 2. Also, other forces might be driving drug use in unknown directions confounding any Campaign effects on change. While over the course of the projected 4 years of the evaluation, change in a desirable direction for outcomes will be strongly expected, change between Wave 1 and Wave 2 is less definitive.

In contrast, the finding of an association is more essential to a claim of Campaign effect for this report. However, even evidence of the presence or absence of an association will not be a sufficient ground for making a definitive decision about whether effects have occurred.

A positive association may be due to the influence of other variables on both exposure and outcomes. This threat to inference can be substantially lessened by statistical controls as described below. An association observed in cross-sectional data may also reflect the influence of the outcome variable on (recall of) exposure. This threat of ambiguity of causal direction is more difficult to reject until longitudinal data are in hand, and it is possible to establish time order between variables; that is, examine whether a prior state on exposure affects change over time in the outcome measure.

There is another constraint as well. The analysis considers only immediate direct effects of exposure on individuals. An association between exposure and outcomes is expected only if individuals personally exposed to Campaign messages learn and accept those messages in the short term. Future reports will examine effects that occur through other routes, including those mediated through parents or other social networks or through institutions. It will also be possible to look at delayed effects.

For youth, the analysis is limited to non-using 12- to 18-year-olds and concerns their attitudes, beliefs, and intentions (“cognitions”) about possible initiation of marijuana use in the subsequent year. There were not enough occasional users (i.e., those using it nine times in the past year) among the youth to examine Campaign effects on their cognitions related to regular use. The parent analysis includes all parents, 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.

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 pre-existing 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 hard drugs). The analyses of youth associations were further controlled for any pre-existing 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.

Campaign Effects on Youth

There is evidence of change in cognitions for 14- to 18-year-olds non-using youth between Waves 1 and 2. However, there is little evidence thus far that exposure to the Campaign was related to outcomes. Those who reported higher exposure were not reliably more likely to respond in desirable ways than were those who reported less exposure. Among 12- to 13-year-old non-users, there was neither a consistent pattern of change, nor consistent evidence of association between exposure and outcomes, although there were some scattered significant associations.

There is good evidence of encouraging changes in anti-drug sentiment among older non-using teens (14 to 18) with regard to marijuana trial between Wave 1 and Wave 2. Of 17 outcomes that addressed beliefs, perceptions of others use, and perception of others disapproval of marijuana use, attitudes and intentions, six showed significant change in a desirable direction. This included a change from 83 percent to 87 percent saying “definitely not” when asked how likely it was that they would use marijuana even once or twice in the next year. Table ES-5 presents results for nine of those outcomes for 12- to 13- and 14- to 18-year-olds. Most of the excluded items were about specific belief consequences, several of which showed significant changes between waves (see Chapter 7); they are represented in this table as a set by the sum of the beliefs variable.

This pattern of positive change contrasts with the lack of consistent significant results from analysis of the association of exposure and the outcome measures. In Table ES-5, the test for association presented focuses on the overall association of exposure and outcome, specifically on whether there is a monotone dose-response relationship.¹ As a form of shorthand, the word “association” is used through the balance of this executive summary to have this special meaning. Chapter 10 looks also at the direct Campaign effect, whether a person who received an average level of exposure in the population was different from a person who was minimally exposed. It shows a largely consistent picture with the results reported here.

¹ A positive monotone dose-response relationship is where (a) there is a significant tendency for those with higher levels of exposure to be higher on the outcome variable than those with lower levels of exposure, and (b) those in any specific category or dose of exposure have a higher or equal level on the outcome variable than those who are in any lower dose category on exposure. In other words, increasing the dose never reverses the direction of the effect. In this case, it means that higher recall of anti-drug advertising never led to a reversal of the effect of exposure on outcomes.

Table ES-5
Evidence about Youth Campaign Effects

Outcome measure	12-13 year olds				14-18 year olds			
	Change		Associated with exposure?†		Change		Associated with exposure?†	
	W1	W2	Aided exp.	General exp.	W1	W2	Aided exp.	General exp.
Percent definitely not intending to try marijuana	92%	93%	No	No	83%	87%*	No	No
Percent whose friends strongly disapprove of marijuana trial	69%	73%	No	No	54%	60%	No	No
Percent whose parents strongly disapprove of marijuana trial	95%	96%	No	No	92%	97%*	No	No
Percent who strongly disapprove of others' occasional marijuana use	62%	66%	No	No	31%	36%	No	No
Percent believing that few or none of their peers have used marijuana in past 12 months	75%	77%	No	YES↓	29%	30%	YES↓	No
Percent perceiving great risk of harm from occasional marijuana use	45%	45%	No	No	21%	24%	No	No
Mean attitude scale toward marijuana trial 1 = strong pro-drug / 7 = strong anti drug	6.61	6.74	No	YES↓	6.45	6.57	No	No
Mean self-efficacy scale for refusing marijuana offers -2 = cannot resist / +2 = can resist	1.61	1.62	No	No	1.69	1.61	No	No
Mean belief scale about consequences of marijuana trial -2 = strong pro-drug / +2 = strong anti-drug	.75	.79	No	YES↑	0.64	0.70	No	No

† A monotone dose-response relationship is where increasing the dose never reverses the direction of the effect. In this case, it means that higher recall of anti-drug advertising never led to a reversal of the effect of exposure on outcomes

* Significant between waves change, $p < .05$

↓ This arrow shows that the monotone dose-response relationship was decreasing. For example, youth with more exposure were **less** likely to believe that few or none of their peers have used marijuana in past 12 months

↑ This arrow shows that the monotone dose-response relationship was increasing. For example, youth with more exposure had a higher (stronger anti-drug) score on the scale for anti-drug beliefs.

There are four significant associations reported in Table ES-5. For 12- to 13-year-olds the association of the sum of beliefs with the general exposure measure is consistent with a positive Campaign effect, but the association of exposure with the attitude measure goes in the opposite direction. Neither of these is replicated with the other measure of exposure or the other age group, nor is there a significant change on these outcome measures between waves. These results can probably be discounted as chance results reflecting the large number of tests reported.

The other association is replicated, and suggests that for 12- to 13- and 14- to 18-year-olds, higher exposure to the Campaign is associated with the belief that more youth of the same age are using marijuana. Although the Campaign has suggested that one of the messages it might emphasize is that there are fewer youth using drugs than one might think, there have not been any ads yet broadcast that carry this message explicitly. Perhaps, then, this observed association is unsurprising. It makes sense that youth who see a large number of messages expressing concern about marijuana may infer that more than a few of their peers have used marijuana. A media campaign must first capture the attention of its target audience regarding the campaign's focal issue (i.e., marijuana use among youth) before it can deliver its central message (e.g., the advantages of a drug-free lifestyle). Note that this association cannot be explained by media consumption, race, age, socio-economic class, or any of the other variables listed above. This set of results will be subjected to further examination in future reports, most notably when the longitudinal data become available.

The desirable change in beliefs and intentions about trial marijuana use that has been observed between waves cannot be attributed to the Campaign so far. However, there may have been a Campaign effect that the sample sizes available for analysis could not detect; there may have been an effect through a different route than individual and immediate influence. There also may be effects on subgroups of the population that could not be studied for this report. There may be effects that will appear once the Campaign has had more time to operate. However, thus far there is not enough positive evidence to make a confident claim for effects on youth. Subsequent reports, particularly once longitudinal data are available after Wave 4, will provide a more conclusive test.

Campaign Effects on Parents

The parent data provide a different result. Table ES-6 summarizes the results according to four broad areas of Campaign focus: encouraging talking with children, monitoring of children, engaging in fun activities with children, and being concerned about the risk that their child might use marijuana.

For the first three of those, the parents show a consistent pattern of association between exposure and outcomes. More than half of the analyses were significant, and consistent with a Campaign effect, and the great majority (60 out of 70) showed trends in that direction. The pattern of significant effects was particularly strong for the "talk" behaviors and cognitions, but was also found to a lesser degree for monitoring and doing fun activities. Thus the parent results pass the essential effect test (i.e., observed association). However the parent data do not pass the change test: there was little evidence that these outcomes had changed between Wave 1 and Wave 2.

Table ES-6
Evidence about Parent Campaign Effects

Significant Association on:	General Exposure			Specific exposure		
	9 to 11	12 to 13	14 to 18	9 to 11	12 to 13	14 to 18
Talking	6 of 6	5 of 6	4 of 6	4 of 6	3 of 6	0 of 6
Monitoring	1 of 4	2 of 4	3 of 4	1 of 4	0 of 4	1 of 4
Fun Activities	1 of 2	1 of 2	2 of 2	0 of 2	0 of 2	0 of 2
Risk	0 of 1	0 of 1	1 of 1	0 of 1	0 of 1	0 of 1
Total across four areas	8 of 12	9 of 12	10 of 12	5 of 12	3 of 12	1 of 12
Number of Wave 1 to Wave 2 changes that are significant	0 of 12	0 of 12	0 of 12	0 of 12	0 of 12	0 of 12

For parents, then, it is “yes” for association but “no” for change. This is consistent with there being a Campaign effect on parents, which contrasts with the conclusion for youth, for whom it is “yes” for change and “no” for association. However, neither claim is definitive. There are several explanations for how that inconsistent result for parents might have appeared.

- There may have been true Campaign effects that were not detected because the sample sizes were too small to detect them.
- There may have been some short-term effects of the Campaign that wore off.
- There may have been true Campaign effects that were too small to detect when averaged across the population because there were not enough parents who were highly exposed to Campaign messages. This might have been exaggerated by the decline in parent advertising during the last half of 2000.
- There may have been true Campaign effects on change that were counterbalanced by other forces driving the outcomes in the opposite direction.
- There might have been no Campaign effect, with the associations due to reverse causation—parents who were already more engaged with their children, as indicated by talking and monitoring and doing fun activities with children, were also more likely to attend to and thus recall parenting advertising.

In sum, the parent results are consistent with the existence of Campaign effects, but they do not permit the elimination of important rival explanations for the observed associations. Future reports will be able to deal with these issues in a more complete way.

1. INTRODUCTION

This is the second in a series of semi-annual reports from the National Survey of Parents and Youth (NSPY), a 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 drugs by means of an advertising and public communications program about the dangers of drugs. Other important Media Campaign goals are to convince occasional users of drugs to stop using them, to enhance adult perceptions of harm associated with use of marijuana and inhalants, and to emphasize to parents and influential adults that their actions can make a critical difference in preventing youth drug use.

This second report is both descriptive and evaluative in content. It first provides descriptions of media exposure achieved by the Campaign during 2000 and of changes between the first and second halves of 2000 in overall levels of behaviors, beliefs, attitudes, and intentions of both parents and youth. After completing the description of exposure and of changes in these outcome measures, evidence is presented about the association between exposure to the Campaign and those outcome measures.

In this introductory chapter, there is a review of 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

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, not just in the test areas. New advertisements were added to the Media Campaign. The advertisements appeared not only on television, radio, billboards, and in newspapers but also on cable television, Channel One (educational television for schools), in movie theatres, on the Internet, and on schoolbook covers.

Phase I January 1998 - June 1998	Phase II July 1998 - July 1999	Phase III September 1999 - Continuing
<ul style="list-style-type: none"> ■ Pilot test in 12 metropolitan areas, with 12 sites selected for comparison ■ Previously produced ads ■ Paid and donated advertising (pro-bono ad matching required) 	<ul style="list-style-type: none"> ■ National level intervention ■ Previously produced and new ads ■ Paid and donated advertising on a full range of media (pro-bono ad matching required) 	<ul style="list-style-type: none"> ■ 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 ONDCP Communication Strategy, a strategy that 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.

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 the PDFA, which has historically led anti-drug advertising efforts. However, since the 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 proposes advertisement executions at bimonthly meetings. ONDCP performs overall and the day-to-day management of the Media Campaign. Under that overall leadership, responsibility for media buying, for some supportive research, and for assuring a coherent advertising strategy, as well as for day-to-day management of the advertising component of the Media Campaign lies 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, and American Indians, Alaskan Natives, and Aleuts. Ogilvy has also supervised a substantial research effort to provide ongoing support to the Media

Campaign decisionmaking. These include monthly mall-based tracking surveys and focus groups across the country with both parents and youth to review and generate feedback on developing ads and initiatives. The specialized audience agencies have undertaken parallel focus group work with members of minority communities. Ogilvy and its subcontractors prepare recommendations on advertising content and buying strategies, which are then reviewed by ONDCP itself, which 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, as well as directly through advertising. Two critical components of the Media Campaign in Phase III involve (1) partnerships with civic, professional, and community groups and (2) outreach to the media, entertainment, and sports industries. 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 and the entertainment industry to portray drug use in ways that are based on accurate information, including the depiction of the consequences of drug use. The goal of the non-advertising component of the Campaign is to influence the “entire message and image environment” regarding drug use (National Youth Anti-Drug Media Campaign Fact Sheet, “How the Campaign is Different.” March 2000).

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
- Involvement with organizations.

Exposure to Media Campaign messages may occur as a result of direct advertising or as result of content fostered through outreach to the news media and entertainment industries. Opportunities for exposure to anti-drug messages through involvement with an organization may be enhanced by the partnerships fostered in Phase III of the Media Campaign. Exposure to anti-drug messages through interactions with friends, peers, or parents 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 2001. Of that, \$144 million was spent on the purchase of advertising time in year 1 and \$131 million in year 2 of Phase III. Congress mandated that media organizations that accept Media Campaign advertising must match Media Campaign purchases with in-kind advertising time or space or with other public service of equal value. Campaign guidelines require that at least 51 percent of the media's match requirements should be through time or space, while up to 49 percent may be matched through other means of equal value, such as broadcast program content or other Campaign support, for example, promotions on network-owned web sites. The Media Campaign has reported that it exceeded the original goal of a one-for-one match: from January 1998 through June 2000 the total value of the expected pro-bono match was reported to be \$334 million (National Youth Anti-Drug Media Campaign Fact Sheet, "Pro-bono Match," March 2000).

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 target audience was reached nationally through television networks ABC, CBS, NBC, FOX, UPN, and the WB, through cable networks, and through national radio networks. Additional advertising was purchased in 102 television and 106 radio "spot" markets representing about 86 percent of the population. Online advertising was placed on 37 web sites and on America Online. Additionally, the Media Campaign has paid for advertising banners to appear on commercial web sites. Media Campaign advertisements have appeared in schools through Channel One; through *Scholastic*, *Weekly Reader*, and *React Magazine*; through free book covers (up through the end of the 1999/2000 school year); and on line, through education portal sites Searchopolis.com and Bess.com. Media Campaign messages are also disseminated in newspapers and magazines, on home video, and in movie theatres. Parents are further addressed through billboards, bus shelter placards, and other outdoor advertising.

Between year 1 (starting July, 1999) and year 2 (starting July 2000) of Phase III, the available budget for media buying dropped by \$13 million and there was substantial inflation in the cost of purchasing media time. To deal with this, the Campaign made the following changes in its media buying:

- There was a hiatus in advertising directed at parents during December of 2000;
- There was a net decrease in broadcast (TV and radio) weeks on the air from 52 to 35; and
- There were the following adjustments in the media mix for parent messages:
 - Decreased usage of Network TV;
 - Increased use of Cable TV and Network Radio; and
 - Use of shorter message lengths (15 seconds instead of 30 seconds).

The 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,

including youth viewership of advertising directed at their parents. (ONDCP Fact Sheet, "Summary of Campaign Accomplishments," March 2000). More than three-quarters of the total multicultural advertising budget of \$17 million for year 1 of Phase III (National Youth Anti-Drug Media Campaign Fact Sheet, "Multicultural Outreach," March 2000) was planned to reach African American and Spanish-speaking youth, with the rest focusing on the other ethnic groups listed above.

The target audiences of the Media Campaign are youth aged 12 to 17 and their parents. The primary focus of messages for youth has been for youth aged 11 to 13. Also, the Media Campaign is designing advertising for sensation-seeking youth, who have been shown in research as more at risk for drug use (Palmgreen et al. 2001).

For both parent and youth audiences, the Media Campaign chose to focus on a limited set of message themes.

For parents, the themes included the following:

- Your child at risk. Every child is at risk for drug use, even yours.
- Parenting skills and personal efficacy. There are simple skills parents can learn to help their child avoid drugs (e.g., monitoring activities and praising good behavior).
- Perceptions of harm. Be aware of the little-known harmful effects of inhalants and marijuana on your child's life and future.

For youth, the themes included the following:

- Resistance skills and self-efficacy. Building confidence that individuals can avoid drugs.
- Normative Education/Positive Consequences. The idea that most other youth don't use drugs¹ and that not using drugs leads to good consequences.
- Negative consequences. Some negative consequences can accompany drug use (e.g., loss of parental approval, and reduced performance in school and as an athlete).

The campaigns also partnered with the WB network, which is very popular with teens and youth aged 12 to 13, for the youth branding initiative. Marvel Comics also developed a special comic book series called *Fast Lane* that asks young people if they are "getting the real message" about drugs. The series, which features Spider-Man, Captain America, and X-man Wolverine, attacks the idea that most young people are involved with drugs and illustrates consequences of drug use.

Starting with Phase III, the Media Campaign has begun to incorporate 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

¹ There were no TV or radio advertisements that actually addressed this objective during late 1999 or anytime in 2000. So it would not be surprising if this objective were not being achieved.

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. This asked kids to answer the question, “What’s Your Anti-Drug?” with the goal of engaging youth aged 11 to 18 in defining their anti-drug. Youth were encourage to submit ideas to ONDCP by post card or by the web.² These were then incorporated into advertising for early 2001 that makes suggestions of possible activities that might serve as “anti-drugs” and allows 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. The Evaluation will begin its measurement of brand recall with interviews in January 2001, and present relevant results in the next semi-annual report.

Among the celebrities who have appeared in the anti-drug advertising during the part of Phase III evaluated here are singers Mary J. Blige, Lauryn Hill, the Dixie Chicks, and the late Scatman John and athletes including tennis stars Venus and Serena Williams, skateboarder Andy MacDonald, and track star Michael Johnson. In the last 6 months, the Campaign has increased its effort to reach girls and their parents with new ads featuring female sports heroes and role models, including Olympic figure skater Tara Lipinski and members of the U.S. Women’s World Cup Soccer Team promoting the positive consequences of being drug-free. Celebrities, however, were only one part of the advertising effort. There were more than 90 distinct ads played or scheduled to be played during this period from September 1999 through December 2000, including radio and television, general market and African American- and Hispanic-specific ads, and ads for parents as well as youth. A full 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>.

1.3 PUBLIC COMMUNICATIONS ACTIVITIES

Although advertising is the cornerstone of the Media Campaign, non-advertising activities are also considered important to Media Campaign success. Public relations contractor Fleishman-Hillard develops and coordinates all non-advertising 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 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, non-advertising 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.

The Media Campaign has 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

² 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.

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 support of the Media Campaign, the National YMCA instituted substance abuse training for all staff and began to provide drug prevention resources. The YMCA also included anti-drug messages in their curriculum. The Media Campaign also partnered with community and multicultural organizations (e.g., the Boys and Girls Club of America, the Girl Scouts of the USA, PowerUP, and 100 Black Men). Partnerships with these organizations are intended to increase the amount of drug-related information in communities, including information about consequences of drug use and how to resist drugs. Forty of these outreach partners were asked to support the branding effort for youth. The Campaign has reported that through these efforts, youth completed and submitted more than 75,000 submissions through a variety of means identifying youth's anti-drugs (Fleishman Hillard, "Strategic Programs and Activities on behalf of The National Youth Anti-Drug Media Campaign," December 2000). Pre-addressed but otherwise blank post cards were distributed through the media buy in September and October of 2000 in youth venues such as malls, parks, bookstores, record stores, and surf/ski/skate shops in order to achieve this high number of returns.

Popular institutions also supported the Media Campaign. Fleishman Hillard reports 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. *USA Today* distributed nationally a special eight-page supplement newspaper insert on November 27, 2000 to promote the "My Anti-Drug" initiative.

Because the entertainment industry produces creative material that is highly visible, credible, and often influential, ONDCP was interested in affecting how drug use was portrayed in popular culture. The overarching goal is to encourage popular culture to, in particular, dispel myths about drug use and portray consequences of drug use accurately. ONDCP shared information with producers, scriptwriters, directors, and journalists from major broadcast networks and media to disseminate anti-drug messages. A variety of popular television programs have incorporated information about drug use.

Additionally, the Media Campaign joined Youth Service America (YSA) in promoting volunteer service as an effective strategy for engaging youth in positive, drug-free activities through "Building Healthy Youth & Communities Through Service," part of YSA's National Youth Service Day 2000 initiative. During the day, 35 community-based and youth-serving organizations received awards to incorporate drug prevention messages in community health and service fairs. The initiative also included the creation and broadcast of *Team Up and Volunteer*, a 54-minute video program that highlighted youth volunteerism and community service as a drug-prevention strategy. *Team Up and Volunteer*, estimated to have garnered an audience of more than 10 million, was the result of a collaborative effort between YSA, the Media Campaign, the National Basketball Association's "Team Up" youth program, WAM! America's Kidz Network, and the National Guard Bureau (National Youth Anti-Drug Media Campaign Update, "Kids + Volunteerism = Healthy, Drug-Free Youth," Summer/Fall 2000).

The Campaign also turned its attention to the power of teachers in its non-advertising efforts. It partnered with Cable in the Classroom and the Association for Supervision in Curriculum Development, an organization of school administrators and teachers dedicated to education excellence to create a training video, "Connected Teaching: Helping Students Make Positive Choices," to show teachers how to include anti-drug and pro-social education in classroom lessons. The Campaign's Behavioral Change Expert Panel advised on the video's content, and national cable networks A&E, Nickelodeon, Discovery, and Court TV included it as part of their educational programming.

In Phase III of the Media Campaign, interactive media were used as a message source for the first time. The Media Campaign maintains a number of web sites that provide drug-related information and a forum for young people to discuss drug use and consequences of drug use. The following are Media Campaign sites: theantidrug.com (www.theantidrug.com) and laantidroga.com (www.laantidroga.com); WhatsYourAntiDrug.com (www.whatsyourantidrug.com); Freevibe, (www.freevibe.com); The Freevibe Teachers Guide (www.TeachersGuide.com); StraightScoop.org (www.straightscoop.org); Media Campaign.org (www.mediacampaign.org); four Asian language parenting Web sites; and YouCanHelpKids.org (www.youcanhelpkids.org). In addition, there are two proprietary sites available to those with America Online. The sites differ in the audience they serve (parents, teachers, youth, teens, different language groups) and in the type of content they provide (parenting advice, drug information, testimonials about drug involvement), which is intended to result in a wider audience for Media Campaign messages. Traffic is routed to these sites from traditional and online advertising, through links from other web sites, and through Internet search engines. In addition to managing the Campaign's Web sites, Fleishman Hillard conducts extensive outreach to place content on other Internet Web sites frequented by youth and parent audiences. For example, drug prevention content has been carried free of charge on 13 Internet portals including the highly trafficked Lycos.com and Yahoo!igans! (the kids portal at Yahoo!), and on sites such as Oxygen.com, MSNBC.com, and other popular teen celebrity web sites. Together, the Media Campaign has reported almost 6 million user sessions, defined as "entries onto a web site," on these sites from January to December 2000 (Fleishman Hillard Inc, "Web Site Traffic and Phone Call Data Report," December 2000).

1.4 ADMINISTRATIVE STRUCTURE FOR THE EVALUATION

The evaluation is being conducted by Westat and the Annenberg School for Communication 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 11 chapters and 6 appendixes, along with an extensive set of detail tables and detail figures. A companion volume entitled, “National Survey of Parents and Youth: Questionnaires for Waves 1 and 2,” reproduces the questionnaires used in the study.

This chapter and the next provide background for the Media Campaign and the Evaluation. Chapter 3 presents estimates of media exposure by Ogilvy, as well as the extent to which the primary target audiences for the Campaign, youth and their parents, recall and recognize Media Campaign messages based on NSPY results. Chapters 4 and 5 provide information about exposure to other sources of information about drugs and drug prevention among youth and parents, respectively. Chapters 6 through 9 present results about behavioral and cognitive outcomes that are being monitored for possible Campaign effects. They describe the overall responses for all respondents interviewed from November 1999 through December 2000. They also present evidence about whether there are significant differences between the first and second halves of 2000: the full set of youth behaviors (Chapter 6), youth attitudes and beliefs (Chapter 7), parental practices from both the youth’s and the parent’s perspectives (Chapter 8), and parental attitudes and beliefs (Chapter 9). Chapter 10 and 11 provide a first look at evidence for Campaign effects. Chapter 10 presents the evidence of the association of Campaign exposure with beliefs, attitudes, and intentions about marijuana use for non-using teens, and discusses whether the combined evidence of change and of association supports a claim of effects. Chapter 11 provides a comparable analysis for parent beliefs and behavior.

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, urbanicity, region, and sensation-seeking score for youth and for parents, by child age and other child characteristics, as well as parent education, gender, ethnicity, urbanicity, and region. The six appendixes provide detailed information about sample design weighting, variance estimation and geography (Appendix A), data collection procedures (Appendix B), measurement quality (Appendix C), methods used to control for the effects of confounding variables (Appendix D), the ads in the Media Campaign (Appendix E), and the preparation of exposure indices (Appendix F).

Reference

Palmgreen, P., Donohew, L., Lorch, E., Puzles, H., Rick H., and Stephenson, M.T. “Television Campaign and Adolescent Marijuana Use: Tests of Sensation Seeking Targeting,” *American Journal of Public Health. Taking On Tobacco*. 91(2):292-296, February, 2001.

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

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:

1. To measure changes in drug-related knowledge, attitudes, beliefs, and behavior in youth and their parents;
2. 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;
3. To assess the association between parents' drug-related knowledge, attitudes, beliefs, and behavior and those of their children;
4. 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
5. To assess the extent to which community-based drug prevention activities change in response to the Media Campaign and how these changes relate to changes in the other objectives.

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 drug problems, it is not appropriate 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 correct 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

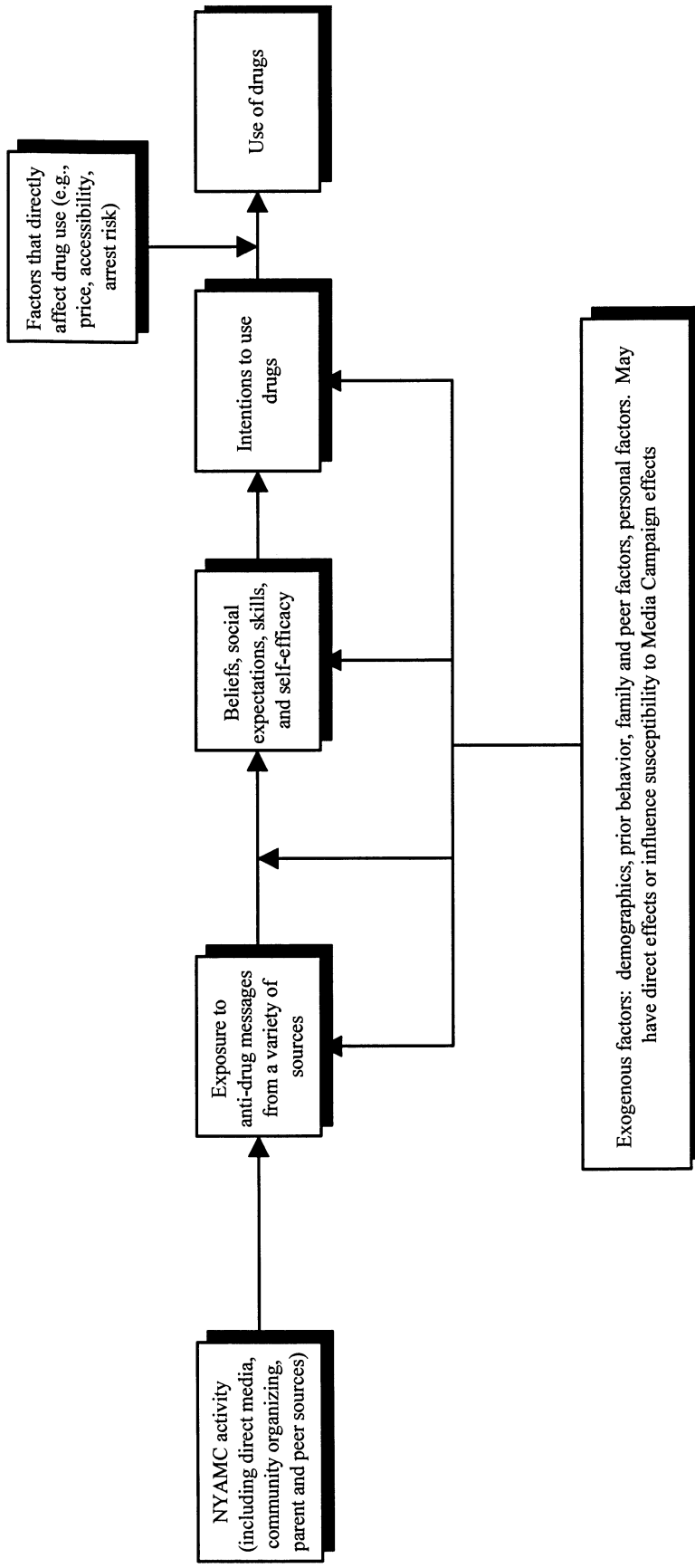
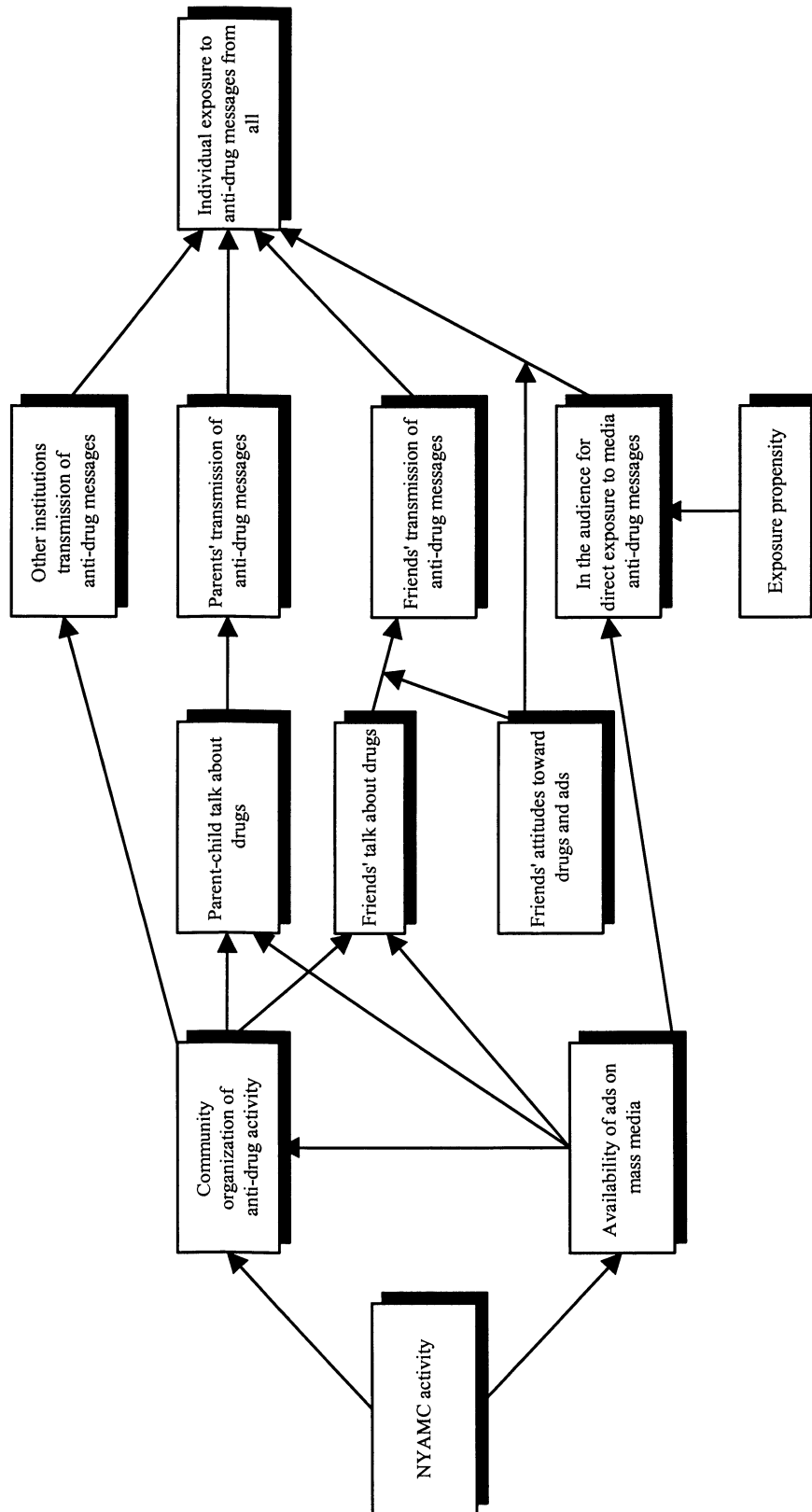
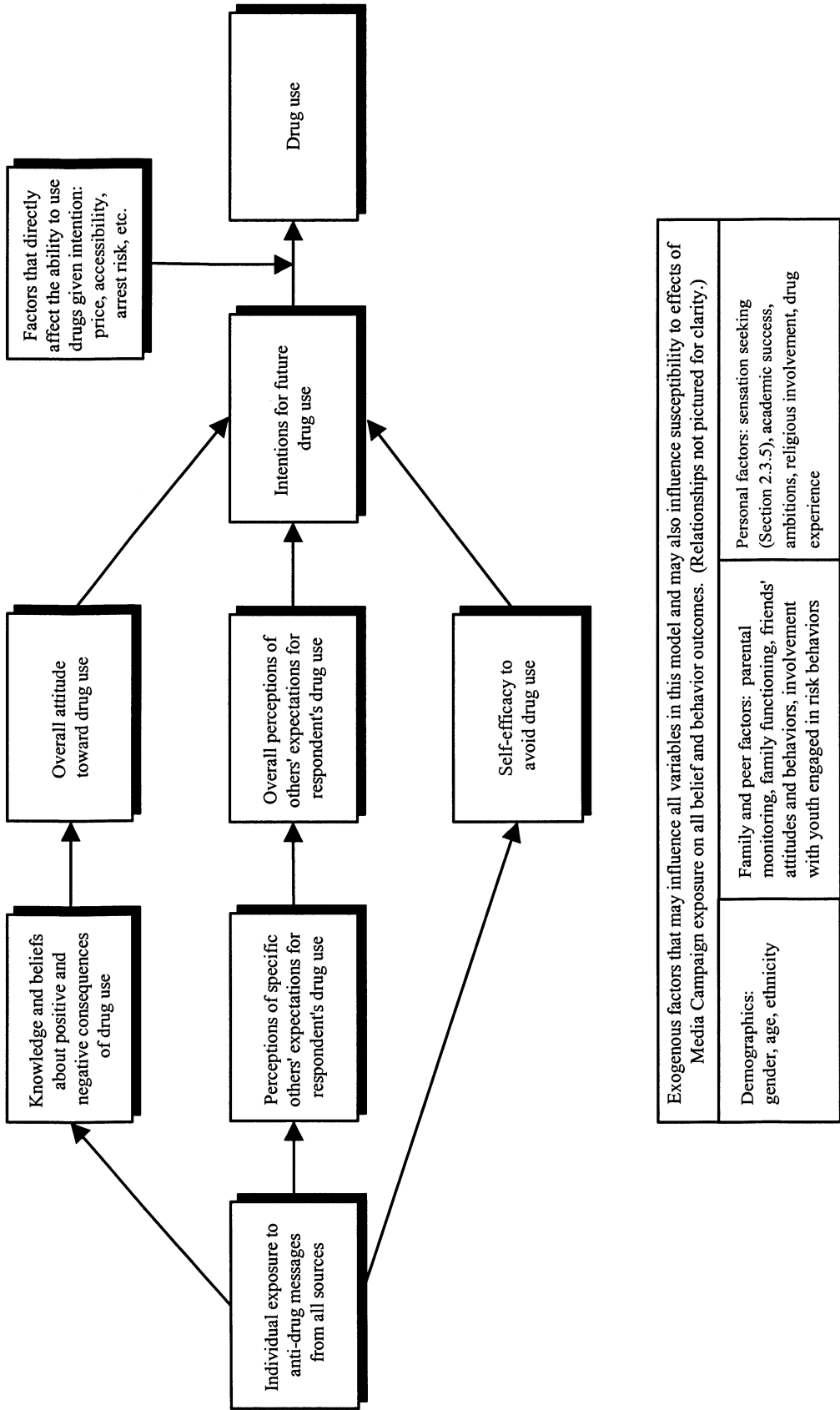


Figure 2-B
Model of influences on exposure to anti-drug messages



Other exogenous factors listed in Figures 2-A and 2-B are likely to directly influence some or all of these variables. Influence arrows not presented for clarity.

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



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.

1. 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.
2. 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.

3. 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.
4. 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. Thus far, the Campaign has 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 2.3.5) 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.

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 parent objectives relate to three parent behaviors, as follows: (1) parent-child talk about drugs, (2) parental monitoring of youth behavior, and (3) support for community anti-drug activity. 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 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, which is expected to be the parent behavior most emphasized by the Media Campaign. 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. Space considerations have meant that none of the process variables that may lead from Media Campaign activity to this behavior will be specifically measured.

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

Figure 2-D Model A
Effects of parental monitoring

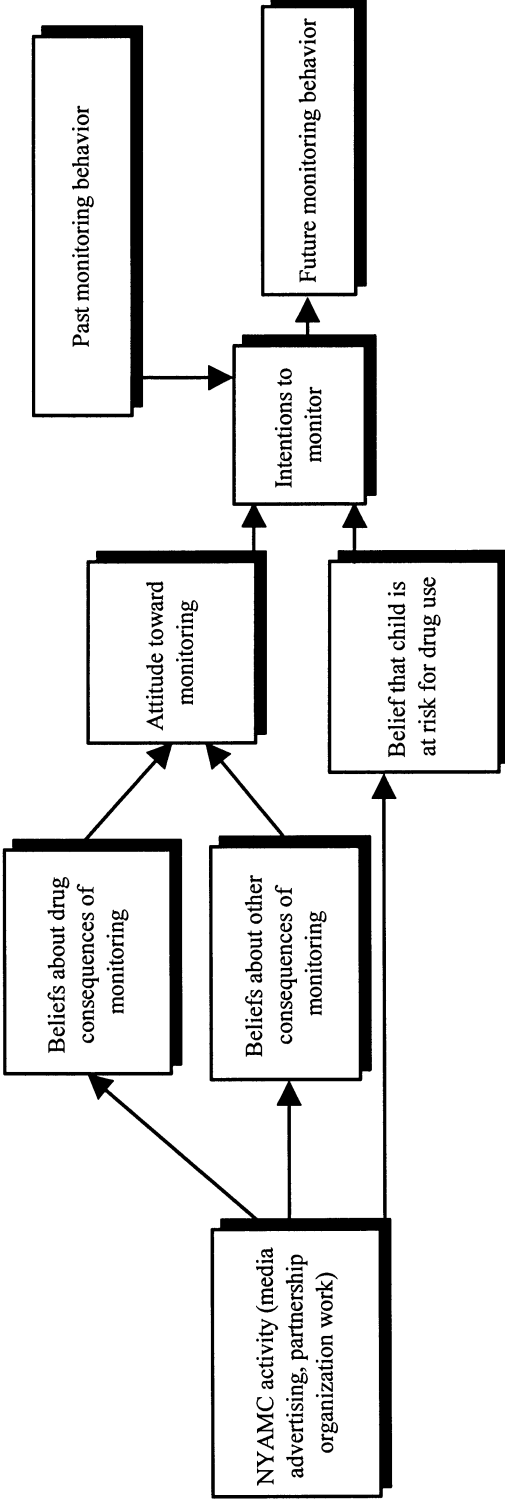


Figure 2-D Model B
Effects on parent-child talk

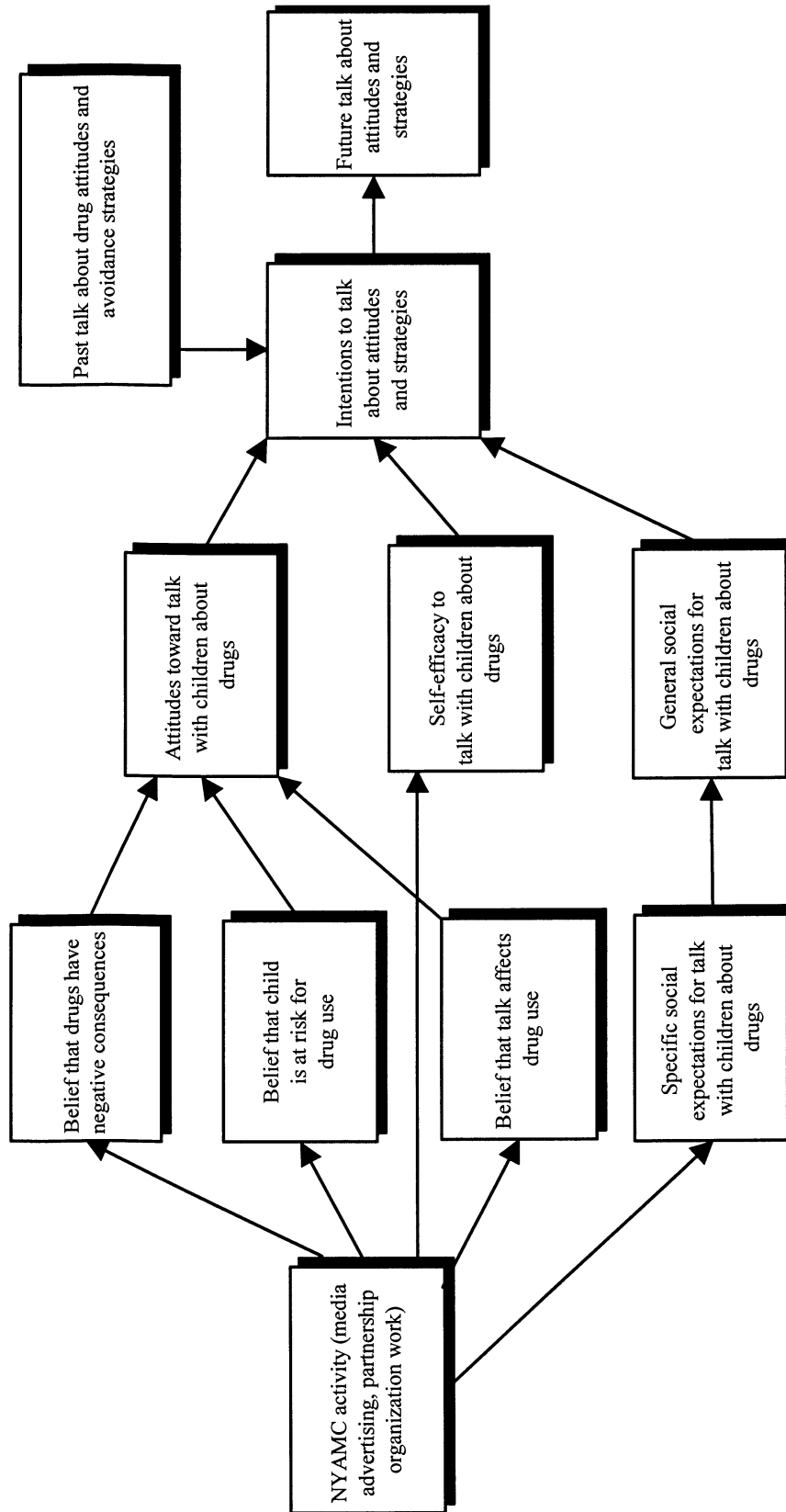
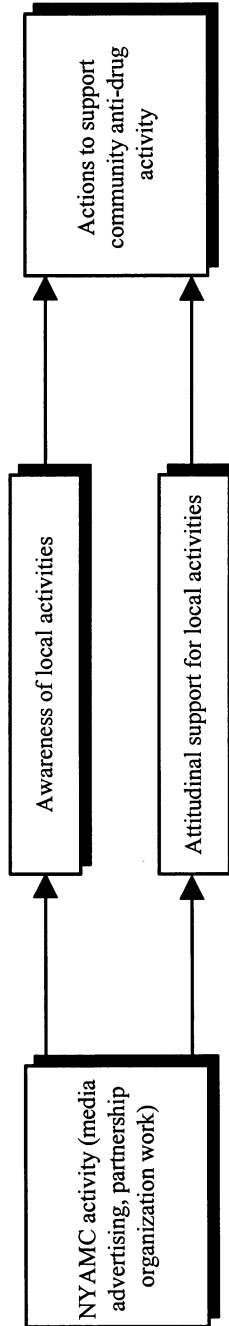


Figure 2-D Model C
Effects on parental support for community anti-drug activity



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 (this is 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 (movies, music, 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. 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 the report are based on Waves 1 and 2 of NSPY. Youth aged 9 through 18, their parents, and other caregivers were eligible for the sample. The data collection periods for the waves were November 1999 through May 2000 for Wave 1 and July 2000 through December of 2000 for Wave 2. The counts of completed youth interviews for the two waves were 3,312 and 2,362, respectively. The counts of completed parent interviews were 2,293 and 1,632, respectively. Matching interviews for youth and parents were obtained for 3,120 youth and 2,210 youth, respectively in the two waves.

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 and a sample of 23,000 dwelling units for Wave 2. These dwelling units were spread across about 1,300 neighborhoods in Wave 1 and 800 neighborhoods in Wave 2 in 90 primary sampling units (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 to be able 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 rate in both waves for screening dwelling units to find out whether any eligible youth were present was about 95 percent. Among dwelling units that were eligible for the survey, 74 percent in both waves 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 Wave 1 and 92 percent in Wave 2, meaning that 91 or 92 percent of the youth received parental consent, signed to their own assent, and completed an extended interview. Among sample parents, 88 percent completed the extended interview in Waves 1 and 2. The parent providing consent to the youth was frequently different than the parent sampled for the extended interview. This explains the fact that the parental response rate was lower than the parental consent rate for youth interviews.

2.2.2 Extended Interview Methods and Content

Prior to beginning the interview, respondents were assured that their data would be held 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/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. 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. 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.

The youth questionnaire included sections on basic demographics; school and religion; media consumption; extra-curricular 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; anti-social 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.

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 sample child and repeated for every sampled child in the household. Other questions that were not about their children were, of course, only asked once.

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 five 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 seven TV ads were shown to respondents in these groups. For radio ads, up to four ads were played for most parents, two for 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 38 TV ads and 26 radio ads were aired during the wave and shown to respondents. See Appendix E for a short description of each ad. The TV ads included 20 (15 in English and 5 in Spanish) aimed at parents and 18 (13 in English and 5 in Spanish) aimed at youth. The radio ads included 10 (8 in English and 2 in Spanish) aimed at parents and 16 (10 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 Section 3.2.2.

In Wave 2, a total of 31 TV ads and 19 radio ads were aired during this wave and shown to respondents. Again, see Appendix E for a short description of each ad. The TV ads included 13 (10 in English and 3 in Spanish) aimed at parents and 18 (15 in English and 3 in Spanish) aimed at youth. The radio ads included 5 (4 in English and 1 in Spanish) aimed at parents and 14 (8 in English and 6 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.

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. This was done to allow study of the accuracy of ad recall. Some analyses of these results are in Appendix C, which presents strong evidence for the validity of the NSPY approach to measuring ad recall.

2.2.3 Weighting

Weights were developed to adjust the analysis for differential probabilities of selection, differential response rates, and differential coverage. In Wave 2, 12- to 13-year-old youth and 9- to 11-year-old youth had the same probability of selection, whereas 14- to 18-year-old youth had a smaller probability of selection. In Wave 1, 12- to 13-year-old youth had the largest probability of selection since they were oversampled. Nine- to 11-year-olds had somewhat smaller probabilities of selection, and youth 14- to 18-years-old had the smallest probability of selection. Youth in the 14- to 18-year-old and 9- to 11-year-old age ranges with 12- to 13-year-old siblings 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 we generally only selected one parent per household.

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.

Coverage also varied geographically and by age. Table 2-A shows coverage rates by age. Overall, coverage was about 70 percent for both Wave 1 and Wave 2. It would appear, based on census estimates, that about 30 percent of screener respondents with children in the desired age range chose not to reveal the presence of their children to us. 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 was used to adjust Wave 2. The ordinary CPS totals could not be used in the adjustment because the CPS counts youth in dormitories at

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. In order to make up for the increased error in estimated typical exposure associated with using a short memory period, it would have been necessary to increase the sample size greatly, and thus increase the cost of the evaluation, sharply. Results presented in Chapter 3 and in Appendix C show the 2-month reference period is working well.

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 (%)
9-11	70	69
12-13	74	71
14-18	67	67

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 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, then the average of the replicated statistics 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 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 may be found in Appendix A.

Some estimates 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 in Section 2.2.2. Also as noted, 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 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. More detail on these procedures is given in Appendix F.

2.2.6 Future Waves of Data Collection

Wave 1 and Wave 2 will be followed by additional waves of data collection. NSPY has a two-phase design where the first phase recruits a sample of eligible youth and their parents and the second phase follows them for two additional interviews at intervals of 6 to 24 months. The recruitment phase is broken into three national cross-sectional surveys or waves that each last about 6 months. The followup phase begins in July 2001 after Wave 3 of recruitment and lasts through June 2003. Youth who move within the same metropolitan area will be followed. Parents will also be re-interviewed although some may be replaced in the event of separation or custody shifts. Combining the recruitment and followup phases, there will be seven 6-month waves from which national semiannual estimates will be prepared. This report contains data from Wave 1 and Wave 2, the first and second of the three recruitment waves.

2.3 SAMPLE DESCRIPTION

2.3.1 Youth

Detail Table 2-1² shows both the Wave 1 and Wave 2 sample size 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 although the 14- to 18-year-old and the 9- to 11-year-old age groups are slightly larger. The Wave 2 sample size of 2,362 is larger in both the 14- to 18-year-old and the 9- to 11-year-old age group. The sample size is deliberately slightly larger for the youth aged 14-18 because larger design effects were anticipated for this age domain. Also, because of followup in future waves, a larger sample of youth aged 9- to 15-years-old was desired. 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 and 394 and 387 for Wave 2. 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 youth in the nation is 39.6 million during Wave 1 and 39.9 million during Wave 2. As mentioned above, this excludes youth in institutions, group homes, and dormitories, as well as other types of group housing. The estimated confidence intervals is so tight on this statistic because of the controlling of this estimate to agree with a synthesis of census information. Detail Table 2-1 also shows breakdowns of the sample and

² A total of 169 Detail Tables of study estimates and associated confidence intervals are to be found immediately following Chapter 11.

the population by gender, race/ethnicity, region, urbanicity, and sensation seeking. Also, for youth aged 12-13 and 14-18, there are breakdowns by past marijuana usage. Some of these breakdowns require 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 with ethnicity asked first.³ 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
- Black or 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, and for Wave 2 the total was 93 youth. However, there are some respondents in every group and their responses are used in the overall estimates.

2.3.3 Region

The four major regions of the United States for which data are presented represent groups of states as standardly defined by the U. S. Census Bureau:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont

Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin

³ The evaluation started prior to the U.S. Census Bureau's adoption of its new race/ethnicity questions, which preempt multi-race categorization. The questions used are those in effect when the evaluation design and instruments were delivered.

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

2.3.4 Urbanicity

The three levels of urbanicity given in this report are a function of a national coding scheme developed by a private company called Claritas. The urban and suburban concepts jointly cover areas with a minimum density of about 960 persons per square mile where there is a population center with a minimum population of about 37,000 people. Within areas where the population density climbs much higher, those areas with the highest density are considered urban while the rest are considered suburban. Suburban areas never have a density greater than 6,811 persons per square mile, but the dividing line between urban and suburban population density slides upward from 960 to 6,811 depending on the density at the population center. The town and rural concept covers the rest of the country.

2.3.5 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 4 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 Palmgreen reports a comparison between the 8-item and a reduced 4-item scale on a sample of 6,529 seventh through twelfth graders surveyed by the Partnership for a Drug-Free America in 1999. The 8-item scale had an internal reliability of .85, while the 4-item scale was reduced only slightly to .81. The two correlated at .94. Although the evidence of these two studies is

unpublished, suggests that the 4-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. It was decided to use a single threshold to facilitate comparisons across groups and time.

2.3.6 Past Marijuana Usage

Youth were broken down into four categories of marijuana usage, only two of which are shown in most tables. The non-user 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.

2.3.7 Parents

Detail Table 2-2 shows sample sizes for parents, weighted population estimates, and confidence intervals on the population estimates. Using NSPY concepts and procedures, there were about 43.3 million parents of youth aged 9 to 18 in this country during Wave 1 and 42.3 million during Wave 2. As mentioned above, the NSPY concept of parent excludes noncustodial parents but does include stepparents, foster parents, and even nonparental caregivers (if no parent lived with sample youth) who live with youth aged 9 to 18. The NSPY concept also excludes parents whose children live in group facilities and dormitories. The rather large drop of one million parents is due to a decrease in the estimated percentage of households with youth aged 9 to 18 from 24.6 percent in January 2000 to 23.9 percent in October 2000, as estimated by the Current Population Survey.⁴

In addition to the breakdowns of race/ethnicity, region, and urbanicity used in the youth tables, there are breakdowns by parental gender, parental education, and age of children. With the NSPY concept, about 38 percent of “parents” are male for Wave 1 and about 44

⁴ Special population of public use files issued by the U.S. Census Bureau and used in the adjustment of NSPY weights.

percent of “parents” are male for Wave 2. This just means that of the parents, stepparents, and caregivers who live with children aged 9 to 18, 38 percent are male for Wave 1 and 44 percent are male for Wave 2. The sample size 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.

2.3.8 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/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. Our 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? We are assessing audience awareness in two ways:

- A set of general questions is asked about advertising recall for each medium: radio and television, print, movies, outdoor advertising, and Internet. Each respondent is asked whether and how often he or she recalls seeing anti-drug messages from each source.⁵ 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.
- To improve the precision of our exposure measurement, we also have a second major approach to exposure measurement—the recall of specific Campaign ads. Thus far, radio and television advertising represent the largest part of the advertising effort. We focus on those channels for this next type of measure. Through the use of Westat’s Audio Computer-Assisted Self-Interview (ACASI) format, we are able to show each respondent 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, we actually show a subsample of the Media Campaign’s recent and ongoing ads (four television and two radio). 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. We ask each respondent to tell us whether they have ever seen the ad, how often they had seen the ad recently, and their assessment of the ad.⁶

We recognize that respondents might tell us that they have seen an ad even though they had not because they forgot or because they want to be agreeable. If we took all claims at face value we might overestimate exposure. Therefore, we also ask each respondent whether he or she has seen an ad that has, in fact, never been broadcast. This gives us 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, we have a series of measures that can detect change in these more general aspects of the public communication environment. 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

⁵ See for example question D10 in the Teen questionnaire. All the NSPY Wave 2 questionnaires can be found on the NIDA web site.

⁶ See for example question D17 of the Teen questionnaire.

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:

- **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; 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 this second semiannual report, the team presents estimates of change in cognitions and behaviors between the first and second halves of 2000. These change estimates are one focus of Chapters 3 through 9 of this report. As discussed in the next section, we also provide estimates of the association of Campaign exposure with these outcomes. In future reports we also will report on lagged associations of cognitive outcomes with subsequent behavioral outcomes and the relationship of such associations with Campaign exposure.

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 second semiannual report we use the combined data from Waves 1 and 2 to measure the association of exposure with outcomes. For example, we examine whether the youth who report heavy exposure to Campaign messages are 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 10 for youth and Chapter 11 for parents.

- Starting with Wave 3, there will be an examination of whether the evidence for effects differs depending on the characteristics of the youth or his/her parents. Do effects differ depending on gender, ethnicity, or parent’s economic background? Do they differ depending on the child’s personality characteristics (e.g., a high sensation seeker or not)? Do they differ depending on the behaviors of peers in the youth’s social network, or as a function of the youth’s interaction with his/her parents in general or about drug use issues in particular? Do effects vary depending on the youth’s contact with other anti-drug institutions such as schools, out-of-school programs or religious institutions? These analyses will first appear in the third semi-annual report scheduled for fall 2001.
- Starting with Wave 4, these cross-sectional causal analyses will be supplemented with longitudinal causal analyses. The same national sample of youth and their parents will be followed for 2 or 3 years. Therefore, researchers will be able to examine whether a young person who reported high versus low exposure on the first, second, or third wave, 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 will allow us to improve our 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). These analyses will commence once there is sufficient followup data and will make their initial appearance in the fourth semi-annual report scheduled for spring 2002.
- In addition, we recognize that some of the models of Media Campaign influence suggest that the effects of the Media Campaign will be felt not just among individuals but among communities, more broadly. If there is sufficient variation in exposure across communities, we will be able to repeat some of these analyses at the level of the community, to see whether communities that have a relatively high versus low level of exposure to anti-drug messages show different patterns of progression on the outcome measures. These analyses are expected to be part of later semi-annual reports.

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3. EXPOSURE TO MEDIA CAMPAIGN ADVERTISING

This chapter focuses on exposure to Media Campaign efforts during the period from late 1999 through 2000. First, the advertising placement activities of the Media Campaign are discussed. The chapter then 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. Assessments of the TV advertisements recognized by youth and parents also are discussed, as they provide one way of gauging the population's judgment of prominent Media Campaign content. The last section focuses on exposure to drug-related information through the Internet.

What are Gross Ratings Points (GRPs)?

GRPs are the customary unit for measuring exposure to ads within the advertising industry. If one 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 1.00 times, and an ad that earned 250 GRPs would have been seen by the average person 2.50 times. 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 channel. 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 the ad exactly once. It is quite possible that some saw it many times while others saw 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 channel 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 channels 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 capture 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, one could expect the average youth to have been exposed to 2.6 youth-targeted ads per week and for the average parent to have been exposed to 2.2 parent-targeted ads per week during the period from September 1999 through December 2000. (These estimates include Media Campaign advertisements intended for either general market youth or general market adults; 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 70-week period from September 1999 through December 2000 relevant to this report, those estimates suggest that Ogilvy obtained a total of approximately 18,216 gross rating points (GRPs) for advertisements intended for general market youth and approximately 15,481 GRPs for advertisements intended for general market parents.¹ These totals translate into an average of 260 targeted GRPs for general market youth per week and 221 targeted GRPs for general market parents per week. In turn, such estimates are equivalent to 2.6 targeted ad exposures for general market youth and 2.2 targeted ad exposures per week for general market parents.²

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 make up 80 percent of GRPs for youth, while outdoor media, radio, and TV make up 86 percent of GRPs for parents.

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

	Youth GRPs	% of Youth	Parent GRPs	% of Parents
All media for 70 wks (9/99 – 12/00)	18,216		15,481	
All media per week	260	100%	221	100%
Television per week	134	52%	48	22%
Radio per week	73	28%	69	31%
Print per week	22	8%	28	12%
Outdoor per week	--	--	74	33%
Other per week	31	12%	2	1%

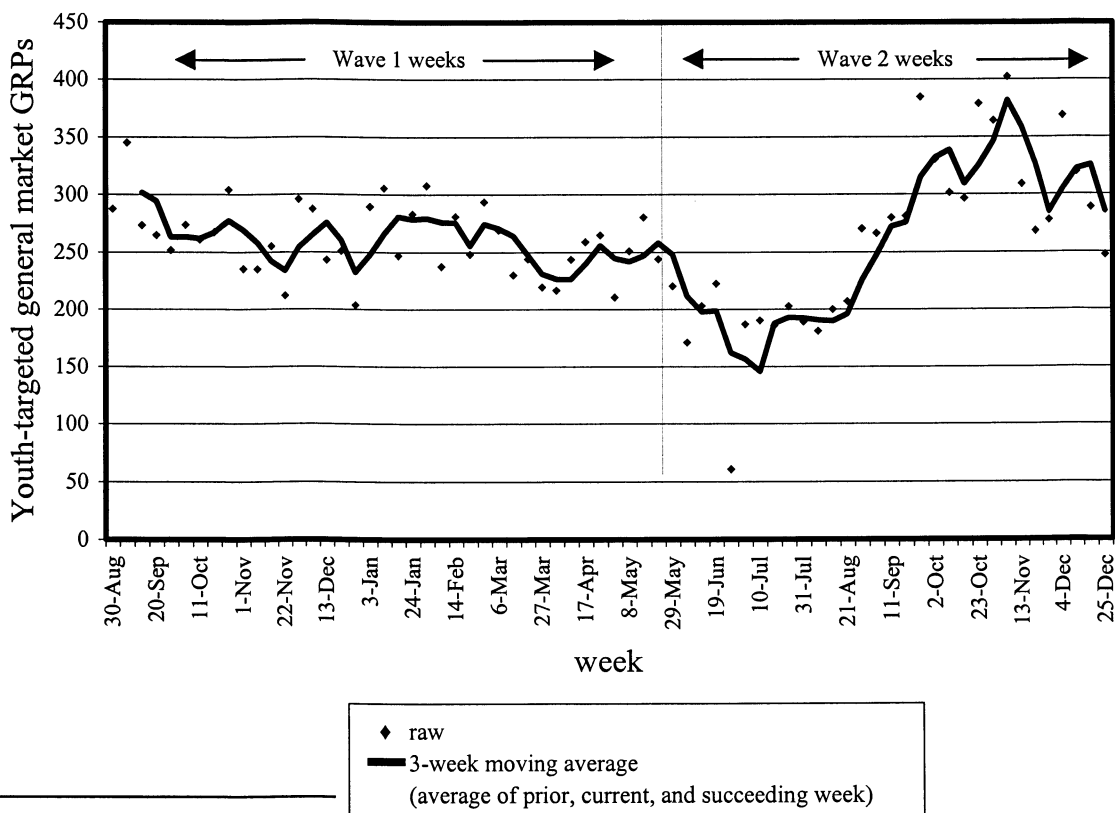
NOTE: The “other” category for youth includes advertising on basketball backboards, in cinemas, on the Internet, and other activities such as postings of flyers; the “other” category for adults includes cinema and Internet.

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 February 9, 2001. It should be recognized that these are not definitive buying information. Some of the information is based on post-broadcast confirmed buys, some of it on pre-broadcast scheduled buys, and some on estimated buys. Also, there are survey errors of unreported magnitudes in the audience surveys.

² One dimension that this report does not explore is cumulative exposure over time and across media to specific Campaign efforts.

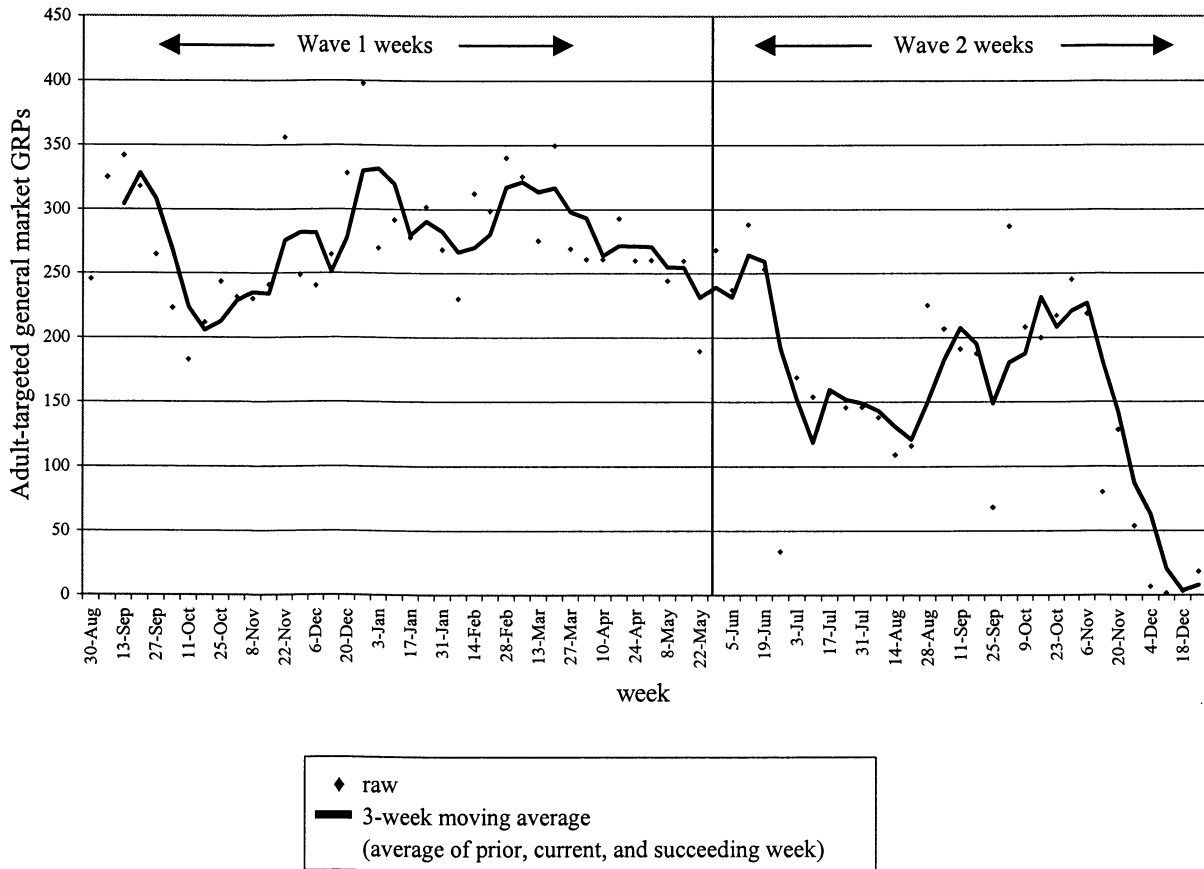
- During the second half of 2000, the Campaign began to focus more intensively on youth and less intensively on their parents. Over the course of the 70 weeks covered by this report, the average number of weekly general market GRPs for youth and parents was somewhat stable (Figures 3-A and 3-B). Three important exceptions to this pattern are noteworthy, however. One is a drop in weekly general market GRPs for both youth and adults during the summer months of 2000, which likely coincides with summer vacations and which may reflect decreased availability for certain types of media consumption. Second, weekly GRPs for youth rose slightly relative to previous periods in fall 2000. Perhaps even more striking is a marked decrease in GRPs garnered among parents. From September 1999 through May 2000, for example, weekly GRPs for parents were approximately 275. From June 2000 through December 2000, weekly GRPs for parents decreased to 153 (Figure 3-B). This drop reflects an effort on the part of the Campaign to focus more intensively on youth relative to parents during late 2000.³ In the final 6 weeks of 2000 the parent Campaign effectively went on hiatus, as described in Chapter 1. As a result, one might expect a coincident decrease in reported recall of anti-drug advertisements among parents.

Figure 3-A
Weekly youth-targeted general market GRPs
(September 1999 through December 2000)



³ E-mail communication with Ogilvy, February 9, 2001.

Figure 3-B
Weekly adult-targeted general market GRPs
(September 1999 through December 2000)



- **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 donated as a pro-bono match to the paid advertising.
- 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 1999 through June 2000 (which overlaps with the period covered by this report), for example, youth GRP estimates would increase by approximately 59 percent⁴ 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

⁴ According to a 12/11/00 Ogilvy estimate, youth GRPs for July 1999 through June 2000 were approximately 23,294 and the estimate for youth spill exposure was 13,669 GRPs.

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. Much of the present report focuses on expected and reported exposure to communication efforts specifically intended for, or targeted toward, each group.

- The Media Campaign also reported additional efforts to reach focused populations with special advertisements developed and intended specifically for those groups, such as Spanish-language ads for Hispanics attending to Spanish media programming. Table 3-B 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-B 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.

Table 3-B
Estimated additional 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	55.5	13.4	48.5	62.1	168.2	86.99
% of U.S. pop. for age group	16%*	13%*	15%*	14%*	1%**	1%**
Additional gen. pop. GRPs per week	8.9	1.7	7.3	8.7	1.7	0.9
% additional weekly gen. pop. GRPs	3%	1%	3%	4%	1%	<1%

* From NSPY. Percentages reflect percent of total U.S. 9- to 18-year-old youth or of total U.S. parents.

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

The numbers presented in Table 3-B reflect the approximate number of additional age group specific GRPs that the general population could have been exposed to as a result of the special targeting efforts. For African American youth, for example, roughly 56 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 9 GRPs (i.e., $56 * 0.16$) 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.

There is no easy way to assess the add-on effect of these extra GRPs for the specific populations. 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/Latino audiences represent 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 represent expected exposures reflecting media use across the entire population. Then it might be expected that these groups would be less or more exposed, on average, to the general market materials than would the general market audience. Thus the buys reflected in Table 3-B, even for the African American audience, are in unknown portions an add-on to and a make-up 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 channels; this may reflect either an advantage with regard to general market exposures or add-on effects of targeted exposures.

3.1.1 Distribution of Exposure

Reported GRP numbers are average estimates of exposure across the entire population for the 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 population would achieve the same GRP level ($200=4*.50*100$) as a media buying plan that purchased two exposures per week for all of the population ($2*1.00*100$). 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.⁵ 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 channels with wide reach or on channels with relatively less

⁵ 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 channels. In addition, the Campaign has supplied estimates for overall reach and frequency for an advertising platform across all channels 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 channel being exposed to the message on a second channel. 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 is also provided in Appendix C.

wide reach. One pattern that stands out across both groups is the predominance of television and radio GRPs, particularly for youth.

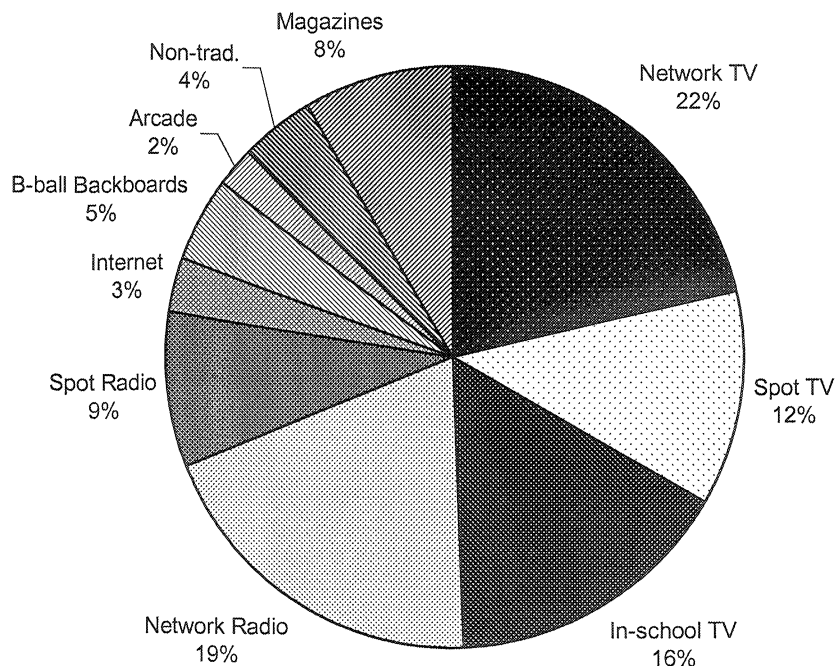
■ **Television and radio GRPs composed the vast majority (about 80%) of total youth-targeted GRPs.**

- While advertisements intended for youth were placed in a variety of media, most GRPs for youth-targeted ads were generated through television and radio channels. About one-fifth of youth GRPs resulted from combined network and cable television placement, 16 percent resulted from in-school television (largely through the Channel One program) and another 12 percent came from “spot” TV in over 100 metropolitan areas around the country. (See Figure 3-C for details.)
- About 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. Network radio (19% of the GRPs) and network and cable television⁶ combined (22% of GRPs) have the potential to reach most of the population. Among NSPY youth aged 12 to 18, almost 92 percent report listening to some radio on the average weekday and 91 percent on the average weekend day. Approximately 97 percent of youth aged 9 to 18 in NSPY reported watching some TV on the average weekday and 97 percent also report doing so on the average weekend day. Cable television is included in the wide-reach category since it now has much wider reach than in the past. Approximately 80 percent of NSPY parents reported having cable (or satellite) television in their homes. Moreover, youth appear to be engaged with cable programming regularly either at home or in other venues. For example, according to NSPY, more than 82 percent of 12- to 18-year-old youth reported that they had watched a cable music television network, such as MTV, in the past 30 days. Buys also were made on spot TV (12% of the youth GRPs) and spot radio (9% of the youth GRPs) in 102 (TV) or 106 (radio) metropolitan areas around the country that include roughly 86 percent of the country’s population. Particularly because these buys were made in late afternoon or early evening programming, all of these buys have the potential for wide reach. 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.
- Channels with less wide reach among youth include in-school television (16% of youth GRPs), basketball backboards (5%), arcades (2%), and so-called non-traditional media, such as cinema and flyer postings (4%). In addition, the Campaign reports roughly 3 percent of youth-targeted GRPs arose from Internet efforts. Almost all of in-school television was focused on Channel One, which claims to reach 8 million students (www.channeloneparents.com/network.html, January 25, 2001). This is about one-fifth of the number of 9- to 18-year-olds represented in NSPY (almost 40

⁶ The combination of network and cable television is sometimes referred to as network TV in presented graphs.

million). Another media outlet used by the Media Campaign to a limited extent,

Figure 3-C
Targeted youth media placements by medium*
(September 1999 through December 2000)



*Source: Ogilvy

magazines (8% of youth GRP), also have considerably lower reach than television or radio: among NSPY youth aged 12 to 18, only 36 percent report reading magazines on a weekly basis. The remaining channels have unknown general reach among youth. (NSPY provides statistics about how often anti-drug ads have been seen on these channels, but not overall viewership of the channels.)

- The distribution of youth TV GRPs was relatively stable across the two waves covered by this report. Weekly TV GRPs did drop for some months during Wave 2, coincident with the total decrease in GRPs (Figure 3-A). Most of that drop, however, appears to have occurred in relatively low-reach, in-school TV outlets (perhaps reflecting summer vacations and decreased student availability). The weekly average for wide-reach TV GRPs (for network, cable, and spot) was similar from June 2000 through December 2000 (about 85) compared to the period from September 1999 to May 2000 (about 88). In contrast, the weekly average for low-reach TV GRPs (e.g., Channel One) dropped from approximately 55 during the first time period to approximately 38 during the months from June 2000 through December 2000.

- **In contrast to youth, television- and radio-generated GRPs constituted only about half of all GRPs for parents.** While the Media Campaign purchased 134 targeted GRPs per week for youth on television, for example, it purchased only 48 such GRPs per week for parents on television.
 - Many of the general market adult GRPs came from media other than television or radio or even print. In fact, approximately 33 percent of all of the GRPs came from outdoor media (billboards, bus shelter placards, etc.). Outdoor media resulted in roughly 50 percent more targeted GRPs for parents than did television. (See Figure 3-D for details.) The Campaign purchased outdoor advertising intended for general market adults in only 10 major media markets, which collectively ⁷ contain roughly a third percent of the U.S. population.
 - For parents, the balance between wide-reach media and other media is approximately half and half. Network TV (22% of GRPs) and network radio (31% of GRPs) each enjoy relatively wide reach. Of NSPY parents, 96 percent reported watching some TV on the average weekday; 96 percent watch some TV on the average weekend day; 92 percent listen to some radio on the average weekday; and 84 percent listen to some radio on the average weekend day. Newspapers (4% of GRPs) and magazines (9% of GRPs) have less wide reach. Only 43 percent of parents report reading a newspaper on a daily basis, and only about half report reading magazines on a weekly basis. As noted above, the potential reach of outdoor media (fully 33% of general market GRPs) also is limited, particularly given the buying strategy of the Campaign.

3.1.2 Distribution of General Market Ad Platforms

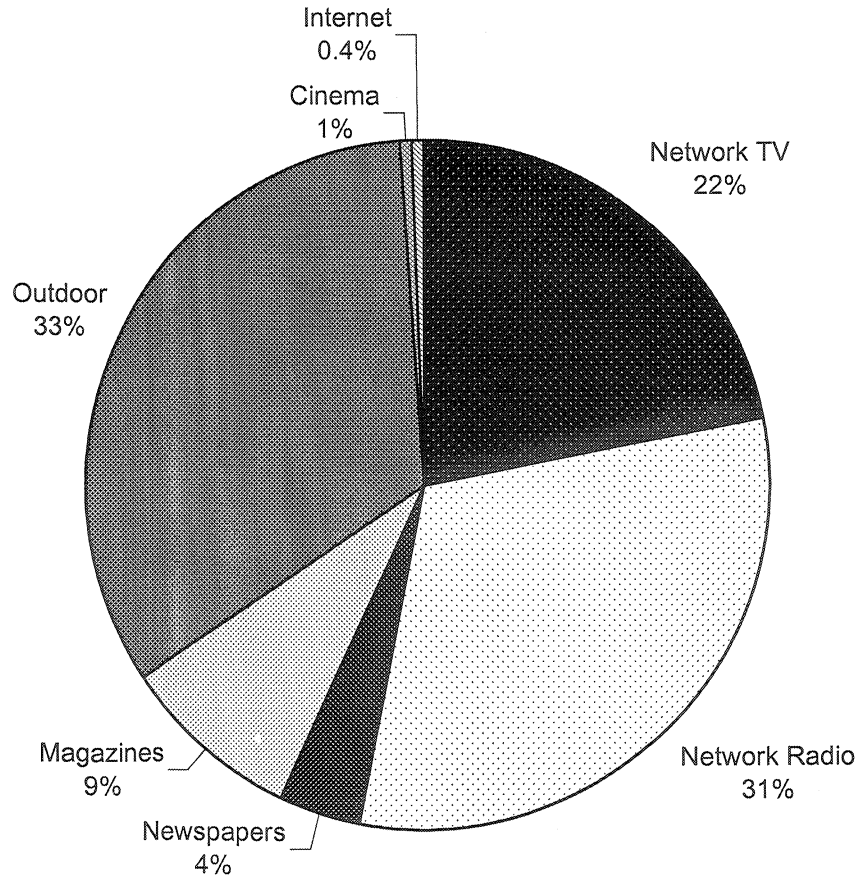
The Media Campaign strategy for both youth and adults has been to focus on a limited number of themes, or broad messages, called message platforms. Furthermore, the Campaign planned to focus much of the advertising during any particular period on one specific platform so that the message of that period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

Tables 3-C and 3-D outline the major platforms for both general market audiences. Each ad that was broadcast was associated with a particular platform (or platforms) on the basis of the concepts it addressed. Tables 3-C and 3-D also list the names of television and radio Campaign ads airing during the period from late 1999 through 2000 according to their respective platforms. Descriptions of the ads are provided in Appendix E.

For youth, for example, 55 percent of the general market television exposures (GRPs) emphasized positive normative consequences, which involves 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 the second half of 2000) of a series of “What’s Your Anti-Drug?” spots that stressed the number and variety of youth who do not use drugs (along

⁷ According to Ogilvy, those markets included New York, Chicago, Los Angeles, Philadelphia, San Francisco, Dallas/Ft. Worth, Atlanta, Boston, Detroit, and Washington, D.C.

Figure 3-D
Targeted adult media placements by medium*
(September 1999 through December 2000)



*Source: Ogilvy

with their favorite alternative behaviors). From the standpoint of the Campaign, all of these ads fit into the positive normative consequences platform. Discussion of resistance skills (e.g., how to refuse drug offers) received roughly one-quarter of the TV GRPs and negative consequences (e.g., physical or mental health or schooling outcomes of drug use) received almost one-third of the GRPs. (It is worth noting that ads could represent more than one platform and a small number did so.)

For parents, the emphases were primarily on parenting skills and on boosting personal efficacy to intervene, with secondary emphases on the idea that one's child is at risk of drug use and on the harm resulting from drug use. Table 3-D reflects this distribution.

Table 3-C
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 and 2 ²	Percentage of radio GRPs ¹	Ads in this platform during NSPY Waves 1 and 2 ²
Negative consequences	29.3%	Brothers ³ , No Thanks, Hockey, Mother/Daughter, No Skill, Vision Warrior	21.5%	Brothers, Make You Think, Stressed, Brother Jeff, If Pot Were a Person, Money
Normative positive consequences	55.4%	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, US Women's Soccer Team, Dance, Music, Famous	43.1%	Mary J. Blige, Drugs Kill Dreams, Scatman, What's Yours, What's Yours- Urban, Margot, Alberto
Resistance skills	24.0%	Drugs Kill Dreams ³ , How to Say No, No Thanks, Michael Johnson	26.6%	Drugs Kill Dreams, Excuses, Orientation, What to Say- Boy, What to Say- Girl, Moment of Truth
Other	5.9%	Ads not associated with the major platforms include Lauryn Hill, Layla, I'm Free, Miss America, and others.	12.5%	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-D
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 ¹	Proportion of radio GRPs	Ads that were in this platform during NSPY Waves 1 & 2 ¹
Parenting skills/ personal efficacy	64.2%	Clinic, Phone, Office, E-mail, TV, Instructions ads (Stay Involved and Praise and Reward), Smoke (O'Conner, Anyway You Can, and Kitchen from 9/99 also counted in Parenting Skills)	74.1%	Tree Fort, Cooking Dinner, Basketball, Keep Trying, Desperate
Your child at risk	23.6%	Pipe ² , Roach, Weed, Drugs, Clip ² , Pot, Bag ²	18.2%	Pipe, Clip, Grass, Bag
Perceptions of harm	12.0%	Symptoms, Under Your Nose, Funeral	6.6%	Happy Birthday Steven
Other	<1%	Ads not associated with the major platforms: Car	1.1%	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.

3.2 RECALL OF EXPOSURE FROM NSPY QUESTIONNAIRES

A successful anti-drug media Campaign will break through the general clutter of the public information environment and be noticed consistently by an audience. If a respondent cannot remember even simple past engagement with Media Campaign advertising, that advertising is unlikely to be effective in the next step of changing beliefs and attitudes around drug use, or of eventually affecting behavior.

In order to assess exposure to the advertising 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 channels in which the Media Campaign had purchased time (including radio and television, 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. 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 channels.⁸ 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. Questions about Internet exposure to anti-drug information were handled separately and are described below.

In addition, to improve the precision of the measurement of exposure, questions also were included regarding the recognition of specific ads. Radio and television advertising represented a large part of the advertising effort, particularly for youth, and was the focus for this measure. These specific measures and results are described after the results from the general measures of exposure are reported.

3.2.1 General Measures of Exposure

- **Patterns of general exposure to anti-drug advertising were largely consistent across the first two waves of NSPY.** Television, radio, and print media, however, did enjoy slight increases during Wave 2, relative to Wave 1, in the percentage of older adolescents and high sensation-seeking youth that reported seeing ads in such venues (Detail Tables 3-21 and 3-22).
- **The great majority of youth and parents recall some exposure to anti-drug advertising (Table 3-E).** The four general recall questions were transformed into quantitative measures of exposure and summed to provide rough estimates of total recalled exposure.⁹ Using these measures, roughly 89 percent of youth and approximately 93 percent of parents recalled seeing or hearing some form of anti-drug advertising at least once per month. Moreover, this degree of reported general exposure was relatively constant across Waves 1 and 2 of NSPY.

⁸ See questions D10-D13 of the Teen and Child questionnaires and questions F1-F4 of the Parent questionnaire—all in the Companion Questionnaire Volume.

⁹ 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

- **About 70 percent of youth and parents report weekly exposure from the combination of the sources (Table 3-E).** Thus, the purchase of approximately 2.6 targeted general market exposures per week among youth, according to the GRP data above, produced recall of at least one ad per week among 70 percent of the youth population but less than that among 30 percent of the population. The Media Campaign purchased roughly 2.2 targeted general market exposures per week for parents, similar to the level achieved for youth. That apparently led to a similar proportion of parents also generally remembering coming into contact with ads on a weekly basis or more (Table 3-E).

- **The proportion of youth recalling exposure more than once per week increases with child’s age.** Approximately 76 percent of 14- to 18-year-olds and almost 74 percent of 12- to 13-year-olds recalled ads at a frequency of weekly or higher while only about 59 percent of 9- to 11-year-olds recalled ads at this frequency. This differential pattern of recalled exposure by age is consistent with the media-buying plan of the Campaign. In general, outlets were chosen to maximize exposure among teens rather than 9- to 11-year-olds. (Channel One, for example, is less available to the younger children.)

- **The median number of recalled ad exposures by parents was 10 per month, and the median number of recalled ad exposures by youth was 12 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 12 ads per month for youth and 10 ads per month for adults translate into around 3 exposures per week and 2.5 exposures per week, respectively. GRP estimates would suggest a strikingly similar 2.6 and 2.2.

Table 3-E
Overall recalled exposure to anti-drug ads across all media
(November 1999 through December 2000)

	Parents	Youth
Less than one exposure per month	7.2%	11.1%
1 to <4 exposures per month	23.1%	18.8%
4 or more exposures per month	69.8%	70.2%
Median exposures per month	10	12

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

Table 3-F
Recall of general anti-drug advertising by channel
(November 1999 through December 2000)

Group	Percent who recall seeing or hearing ads at least weekly			
	TV & radio ads	Newspaper & magazine ads	Movie theatres & video rental ads	Billboard and other public postings
9 to 11	42.4%	19.0%	9.5%	23.5%
12 to 13	53.0%	27.7%	7.9%	28.4%
14 to 18	58.5%	27.7%	7.2%	26.5%
Parents	49.9%	21.0%	2.9%	23.1%

- **Estimates of general recall are largely consistent with the focus of GRP purchases, with 78 percent of youth-targeted GRPs and 53 percent of parent-targeted GRPs estimated for radio and television.**
- **Youth and parents report 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 report at least weekly exposure to billboard ads or other public postings. Despite targeting, then, it appears that youth also engage advertising intended for their parents and are able to report about it.
- **Across the channels, there is roughly the same pattern of claimed weekly recall of exposure within the major subgroups examined.** For media in which the Campaign placed many of its resources, such as television and radio for youth, the few differences that do exist are among age groups and levels of sensation-seeking (Detail Tables 3-20 through 3-29).
 - Overall, recalled exposure across various channels is similar across most subgroups examined.
 - African American, Hispanic, and white youths report fairly similar levels of general exposure to the primary youth channels, radio and television.
 - Youth aged 12 to 18 are more likely than 9- to 11-year-olds to report general recall of television, radio ads, and print ads at least weekly.
 - High sensation-seeking youth are more likely than their low sensation-seeking counterparts to report having seen or heard television, radio and print ads at least weekly.
 - For newspapers and magazines, white parents were less likely to recall seeing ads at least weekly than were African American and Hispanic parents. Urban parents also were more likely to recall at least weekly encounters with such ads than were others.

- All groups examined reported relatively low recall for movie and video rental ads. At the same time, African American and Hispanic youth reported greater recall than white youth. Demographic differences also were present among parents in their recalled exposure to movie and video rental ads, with African Americans and Hispanics again reporting more exposure than whites. Similarly, female parents, parents living in urban areas, and the least formally educated parents reported relatively more exposure to these types of ads than their counterparts.
- In the realm of outdoor advertising, urban parents (among whom roughly 30% saw such ads weekly) were more likely than suburban or rural parents (among whom about 20% reported weekly recall) to report regular contact with ads. African American and Hispanic parents also were more likely to recall such ads appearing weekly than were white parents.
- The general advertising exposure measure used for NSPY is identical to the measure used for many years for estimating exposure to radio and television advertising in the MTF surveys, allowing a useful comparison. The most recent published data for this measure are from spring 1998, for eighth, tenth, and twelfth grade respondents, which precedes the initiation of the national Media Campaign. Compared with the MTF data from 1996-1998, NSPY respondents report somewhat higher weekly exposure to television and radio advertising. One interpretation of this result is that the Media Campaign positively influenced this recall (Table 3-G). However, there are also other plausible explanations for the inconsistency across surveys. While the questions are identical, the contexts of the questions are different (different surrounding questionnaire, school versus home interview, paper-and-pencil versus laptop administered). Also, the MTF surveys all take place during the spring, while NSPY is carried out year-round. These may limit comparability given that there are no overlapping periods of measurement.

**Table 3-G
Recall of television and radio anti-drug ads, MTF and NSPY by grade**

Group	Percent who recall seeing or hearing ads at least weekly			
	TV & radio ads MTF 1996	TV & radio ads MTF 1997	TV & radio ads MTF 1998	TV & radio ads NSPY 1999-2000
Eighth grade	55.9	56.8	53.4	57.8
Tenth grade	57.0	53.9	52.6	61.8
Twelfth grade	47.5	44.0	40.1	56.6

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 remarkably well to aforementioned GRP data. They are particularly useful for comparisons among channels 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 also probably were seen by another 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 aided recall of specific television and radio ads.

3.2.2 Aided Advertising Recall

As discussed in Chapter 2, respondents were shown a sample of television ads and played a sample of radio ads at full length on their laptop computers. Each respondent was presented ads that were broadcast nationally in the 2 calendar months previous to the interview. Following presentation, respondents were asked whether they had ever seen the ad, how often they had seen the ad in recent months, and how they evaluated the ad. The scores on the randomly not-shown ads were imputed on the basis of other information as discussed briefly in Section 2.2.5 and at length in Appendix F. The imputation permitted researchers to estimate the total recalled exposure for each respondent for all the ads that were being shown for the 2 months prior to the interview as described in Chapter 2. In addition to ad-specific and overall ad recall estimates, subsets of ads were added up that addressed a single Campaign platform to estimate overall recalled exposure to each platform.

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. If all claims were taken at face value, in other words, the exposure may have been overestimated. 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. That gave a benchmark to assess true exposure.

The evidence for validity of the measures is strong, particularly for youth. The specific television ad recall measures, for example, tracked the GRP data closely, ad by ad, for youth. Of the youth (English-language) TV ads, the average general market youth TV ad earned about 32 GRPs per week it was on the air (equivalent to an expected exposure of 0.3 exposures per week). The average youth respondent recalled about 0.54 exposures per week that a recalled ad was on the air in the 60-day period before the interview. The correlation between the GRPs purchased per week for an ad and the average recalled exposure for that ad was 0.78. Approximately 44 percent of youth respondents reported ever having seen the average actual ad, while ringer ads were falsely recalled by only 11 percent of youth. This validity information also is described in detail in Appendix C.

The evidence suggests that parent TV recall measures also are valid, although this evidence is less impressive than for youth. A significant and positive relationship exists between estimated weekly recall of TV ads for parents and reported GRPs per week of airing for 25- to 54-year-old adults for those ads included in NSPY ($r = 0.53$). In addition, approximately 30 percent of parents reported ever having seen the average actual parent TV ad, whereas only roughly 16 percent of parents reported ever having encountered the average ringer ad. (Several potential reasons for the somewhat weaker validity evidence for parents also are explored in Appendix C.)

Since the Media Campaign does not expect that effects come from individual ads, but from the cumulative influence of multiple ads, the focus here is on describing exposure in terms of accumulated recall across all ads seen by a youth or parent and ads within a platform.

Television Recall

Across the period relevant to the first two waves of NSPY, approximately 52 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 134 general market youth-targeted television GRPs, on average, indicating that the average youth respondent should have been exposed to 1.3 television ads per week. For parents, general market television efforts were less substantial, enough to produce an average of 48 GRPs per week, or about 0.5 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 TV ads developed for the Media Campaign were targeted at either youth or at parents. Within these target groupings, there were ads developed specifically for Spanish-speaking audiences and for African American audiences, in addition to those developed for general English-speaking audiences. In selecting ads to play for NSPY respondents, there was strict segmentation by the parent-youth dimension and by language. In other words, youth-targeted ads were never shown to parents and vice versa. This means that youth-parent "spill" has not been measured and 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 opposite 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.

There were more ads available than what could be shown to each youth respondent within a reasonable time. The mean number of eligible TV ads that had been on the air at least 1 day in the 60 days leading up to a youth interview was 3.8, whereas the average number shown during the interview to be recognized was 3.0. The average number eligible for parents was 4.3 and the actual number shown during an interview averaged 3.0. Each respondent was asked about how many times he or she had seen each ad in "recent months".

Imputation was used to fill in reasonable projections for the remaining ads. The results were then recoded and summed across ads.¹⁰

- **Reported reach of specific Campaign television ads dropped slightly among parents during Wave 2 relative to Wave 1.** During Wave 1, approximately 66 percent of parents reported some degree of exposure to specific ads in recent months, whereas during Wave 2, only 58 percent reported such exposure. See Detail Table 3-7. This pattern is consistent with the Campaign’s generally decreased emphasis on reaching parents during Wave 2, as noted above.
- **About 84 percent of youth recalled seeing at least one of the ads that had been playing in the previous 60 days.** The total number of times that a respondent had seen one or more of the ads aired in the 60 days before the interview are presented in Table 3-H. About 16 percent claimed to have seen no ads and 65 percent saw all TV ads combined 8 times or fewer (approximately equivalent to one ad per week). At the other end of the distribution, 6 percent recalled seeing ads 3 or more times per week over the recall period.

Table 3-H
Respondent recognition of Campaign TV ads in recent months
(November 1999 through December 2000)

Number of times TV ads seen in “recent months”		All youth	Parents
0 times	(0 times per week)	16.5%	37.8%
.01 to 1.9 times	(<0.25 times per week)*	8.8%	7.5%
2 to 7.9 times	(0.25 - <1.0 times per week)	39.6%	31.0%
8 to 23.9 times	(1.0 - <3 times per week)	28.8%	18.8%
24 or more times	(3 + times per week)	6.3%	5.0%
Mean number of times all ads seen		7.8	5.7
Median number of times all ads seen		5.0	3.0

*Times per week are estimated assuming that “recent months” is equivalent to 2 months.

¹⁰ 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
Don’t know		0.5
Yes	Not at all	0
Yes	Once	1
Yes	2 to 4 times	3
Yes	5 to 10 times	7.5
Yes	More than 10 times	12.5

Overall Patterns

- **Youth reported greater exposure to youth-targeted TV ads during the first two waves than parents reported to parent-targeted TV ads.** Fewer youth reported no encounters with specific Campaign TV ads compared to parents, and the mean and median number of times a Campaign ad was seen were larger for youth than for parents. These findings are consistent with patterns that the aforementioned GRP figures would suggest, in that the Campaign obtained more youth-targeted TV GRPs, on average, than parent-targeted TV GRPs.
- **The median number of recalled viewings of youth-targeted TV ads by youth was 5.0 over recent months or about 0.6 times per week.** The mean was considerably higher at 7.8 or about 1 exposure per week. Such a difference between the mean 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.
- **Nine- to eleven-year-olds and 14- to 18-year-olds reported less exposure to television ads than 12- to 13-year-olds.** Across the two waves, the mean frequency of reported exposure to Campaign TV ads over recent months was 7.1 for the 9- to 11-year-olds, 9.0 for 12- to 13-year-olds, and 7.8 for 14- to 18-year-olds (Detail Table 3-2).
- **Almost two-thirds of parents reported exposure to at least one parent television ad from the Campaign in recent months.** Only about one-quarter of parents, however, recalled seeing at least one such TV ad per week in recent months across the two waves of survey responses.
- **The median number of viewings of parent-targeted TV ads in recent months by parents was 3 or about 0.4 per week.** As with youth, the mean was considerably higher at about 6 over recent months, 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.

Radio Recall

The Media Campaign complemented its purchases of television time with purchases of radio time. For youth that included roughly 73 targeted GRPs per week, on average, and for parents approximately 69 weekly targeted GRPs were obtained. As previously noted, a sample of radio ads was played for each parent or youth between 12 and 18 years of age. Respondents were asked whether they had ever heard each ad, and how often, following the format for the television ads.

During Wave 1, only those ads that were original to radio were played to NSPY respondents as part of their interviews. Because some of the radio ads broadcast were essentially soundtracks from television ads, it is likely respondents would have been unable to recall whether they had heard or seen an ad on radio or television if they had been exposed to it

through both media, potentially making exposure estimates erroneous. Their responses to the questions about television ads, asked about first, likely would have reflected their total exposure through both channels rather than uniquely indicating radio exposure.¹¹

Wave 2 data were not hampered by such issues, for only one of the Campaign Spanish radio ads was an audio duplicate of a television ad. (All future waves will inquire about all eligible radio ads, regardless of duplication.) Based on Wave 2 estimates, nonetheless, Media Campaign radio ads are not reaching most youth or adults: relatively few parents or youth recognized specific radio ads from the Campaign.¹² Table 3-I summarizes relevant radio ad recognition data.

Table 3-I
Respondent recognition of Campaign radio ads in recent months
(November 1999 through December 2000)

Number of times radio ads seen in "recent months"		Parents (Wave 1)	Parents (Wave 2)	Youth** (Wave 2)
0 times	(0 times per week)	52%	55%	64%
.01 to 1.9 times	(<0.25 times per week)*	9%	6%	11%
2 to 7.9 times	(0.25 - <1.0 times per week)	29%	29%	21%
8 to 23.9 times	(1.0 - <3 times per week)	8%	10%	4%
24 or more times	(3 + times per week)	1%	<1%	<1%
Mean number of times all ads seen		2.9	2.8	1.4
Median number of times all ads seen		0	0	0

* Times per week are estimated assuming that "recent months" is equivalent to 2 months.

**Data are from 12- to 18-year-olds only and are only presented for Wave 2 because of Wave 1 limitations described above.

- **Few parents reported regular exposure to radio Campaign ads during Wave 1 or Wave 2.** Only about 47 percent of parents, for example, had heard at least one of the Wave 1 or 2 radio ads and only roughly 9 percent heard a Campaign radio ad at least once a week (Detail Table 3-16). The mean number of encounters with radio ads by parents in recent months during Waves 1 and 2 was 2.85, whereas the median was 0. This pattern suggests that the majority of parents heard no radio ads from the Campaign during either wave. Instead, the GRPs obtained likely reached a minority of parents hearing some ads repeatedly and frequently.
- **Few adolescents reported any recognition of radio Campaign ads during Wave 2.** Approximately 64 percent of 12- to 18-year-olds reported no recognition of the radio ads presented during Wave 2. Mean number of targeted radio ad encounters among this age group in recent months was 1.4, whereas the median was 0 during Wave 2. This suggests a similar pattern as that discussed for parents, whereby the reported

¹¹The selection of radio-only ads was less an issue for parents than for youth. Almost 90 percent of the total radio GRPs purchased for adults were for radio-exclusive ads. On the other hand, only 20 percent of the GRPs purchased for radio for youth were radio-exclusive ads.

¹²The story was not markedly different for those Wave 1 radio ads that were presented to respondents; relatively few recognized those ads, either.

radio GRPs for youth arose from a few youth hearing some radio ads from the Campaign repeatedly, rather than most youth hearing the ads at all.

3.3 TELEVISION AD EVALUATION

All respondents were asked to evaluate a subset of the television ads they reported having seen. The goal was to assess how individuals interpret and evaluate ads from the Media Campaign when they encounter 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 are less convinced by or more skeptical of the ads are less likely to avoid initiation or continuation of drug use.

The three positively phrased questions (indicating that a particular 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.

- **Overall, youth and parents tended to rate favorably the television ads they were shown for the duration of Waves 1 and 2.** (Detail Tables 3-11 and 3-13).
 - There were largely no changes in the evaluations offered during Wave 2 relative to Wave 1. Among youth, however, females offered slightly more positive reviews during Wave 2 compared to Wave 1 (Detail Table 3-11.)
 - On a five-point scale ranging from -2 to 2, mean responses from the four groups of youth interviewed (9- to 11-year-olds, 12- to 13-year-olds, 14- to 15-year-olds, and 16- to 18-year-olds) ranged from 0.6 to 1.0. The responses to the "exaggerate the problem" question told a similar story, with an average tendency for youth respondents to somewhat disagree with the notion that an ad exaggerated the problem. (See Table 3-J.)
 - Mean response from parents for the aforementioned evaluation scale was 1.1, suggesting that they also tended to rate the ads more favorably than negatively. It also suggests that parental response to parent-targeted ads was even more favorable than youth response to youth-targeted ads. Parents also tended to disagree that an ad exaggerated the problem. (See Table 3-J.)

Table 3-J
Television ad evaluation among youth and parents
(November 1999 through December 2000)

Age	Mean evaluation score	Disagree that the ad exaggerated the problem
9-11	1.0	N/A
12-13	1.0	0.8
14-15	0.8	0.7
16-18	0.6	0.7
Parents	1.1	1.0

NOTE: Evaluation scale runs from +2 to -2 with +2 being most positive.

While most subgroups of the youth population responded fairly similarly to the ads, there were three noteworthy exceptions. The first difference reflected a tendency for older youth to be more skeptical in their ad evaluation. The second difference was between those who were high and low in reported sensation seeking. The final difference was between those who reported some use of marijuana and those who did not (Detail Table 3-11).

- Adolescents 14 to 18 years old tended to be less positive in their judgment of the ads than 9- to 13-year-olds, although even those older respondents still tended to offer positive responses relative to the neutral option.
- Youth with a high sensation-seeking tendency reacted less positively to Campaign TV ads, on average, than youth relatively lower in sensation-seeking.¹³ At the same time, high sensation-seeking adolescents also were more likely to agree that Campaign TV ads exaggerated the problem they depicted.
- Occasional marijuana users evaluated Campaign TV ads less positively than did non-users.¹³ The mean rating across all ads was 0.4 for occasional users and 0.9 among non-users. Occasional users also were more likely to report that a Campaign TV ad, on average, exaggerated the problem than were non-users, although both groups on average were on the "did not exaggerate" side of the scale.

Most demographic groups of parents offered largely similar average assessments of Media Campaign TV ads, though some differences did arise (Detail Table 3-13).

- Less formally educated parents were somewhat more favorable in their response to Media Campaign TV ads than more formally educated parents. Mean evaluation score among those with less than a high school education was 1.2, for example, whereas mean evaluation among college graduates was 1.0. This pattern may reflect a general

¹³ The relationship between sensation seeking and marijuana use, discussed later, might lead one to suspect that inference about a negative relationship between sensation seeking and ad evaluation is spurious and that this evidence actually is reflective of the tendency of those who have used marijuana to judge ads more negatively (perhaps defensively). The relationship between sensation seeking and ad evaluation and the relationship between marijuana use and ad evaluation, however, seem to be independent of one another, as both persist even when taking the remaining third variable in each case into account and holding it constant.

tendency of education to invite more critical evaluation tendencies, the nature of the ads, or social desirability pressures.

- Hispanic parents were somewhat more favorable in their response to Media Campaign TV ads than were African American parents, who were, in turn, more favorable in their assessment than white parents.
- Town and rural parents gave less favorable assessments than urban and suburban parents.
- Parents of older youth (14-18) gave less favorable assessments than parents of younger youth (9-13).

3.4 INTERNET USE AND ENCOUNTERS WITH DRUG INFORMATION ON-LINE

Youth and parents were asked about their experience with the Internet and also specifically about their recall of visits to sites with pro- or anti-drug information. Results from the first two waves of NSPY suggest at least two striking ideas about the Internet. First, it appears that the vast majority of adolescents now have at least minimal contact with the Internet, as is described in Table 3-K (and Detail Table 3-30). That number also appears to have grown during the period from late 1999 through late 2000, particularly among older adolescents. Second, however, despite this wide diffusion of access to the Internet, most youth currently do not encounter information related to drugs on line. While one might be tempted to suggest that the Internet offers a useful way to engage youth in reference to drugs, the present data suggest that the Internet does not currently produce much total exposure to explicitly anti-drug web sites. Only approximately 10 percent of adolescents report visiting a web-site with anti-drug information in the previous 6 months.

**Table 3-K
Internet use and encounters with drug information on-line
(November 1999 through December 2000)**

Group	Internet activity during previous 6 months		
	% using Internet at least a few times	% visiting anti-drug Internet site among all youth/parents	% visiting pro-drug Internet site among all youth
12 to 13	79.8	9.7	2.9
14 to 18	86.9	9.5	6.1
Parents	64.1	6.4	N/A

Youth

- The percentage of 14- to 18-year-olds reporting Internet use in the past 6 months increased during Wave 2 relative to Wave 1 to 89 percent, up from 85 percent.
- Particular groups of youth appear to have witnessed this increase more than other groups. Youth living in urban areas, females, and youth high in sensation-seeking

tendencies, for example, witnessed significant gains in Internet use from one period to the next.

- Approximately 85 percent of adolescents report at least minimal contact with the Internet in the past 6 months. (See Table 3-K and Detail Table 3-30.) This pattern is not simply an artifact of widespread occasional or minimal use. Roughly half of adolescents used the Internet at least weekly in the past 6 months, and almost one-third of 14- to 18-year-olds used the Internet every day or almost every day.
- Strikingly, there is no detectable gender gap in reported Internet access or contact for youth. Roughly equal proportions of male and female adolescents report various levels of use in the past 6 months (Detail Table 3-30).
- There does appear to be a discrepancy in use among various racial groups. A higher proportion of white adolescents used the Internet in the past 6 months than did African American or Hispanic adolescents, a difference that persists both in terms of minimal use and at the extreme of daily or almost daily use (Detail Table 3-30).
- Socioeconomic factors, such as parents' education, also appear to divide youth in terms of their Internet use. Among youth with at least one parent who had not completed high school, roughly 68 percent had used the Internet at least a few times in the past 6 months. In contrast, among youth with at least one parent who completed college, roughly 94 percent reported such use.
- Compared with their low sensation-seeking peers, a slightly higher percentage of high sensation-seeking youth report having had at least minimal contact with the Internet in the past 6 months. Approximately 88 percent of those high in sensation seeking report such use, whereas roughly 81 percent of those low in sensation seeking do so. This finding is perhaps unsurprising if the Internet is seen as a source of relatively novel and engaging stimuli (Detail Table 3-30).
- Despite widespread Internet use, only about 10 percent of youth recall even one visit to an anti-drug web site in the past 6 months. (This finding does not preclude the possibility of incidental contact with anti-drug banners posted on web sites primarily intended for other purposes, however.)
- Both sensation-seeking groups are about equally likely to visit anti-drug Internet sites. High sensation-seeking adolescents, however, are more likely to visit Internet sites supportive of drug use. Approximately 7 percent of high sensation-seeking youth reportedly visited such pro-drug sites in the past 6 months, whereas only 2 percent of their low sensation-seeking counterparts did so (Detail Table 3-32).

Parents

- More parents overall reported using the Internet during the second half of 2000 than did parents during late 1999 and early 2000.

- Some demographic groups of parents specifically are reporting gains in minimal Internet use. Among parents, whites, Hispanics, women, those with a high school degree but no post-secondary education, suburban residents, and those living in the Midwest all reported increases during Wave 2 relative to Wave 1. None of those dynamics eliminated the aforementioned disparities, however.
- In terms of proportion using the Internet at least minimally in the past 6 months, parents, as a group, appear to be less engaged with the medium than youth currently. Only 64 percent of parents report such use across both waves, compared with approximately 85 percent of youth.
- Among parents who do report Internet use, however, many are engaged with the technology on a regular basis. Almost half of all parents report having used the Internet at least weekly in the past 6 months.
- Among parents, there are wide disparities in use by education, race, ethnicity, and urbanicity. Across both waves of NSPY, 89 percent of parents who are college graduates report any use of the Internet, whereas only 29 percent of those parents with less than a high school diploma claim such recent use. In addition, African American and Hispanic parents report a substantially lower likelihood of some contact with the Internet than do white parents (Detail Table 3-33). Suburbanites are heavier users than urban and town/rural parents.
- Fathers continue to be heavier Internet users than mothers.
- Patterns among parents overall are similar to youth in terms of interaction with information about drugs on line. Only 6.4 percent of parents report visiting an Internet site with anti-drug information in the past 6 months. Education is a telling variable in this regard, as well, however. Approximately 8 percent of college graduates claim visits to sites with anti-drug information, whereas only 3 percent of those with less than a high school diploma report such visits, although these numbers are in proportion to overall Internet use.
- Approximately 8 percent of parents reported having visited an Internet site that included information about parenting skills during the previous 6 months. Visits to parenting sites also differ by parents' education level: approximately 11 percent of parents who are college graduates reported such a visit in the past 6 months, whereas only 3 percent of parents with less than a high school diploma did so.
- Despite the fact that fathers were heavier Internet users than mothers, mothers were more likely to have visited parenting skill Internet sites. Similarly, despite the fact that town and rural parents are lighter users of the Internet, they were more likely to use it to obtain information on parenting skills than their suburban counterparts.

4. EXPOSURE TO OTHER SOURCES OF DRUG INFORMATION AND EDUCATION FOR YOUTH

The Media Campaign is not the only source of drug information reaching the population. This chapter describes the nature of, and change in, other sources of drug education and information for youth. Chapter 5 provides parallel information for parents. Young people were asked whether they received drug education in school and outside of school, how frequently they engaged in drug-related conversation 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 channels.

These “other sources” of information provided context for the campaign in two ways. First, they provided an estimate of background levels of information and communication about drug use. This will make it possible to understand whether the Media Campaign represents a minor, moderate, or a major increment to available information.

Second, they permit assessment of changes in the anti-drug involvement of various public and private institutions. While advertising is the cornerstone of the Media Campaign, non-advertising outreach and partnership with national and local organizations form another important component of Media Campaign activity. The Media Campaign has committed substantial resources to working with youth and other organizations and to working with the entertainment industry and news media to increase anti-drug activities, ensure accurate portrayals of drug use in entertainment programming, and to frame youth drug use as an important issue. If these efforts are successful, schools and other organizations should offer more anti-drug programs, and the media should cover the issue of drug use among youth more heavily and more accurately.

In this chapter, Waves 1 and 2 are compared to see if there were changes in the recall of exposure to information delivered through these pathways between the first half and second half of 2000. Given Campaign goals and objectives, one would hope to find that the intensity for most of these channels was either stable or increasing within 2000. Of course, with media content and conversations with friends, the content must be examined before being able to say whether an increase is desirable.

In general, there were few significant differences between Waves 1 and 2 in the recall of exposure to information through all these pathways. Given that there were only 6 months between Waves 1 and 2, large changes would not be expected. The sample sizes available after only two waves can detect changes of only several percentage points. Later reports in this series will provide more precise estimates and address longer-term change.

After highlighting in Section 4.1 the few statistics with significant change, stable patterns using both Waves 1 and 2 are reviewed in Section 4.2. These findings largely duplicate the findings in the first semi-annual report, but they are more precise with the larger sample sizes. In section 4.3, some areas of diversity of information flow patterns are discussed. These are also based on the combined Wave 1 and 2 sample; this larger sample size makes it possible to see differences that were not significant in Wave 1 by itself.

4.1 CHANGES WITHIN 2000

Youth attendance at in-school drug education in the past year was high at all ages, and reports did not change significantly for youth in any of the age groups examined. However the large, but not statistically significant changes in the opposite directions for 14- to 15-year-olds (+8%) and 16- to 18-year-olds (-9%) illustrate the concern about lack of statistical power to detect change for subgroups (Table 4-A).

Attendance at drug education activities through extracurricular activities in the past year also remained stable and low for most groups (Table 4-A). The only exception was for 16- to 18-year-old youth, who reported a statistically significant decline between Waves 1 and 2 from 10 percent to 5 percent.

There were no significant overall changes in recall of stories about young people and drug use in the mass media within 2000. Table 4-A presents the change data for one of the media measures, exposure to TV movies, sitcoms, or dramas, but the pattern of no statistically significant change is typical across all the measures, including exposure through TV and radio news, TV talk shows, movies, and magazines. Detail Tables 4-15 through 4-19 present 90 subgroup change comparisons. While approximately two-thirds of the Wave 2 estimates were higher than their corresponding Wave 1 estimates, for only two of the estimates was there a statistically significant change: (1) an 8 percentage point increase in Hispanic youths recalling such stories in magazines at least once a week; and (2) a 5 percentage point increase among town and rural youth recalling such stories in movies.

Table 4-A
Change in exposure to drug-related communication across waves

Measure	Population	Wave 1 (%)	Wave 2 (%)	Change (%)	95% Confidence Interval on Change (%)
%In-school drug education past year	Youth 9-11	55.3	55.8	0.5	-5.1 to +6.1
	Youth 12-13	75.9	74.9	-1.0	-6.6 to +4.6
	Youth 14-15	64.8	72.5	7.7	-1.2 to +16.6
	Youth 16-18	59.7	51.1	-8.6	-18.0 to +6.0
% extracurricular drug education past year	Youth 9-11	8.3	7.9	-0.4	3.6 to +2.8
	Youth 12-13	6.3	7.3	1.0	-1.8 to +3.8
	Youth 14-15	6.9	7.9	1.0	-3.7 to +5.7
	Youth 16-18	9.8	5.3	-4.5*	-8.2 to -0.8
% weekly exposure to TV movies, sitcoms or dramas with drugs and youth content	Youth 9-11	NA	NA	NA	NA
	Youth 12-13	17.9	20.2	2.3	-2.2 to +6.8
	Youth 14-15	26.7	22.8	-3.9	-10.5 to +2.7
	Youth 16-18	25.2	24.9	-0.3	-6.9 to +6.3

* significant between wave change at p<.05
NA: not asked

From Wave 1 to Wave 2 there was a decrease in both the number of drug conversations with friends and with parents reported by two age groups of youth. Among children aged 9 to 11, the percent reporting having had two or more conversations with friends and with parents about drugs in the past 6 months both decreased by a statistically significant 6 and 5 percentage points, respectively (Table 4-B). Among 14- to 15-year-olds, there was an even sharper fall of 18 percentage points in reporting that they had had two or more conversations with friends and a 7 percentage point drop in reporting two or more conversations with parents about drugs in the past 6 months (Table 4-B and Detail Tables 4-6 and 4-11). Estimated changes in the other age groups were not statistically significant. Parents of these youth, who overall claimed a higher level of conversation with their children, did not report a parallel drop.

In addition to these declines, there were significant declines in youth conversations with friends for various subsets of all youth aged 9 to 18: males, white youth, youth in all regions except the South, urban youth, and both high- and low-sensation seeking youth (Detail Table 4-6).

Table 4-B
Change in drug-related conversations across waves

% with two or more conversations in past 6 months	Population	Wave 1 (%)	Wave 2 (%)	Change (%)	95% Confidence Interval on Change (%)
Youth with friends	Youth 9-11	29.1	22.9	-6.2*	-10.2 to -2.2
	Youth 12-13	44.6	43.8	-0.8	-6.6 to +4.8
	Youth 14-15	69.5	51.1	-17.6*	-25.0 to -10.2
	Youth 16-18	67.6	71.1	3.5	-3.6 to +10.6
Youth with parents	Youth 9-11	62.7	57.4	-5.3*	-10.3 to -0.3
	Youth 12-13	59.2	56.2	-3.0	-9.0 to +3.0
	Youth 14-15	58.6	52.1	-6.5	-14.7 to +1.7
	Youth 16-18	48.4	51.7	3.3	-4.0 to +10.6
Parents with children	Parents of 9-11	71.3	72.3	1.0	-4.9 to +6.9
	Parents of 12-13	80.2	78.3	-1.9	-6.9 to +3.1
	Parents of 14-15	81.9	79.3	-2.6	-10.0 to 4.8
	Parents of 16-18	78.2	80.0	1.8	-4.7 to +8.3

* between wave change significant at p<.05

Although presumably most of the conversations with parents were of an anti-drug nature, some of the conversations with friends were about positive reactions to drugs. To answer the question of whether the decrease in conversations with friends reflected anti- or pro-drug content, it is necessary to examine the content of conversations with friends.

The NSPY questionnaire asks only about the content of conversations with friends for the youth aged 12 and older.¹ For youth aged 14 to 15, the decline in conversations with friends appears to be due to a decline in talk about both positive and negative consequences of drug use (Table 4-C and Detail Tables 4-7 and 4-9). Only the decline in talk about positive consequences is statistically significant, but the decline in talk about negative consequences was nearly significant and clearly contributed to the overall drop in conversations with friends. There also were conversations about specific things to do to avoid drugs, but there were no significant changes between Waves 1 and 2 in the occurrences of these conversations (Detail Table 4-8).

Table 4-C
Changes in drug conversations with friends from Wave 1 to Wave 2
among youth aged 14 to 15

Conversation topic	Percent having conversations with friends in past 6 months			
	Wave 1 (%)	Wave 2 (%)	Change (%)	95% Confidence Interval on Change (%)
“Marijuana use isn’t so bad”	23.4	16.1	-7.3*	-14.1 to -0.5
“Bad things that happen if you use drugs”	55.1	47.6	-7.5	-15.5 to +0.5
“Specific things I could do to stay away from drugs.”	31.1	29.6	-1.5	-8.6 to +5.6

* Significant between waves change at p<.05

In addition to having questions about general drug conversations, the NSPY questionnaire has questions about conversations that were specifically triggered by anti-drug advertisements (Table 4-D). No age group showed a statistically significant decline in discussion of anti-drug ads with parents from Wave 1 to Wave 2, although 9- to 18-year-old males (-4%) and suburban youth (-7%) did show significant declines. Conversations about drugs with friends and adults other than their parents, did show a significant decline for 14- to 18-year-olds, which was particularly notable for the 16- to 18-year-old subgroup. A statistically significant decrease from 44 to 35 percent was also observed for low sensation seekers. These drops may indicate that the “buzz factor” generated by the ads among youth appears to have declined slightly and for some groups, between the first and second halves of 2000.

In sum, there are few changes between Waves 1 and 2 among youth in their exposure to media stories or to school or extracurricular anti-drug education. There is a sharp decline in some youth reports of conversation about drugs, however. In the next section, the report reviews the overall pattern of responses, combining both waves of data. The increased sample permits more precise estimates, particularly for subgroup analyses.

¹ The questionnaire was kept shorter for the younger children out of concern for their ability to concentrate on a large number of questions.

Table 4-D
Changes in conversations about anti-drug ads from Wave 1 to Wave 2

Group and Discussion Partner	Percent with at least one conversation about anti-drug ads in past 6 months			
	Wave 1 (%)	Wave 2 (%)	Change (%)	95% Confidence Interval on Change (%)
Discussions with parents:				
Youth aged 9 to 11	49.6	46.2	-3.4	-8.1 to +1.3
Youth aged 12-13	40.1	37.4	-2.7	-8.0 to +2.6
Youth aged 14-15	31.0	30.0	-1.0	-8.1 to +6.1
Youth aged 16 to 18	21.1	16.3	-4.8	-11.1 to +1.5
Discussions with others (friends, other adults):				
Youth aged 9 to 11	NA	NA	NA	NA
Youth aged 12-13	40.0	44.5	4.5	-1.4 to +10.4
Youth aged 14-15	45.0	39.9	-5.1	-12.5 to +2.3
Youth aged 16 to 18	45.5	34.5	-11.0*	-18.9 to -3.1

* Significant between waves change at $p < .05$; NA: not asked

4.2 OVERALL PATTERNS IN 2000

Given the small sample sizes for each wave, it is useful to combine the two waves to look at overall patterns for the whole of 2000. The findings in this section generally replicate those of the first semi-annual report but provide more precise estimates. Year-long patterns are examined here for youth exposure to anti-drug education, youth conversations with parents and friends about drugs, and youth discussions with parents and friends about anti-drug ads.

4.2.1 Anti-Drug Education

- Most youth report receiving anti-drug education in school during the past year and in previous years.** All youth were asked, "Have you ever attended any of the following drug education classes or programs in school: A special class about drugs that included several sessions?"² Over 72 percent of youth in all age categories responded affirmatively to this question. For youth ages 12 to 13, almost 85 percent reported ever attending a drug education class or program and over 75 percent reported attending such an event within the past year. Past year in-school drug education declined with age, but even among youth aged 16 to 18, over 55 percent say they attended a drug education class or program within the past year. These results are summarized in Table 4-E.

² See question D33 in the Teen instrument.

Table 4-E
Attendance at in-school anti-drug education programs by age of youth in 2000
(Waves 1 and 2 of NSPY)

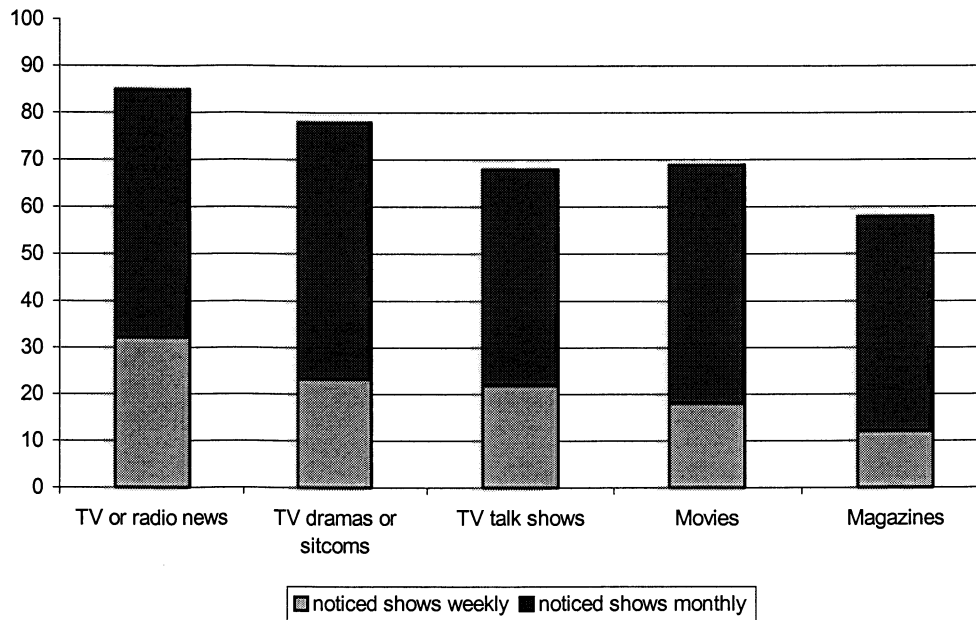
Age group	Proportion ever attending (%)	Proportion attending in the past year (%)
9-11	72.3	55.6
12-13	83.6	75.4
14-15	79.9	68.7
16-18	75.5	55.4

Extracurricular activities do not often lead to anti-drug education. Eighty-seven percent of all youth report that they are currently involved with at least one extracurricular activity (music, dance or the performing arts, athletic teams, boys or girls clubs, religious youth groups, clubs or volunteer organizations) either within or outside of school. However, when this extracurricular activity takes place outside of school, only on occasion does it involve anti-drug education. Only 11.5 percent of youth have ever participated in anti-drug programs or discussions outside of school, and only 7.5 percent have participated in such programs within the past year (Detail Tables 4-2 and 4-4). African American youth are more likely to have attended drug education classes or programs outside of school than either white or Hispanic youth. Almost 20 percent of African American adolescents report attending such activities, while only around 10 percent of white and Hispanic youth report attending drug education classes or programs outside of school.

- **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.³ (See Figure 4-A.) The media channels that respondents were asked about were: television and radio news; television movies, sitcoms, and dramas; television talk shows; rental and theater movies; and magazines. More than half of all youth noticed media coverage about drug use among young people at least once a week on at least one of these media channels. About one-third noticed such stories weekly on television or radio news, and approximately 20 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 4-15 through 4-19). High sensation seekers were more likely to recall exposure to media coverage about young people and drug use in all media than were low sensation seekers, and African American youth were more likely to recall such stories than white or Hispanic youth.

³ See question D9 in the Teen questionnaire.

Figure 4-A
Noticed stories about drugs and youth in recent months in 2000
(Waves 1 and 2 of NSPY)



4.2.2 Talk with Parents or Friends About Drugs

- Most older youth have conversations about drugs, and many of them have such conversations frequently. Drug conversations are somewhat less frequent among younger children.** About 90 percent of youth ages 12 to 18 report having had at least one conversation about drugs with parents or friends in the previous 6 months. Over 45 percent of teens in this age group report having such conversations four or more times (Detail Table 4-12). Conversation about drugs is also common among younger children. About 78 percent of children aged 9 to 11 say they have been involved in a conversation about drugs at least once in the past 6 months and about 38 percent report having had drug-related conversations four or more times during that period (Table 4-F).

Table 4-F
Drug conversation in the past 6 months with parents or friends by age group in 2000
(Waves 1 and 2 of NSPY)

Age group	Percent with any conversation in past 6 months	Percent with four or more conversations in past 6 months
	%	%
9-11	78.4	37.9
12-13	77.6	42.2
14-15	75.9	47.6
16-18	72.2	55.1

- Youth talk with parents about drugs when they are younger, but as they mature, they talk more about drugs with friends.** Among children aged 9 to 11, almost 34 percent report having had four or more conversations about drugs with their parents in the past 6 months. About 24 percent of teens aged 16 to 18 report having this many drug-related conversations with parents. Conversely, while only 12.6 percent of children aged 9 to 11 talk frequently with friends about drugs, nearly half of older teens report having had four or more conversations about drugs within the past 6 months (Table 4-G).

Table 4-G
Frequency of conversations with parents and friends about drugs
in the past 6 months by age in 2000
(Waves 1 and 2 of NSPY)

Age group	Percent with four or more conversations in past 6 months with parents	Percent with four or more conversations in past 6 months with friends
	9-11	33.7%
12-13	30.4	22.4
14-15	26.1	34.8
16-18	23.9	47.6

- The heaviest talkers are drug users.** Youth who used marijuana in the past year are much more likely than non-users to have conversations about drugs, and this effect increases with age. Among adolescents aged 12 to 13 who used marijuana, 72 percent were involved in conversation about drug use four or more times in the previous 6 months. Among older marijuana users (14 to 18 years), almost 80 percent engaged in drug-related conversation with this frequency. Conversation about drug use is less frequent among non-users. In general, around 40 percent of non-users from each age group became involved in conversation about drugs four or more times in the previous 6 months (Table 4-H).

Table 4-H
Percentage who had four or more conversations with parents or friends about drugs in the previous 6 months, by marijuana use in past year and age group in 2000 (Waves 1 and 2 of NSPY)

Age group	Use of marijuana in past year (%)	No use of marijuana in past year (%)
9-11	---	37.8
12-13	72.4	41.2
14-15	74.3	44.0
16-18	83.8	43.5

- **In Wave 1 the relationship between drug use and frequent conversations about drugs appeared to be a function of age; in Wave 2 the pattern appears more complex.** Examining the data by use in the past year suggests that the decreases mentioned earlier in the frequency with which 9- to 11- and 14- to 15-year-olds had conversations about drugs primarily occurred among non-users (see Table 4-I). While users were relatively consistent, non-users in these two age groups were less likely to have had four or more conversations about drugs.

Table 4-I
Percentage who had four or more conversations with parents or friends about drugs in the previous 6 months, by marijuana use in past year and age group in 2000 (Waves 1 and 2 of NSPY)

Age group	Used marijuana in past year (%) Wave 1	Used marijuana in past year (%) Wave2	No use of marijuana in past year (%) Wave 1	No use of marijuana in past year (%) Wave 2
9-11	---	--	40.8	34.9
12-13	--	--	42.2	40.2
14-15	75.1	73.5	52.2	36.1
16-18	84.0	83.6	41.1	45.9

- **Older youth who are sensation seekers have more conversations about drug use than those who are not sensation seekers.** Among 9- to 13-year-olds, sensation seeking appears to have a much smaller association with conversation. Among 14- to 18-year-olds who are sensation seekers, almost 60 percent report that they have engaged in four or more conversations about drug use in the past 6 months. About 40 percent of all low sensation seeking youth report frequent drug conversations (Table 4-J). This association is not merely an artifact of the association of drug use and sensation seeking. The difference in conversational frequency is present among both past year users and non-users.

Table 4-J
Proportion within each age group who had four or more conversations
about drugs in the previous 6 months, by sensation seeking in 2000
(Waves 1 and 2 of NSPY)

Age group	High sensation seekers (%)	Low sensation seekers (%)
9-11	37.0	37.5
12-13	44.0	40.2
14-15	54.1	39.1
16-18	64.9	37.9

In the course of conversations about drug use, young people of all ages discuss bad things that happen because of drugs. But many older youth also speak positively about drugs. Youth aged 12 to 18 were asked whether three particular topics were the subject of their conversations with friends about drugs. Around 50 percent of all young people reported talking with their friends about “bad things that happen if you use drugs” within the past 6 months, and around one-third say they talked about “specific things I could do to stay away from drugs.” However, saying positive things about drugs appears to be partly a function of age. While few 12- to 13-year-olds report engaging in conversation about how “marijuana use isn’t so bad,” nearly 20 percent of 14- to 15-year-olds and 33 percent of 16- to 18-year-olds have been involved in such a conversation. The contrast between positive and negative conversations about drug use is sharpest if one compares the ratio of pro- versus anti-drug conversation at each age level. For 12- to 13-year-olds, conversations with the theme “marijuana use isn’t so bad” occur at about one-fifth the rate as conversations about “bad things that happen if you use drugs.” Among 16- to 18-year-olds, that ratio is close to three-fifths. As children mature, the communication environment around them is changing; condemnation of drug use is no longer universal (Table 4-K and Detail Tables 4-7 through 4-9).

In addition to age, sensation seeking affects the types of conversations youth have about drugs. High sensation seekers were more likely to have had conversations about how “marijuana use isn’t so bad” in the past 6 months than were low sensation seekers. Over 20 percent more high sensation seekers had such conversations. And while high sensation seekers were less likely to have had conversations with friends in the past 6 months about specific things they could do to stay away from drugs, they were more likely to have had conversations with friends about bad things that happen if you use drugs (Detail Tables 4-7 through 4-9).

Table 4-K
Topics of conversation with friends by age group in 2000
(Waves 1 and 2 of NSPY)

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 (%)
12-13	32.8	46.2	10.0
14-15	30.4	51.4	19.8
16-18	27.2	54.5	33.3

4.2.3 Discussions About Anti-Drug Ads

- Around one-half of the youth report conversations with parents or others about anti-drug ads.** Thirty-seven percent of all youth report having a conversation about the anti-drug ads with their parents, and 42 percent of 12- to 18-year-olds recalled having such a conversation with friends or others (9- to 11-year-olds were asked only about conversation with parents). As with other drug-related conversations with parents, these decline sharply with age; although 48 percent of 9- to 11-year-olds report having a conversation with parents about the anti-drug ads, only 30 percent of 14- to 15-year-olds and 19 percent of 16- to 18-year-olds report such a conversation. Among friends and others however, such variations are not seen (see Table 4-L and Detail Tables 4-13 and 4-14).

Table 4-L
Discussion of anti-drug ads in recent months in 2000
(Waves 1 and 2 of NSPY)

Age Group	With Parents (%)	With Friends and Others (%)
9-11	47.9	N/A
12-13	38.8	42.3
14-15	30.5	42.5
16-18	18.7	40.0

- Sensation seeking is related to discussions of anti-drug ads with parents.** High sensation seekers aged 12 to 18 years were much less likely to talk with parents about the ads than were low sensation seekers. While only 26 percent of high sensation seekers discussed the ads with their parents, 42 percent of low sensation seekers report discussing the ads with their parents. These significant differences are not seen in conversations with friends and others. These sensation-seeking associations hold up for each age group within the 12- to 18-year-old population.

4.2.4 Evidence of Diversity

It was also useful to combine the sample from Waves 1 and 2 in order to examine patterns of exposure among subgroups with greater precision than is possible from analyses within a single wave. In general, variations across subgroups were not statistically significant with the following exceptions:

- African American youth often report greater exposure than other youth to other sources of anti-drug information, including out-of-school education (13% vs. 6%), exposure to discussion of youth and drugs on TV talk shows (31% vs. 20%) and in movies (22% vs. 16%), and in conversations with parents about anti-drug ads (41% vs. 31%).
- Females report more in-school drug education (66% vs. 59%), more conversation with friends about drugs in general (52% vs. 45%), more conversations with friends and others about ads (46%) and about drug ads (46% vs. 38%), and more exposure to youth and drugs stories on talk shows (26% vs. 18%) and in magazines (14% vs. 10%). Boys report more viewing of movies with drug and youth themes (20% vs. 16%).
- The relative importance of anti-drug education within schools versus outside of them varies by urbanicity. In-school drug education is slightly more common in town and rural areas than in urban areas (80% vs. 74%), while extracurricular drug education is less common in town and rural areas than in urban areas (10% vs. 14%). Perhaps this is a complementary relationship; where leaders of youth organizations perceive a lack of school-based anti-drug education, they may include anti-drug education in their extra-curricular activities.

4.3 SUMMARY

As reported in the first semi-annual report, there is a good deal of background exposure to drug-related information. Youth audiences receive messages about drugs from other 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 purchased anti-drug media messages. Exposure to messages through these other public sources remains high, but with a few exceptions, there was little change that could be detected between waves.

There was no strong evidence of change in past year anti-drug education, in school or out, with regard to attention to mass media stories about drugs and youth, although there are a few exceptions. One exception is for 16- to 18-year-olds who reported an increase in out-of-school education.

In contrast, there were some changes in patterns of drug-related conversations between waves. From Wave 1 to Wave 2, the frequency with which youth had conversations about drugs decreased, especially among youth 9- to 11- and 14- to 15-year-olds. The numbers of conversations youth had about anti-drug ads also decreased, particularly among older youth and males. While nearly all young people talk about drugs, prior marijuana use and age increase the likelihood of engaging in frequent drug-related conversation. Older teens are

exposed to positive as well as negative messages about drugs through conversation with friends.

Reports on subsequent waves will continue to examine whether Media Campaign efforts to stimulate the anti-drug efforts of institutions (the schools, the press, the entertainment industry, the voluntary organizations) produce enough additional activity that youth notice them and report increases in their exposure to anti-drug information. For instance, increases may be seen in the proportion of young people who receive drug education outside of school. It may also be possible, using these data, to determine whether the campaign increased talk among young people, and importantly, whether it increased talk about negative consequences of drug use or decreased talk about how “marijuana isn’t so bad.” Thus far, there is no consistent pattern of increased activity.

Separately, the information presented here may help determine in what context the Media Campaign is most successful. Does exposure to the Media Campaign work equally for youth who have many other sources of anti-drug information and for youth who have fewer sources? Does the Media Campaign reinforce the messages that young people are getting from their parents, or does it serve as a primary message source for youth who lack information about drug use and consequences of drug use?

5. PARENTS EXPOSURE TO NON-CAMPAIGN ANTI-DRUG OR PARENTING MESSAGES

Clearly, parental exposure to drug-related messages is also not left entirely to Media Campaign efforts. This chapter examines additional sources of drug education and information for parents. 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 asked how often they recalled seeing drug-related stories in the media and about their involvement in anti-drug or parental effectiveness programs.

This information shows the extent to which the Media Campaign, including the complementary activities meant to put the Media Campaign's issues on the public agenda, is associated with increased parental awareness of anti-drug activity in communities, an increased presence of and resulting awareness of drug-related stories in the media, and encouraging parents to become involved with anti-drug and parenting programs.

As in Chapter 4, this chapter has three major sections: changes between Wave 1 and Wave 2, overall patterns in 2000 based on both waves of sample, and evidence for diversity.

5.1 CHANGES WITHIN 2000

Table 5-A summarizes changes in parent's exposure to non-campaign messages between Wave 1 and Wave 2. Overall, when a statistically significant between-wave change exists, it tends to be small (3 to 4 percentage points).

- **Parental awareness of drug-related stories in the media declined slightly between Waves 1 and 2.** Parents were asked about how often they had heard stories about youth and drugs on a variety of mass media sources, including television or radio news, TV movies, sitcoms or dramas, TV talk shows or TV news magazines, non-news radio programs, movies, magazines, or newspapers. The great majority, 85 percent, had heard such stories from at least one of these sources on a weekly basis. This dropped slightly, and significantly to 83 percent by Wave 2 (Table 5-A and Detail Table 5-8).
- There were no significant changes on any of the specific sources for all parents, although there were scattered significant changes for subgroups of parents for particular sources (Detail Tables 5-1 through 5-15).
- **Parents showed somewhat more awareness of drug issues.** A separate series of questions asked parents about whether they had heard "a lot," "a little," or "not at all" about particular drug-related issues. There were five such issues. They are listed in Table 5-A, beginning in the second row. Three of the five showed statistically significant if modest increases between Waves 1 and 2, including knowledge of anti-drug programs, proposed drug-related laws, and drug-related referenda (Detail Tables 5-9 through 5-13).

- Parents reported little change in attendance at drug prevention or parenting skills programs.** Finally, parents were asked about their attendance at either drug prevention or parenting skills courses in the past year. There was no overall attendance increase among parents for either of these programs, although the increase from 29 percent to 33 percent for drug abuse prevention programs was close to significant. Parents in urban areas did show a significant increase, from 26 percent to 33 percent in their attendance at drug prevention programs (Table 5-A and Detail Tables 5-14 and 5-15).

Table 5-A
Change in parent exposure to drug-related communication across waves

Measure	Wave 1 (%)	Wave 2 (%)	Change #	95% Confidence Interval on Change (%)
% weekly exposure to stories on at least one medium with drugs and youth content	85.3	83.4	-1.9*	-3.7 to -0.1
% hearing a lot about anti-drug programs in community in past year	32.0	36.0	4.0*	+1.6 to 6.4
% hearing a lot about speeches about drugs by public officials in past year	15.0	15.3	0.3	-1.8 to +2.4
% hearing a lot about anti-drug laws in past year	15.7	19.3	3.6*	+1.8 to +5.4
% hearing a lot about drug-related referenda in past year	6.2	9.3	3.1*	+2.1 to 4.1
% hearing a lot about police crackdowns on drug use or sales in past year	44.2	44.9	0.7	-2.7 to +4.1
% attending drug prevention programs in past year	28.9	32.4	3.5	-0.3 to +2.3
% attending parent effectiveness programs in past year	29.2	30.8	1.6	-2.2 to +5.4

* significant between wave change at p<.05

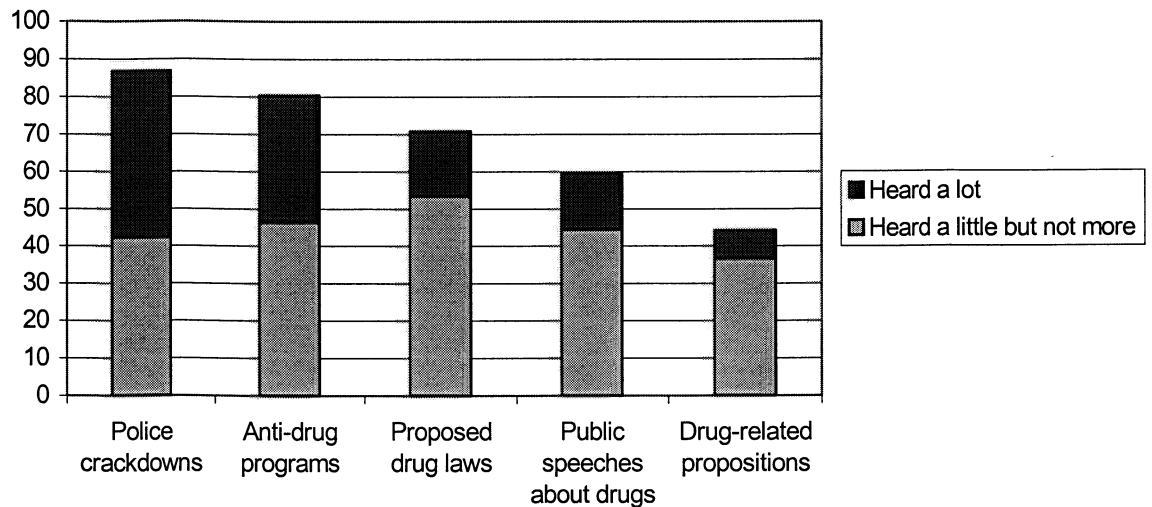
5.2 OVERALL PATTERNS IN 2000

Given the small sample sizes for each wave, it is useful to combine the two waves to look at overall patterns for the whole of 2000. The findings in this section generally replicate those of the first semi-annual report, but provide more precise estimates. Year long patterns are examined here for parental awareness of local anti-drug activities, parental awareness of anti-drug themes in the media, and parental attendance at anti-drug and parenting programs.

5.2.1 Anti-Drug Activity Awareness in Community

- Most parents recall some awareness of anti-drug activity in their localities. However, less than half of parents report extensive awareness of anti-drug activities taking place in their communities.** Forty-five percent of all parents report having heard a lot about police crackdowns on drug use or drug sales in their community within the past year. On average, almost 35 percent have “heard a lot” about anti-drug programs in schools or community centers. Political focus on drugs is less prominent than legal enforcement or prevention programs; only 18 percent of all parents heard a lot about drug-related laws proposed by state or local governments within the year, 15 percent reported hearing public officials speak about drugs, and only 8 percent heard a lot about drug-related propositions or referenda on the ballot for public voting (Detail Tables 5-9 through 5-13). Though most respondents do not have extensive awareness, that is, they have “heard a lot,” many more report having “heard a little” (Figure 5-A).

Figure 5-A
Parental awareness of anti-drug activities in their communities in 2000
 (Waves 1 and 2 of NSPY)



5.2.2 Anti-Drug Activity Awareness in Media

- Parents often see drug themes presented in the media.** Clearly themes of drug use among youth are close to inescapable in the media. Nearly 85 percent of parents report weekly exposure to at least one source dealing with the issues of youth and drugs. News, including from television, radio, and newspapers, are all substantial sources of such information, but other sources clearly treat the issue often as well (Table 5-B). Half of all parents report having seen or heard stories about drug use on television or radio news programs at least weekly in recent months. Almost one-third noticed such stories appearing weekly in newspapers. Drug themes are also common in television entertainment programs; slightly more than one-fourth of all parents noted at least

weekly mention of drug use in TV movies, sitcoms, or dramas, and nearly one-quarter saw drug-related stories on television talk shows or television news magazines (Detail Tables 5-1 through 5-8).

Table 5-B
Parents exposure to weekly media stories about drugs in 2000
(Waves 1 and 2 of NSPY)

	Weekly or more often
TV or radio news	50.1%
Newspapers	32.2
TV dramas, sitcoms, movies	28.8
TV talk, magazine shows	22.5
Radio (not news)	13.1
Movies	9.1
Magazines	8.2
At least one source	84.4

NOTE: Information about weekly exposure to drug stories can also be found in Detail Tables 5-1 through 5-8.

5.2.3 Attend Drug Prevention Programs

- **Many parents report having attended drug prevention or parent effectiveness programs.** The great majority of youth reported contact with drug education in the schools, with more than 60 percent attending such programs in the past year. Parents do not attend as often as their children do, but many parents say they are involved either in drug prevention programs or in more general parent effectiveness programs. On average across Waves 1 and 2, 28 percent reported attendance at a drug abuse prevention activity in the previous 12 months. A major theme of the Media Campaign is to encourage parents to develop specific parenting skills, monitor their children, talk with them, and discipline them appropriately, including praising and rewarding them. Slightly more than one fourth (28%) said they attended a parent effectiveness program in the previous year. Nearly one third (30%) of parents said they had attended either drug prevention or parental effectiveness programs, with an additional 13 percent reporting that they attended both. Wave 1 data suggests that a substantial minority of parents were already involved in community programs designed to improve their parenting skills, and/or to specifically prevent drug use among their children before the start of Phase III of the Media Campaign (Detail Tables 5-14 through 5-15).

5.3 EVIDENCE OF DIVERSITY

- **Ethnicity and urbanicity have a significant association with extensive awareness of political and legal anti-drug activities.** More African American parents have

heard a lot about political and legal anti-drug activities as compared to Hispanic or white parents, with white parents having heard the least about these activities (Detail Tables 5-10 through 5-13). Additionally, more urban parents have heard a lot about political and legal anti-drug activities when compared to suburban or town and rural parents. Almost one-quarter (23%) of African American parents have heard a lot about speeches about drugs by public officials compared to 12 percent of white parents. Similarly, 30 percent of African American parents reported extensive awareness of drug-related laws proposed whereas only 14 percent of white parents reported the same level of awareness; 21 percent of urban parents have heard a lot about these laws compared to 16 percent of suburban and town and rural parents. The percentage of parents who have heard a lot about police crackdowns is consistent: 58 percent of African American parents in contrast to 43 percent of white parents, and 49 percent of urban parents in contrast to 40 percent of suburban parents (Detail Tables 5-10 through 5-12).

- **Parents who live in the West and in urban areas have heard more about drug-related propositions or referenda on ballots for public voting (Detail Table 5-13).** Nearly 15 percent of parents who live in the western part of the U.S. reported hearing a lot about such referenda; 6 percent of parents in the rest of the country reported hearing such news. Also 12 percent of urban parents compared to 6 percent of town and rural and suburban parents had extensive awareness of public discussion of such issues.
- **Mothers are much more aware of anti-drug programs in schools and community centers than are fathers.** Nearly 37 percent of mothers, as compared to 30 percent of fathers, report hearing about such programs within the past 12 months (Detail Table 5-9).
- **Education of parents have some association with awareness of local drug activities and initiatives.** Not too surprisingly, college graduates have the highest awareness of anti-drug programs in schools and community centers (Detail Table 5-9). More interestingly, high school dropouts are paying by far the closest attention to ballot initiatives (Detail Table 5-13).
- **Race and education have some association with parents' recall of drug themes in the media.** Detail Tables 5-1 through 5-8 show that African American parents generally have the highest level of recall compared to white parents who have the lowest level of recall: 33 percent of African American parents recall drug themes on TV talk shows or news magazine programs in contrast to 19 percent of white parents; and 23 percent of African American parents recall drug themes on radio programs compared to only 10 percent of white parents. College-graduate parents have the lowest level of recall compared to parents who did not graduate from high school who have the most recall: 28 percent of parents with less than high school education have noticed weekly TV talk shows or news magazine programs dealing with drug use compared to 17 percent of college-graduate parents. Similarly, 47 percent of college-graduate parents compared to 55 percent of non-high-school-graduate parents recall drug themes in TV or radio news programs. Interestingly, the only exception is for recall of drug themes in newspaper articles in which college-graduate parents have the highest recall, 36 percent, and parents without a high school diploma have the lowest

recall, 26 percent. This may reflect the fact that college-graduate parents report consuming less television and radio, but reading more newspapers.

- **Gender, race, education, region, urbanicity, and age of child all have very little association with parents' attendance at drug abuse prevention and parental effectiveness programs.** Detail Tables 5-14 and 5-15 show this general lack of differentiation by demographic characteristics of child and age of child. One minor disparity is the finding that 33 percent of parents with children aged 12 to 13 attended a drug abuse prevention programs while only 27 percent of parents with children aged 16 to 18 attended one. This may reflect lesser availability of such programs for parents of older teens. Chapter 4 provides evidence that 16-18 year old youth were less likely than younger siblings to attend in-school drug prevention classes as well. Another minor disparity is that town and rural parents are less likely to have attended a parental effectiveness program within the past year than their urban and suburban counterparts: 27 percent versus 32 percent.

5.4 SUMMARY

There were modest changes within 2000 in the information flows about drugs to parents. Both increases and decreases in information flows were observed. In general, it appears that awareness of local activities has increased slightly while awareness of stories in the media has decreased slightly.

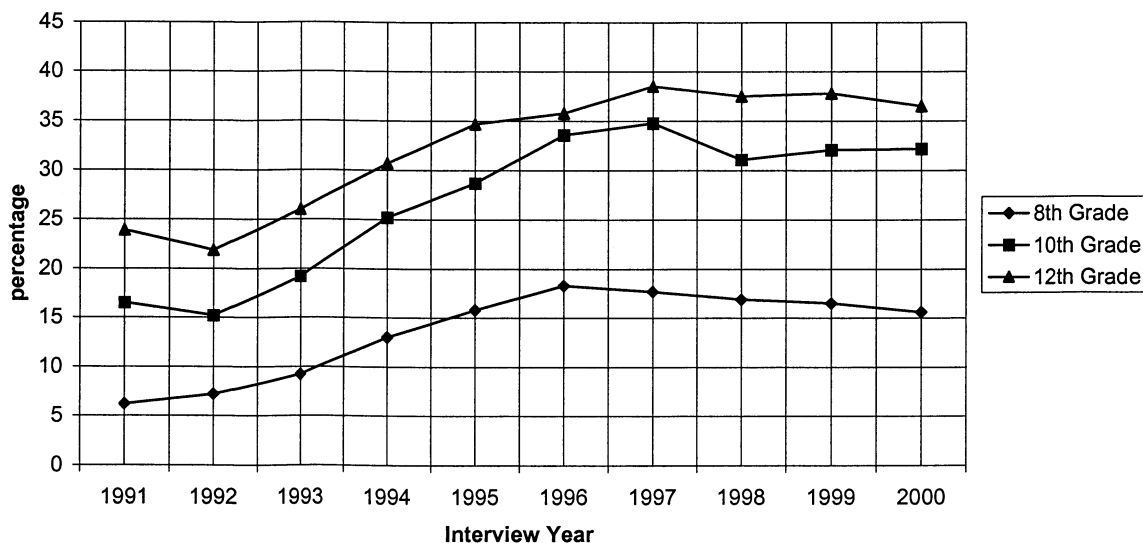
Looking at overall patterns for the entire year, the vast majority of parents have some awareness of police crackdowns and local anti-drug programs. Fewer but still the majority of parents have some awareness of legislative activities related to drugs.

Gender of parent, ethnicity, urbanicity, education, and region of the country are related to differences in parent reports of their exposure to non-campaign anti-drug or parenting messages when overall patterns are studied. To date, their reported exposure to such Campaign messages does not appear to vary significantly according to the characteristics of their children mostly do not matter.

6. MARIJUANA USE AMONG YOUTH

Marijuana use by youth showed little change in 2000. Levels are essentially the same as they were in 1998 (Figure 6-A). This assessment comes first from the best source of data about long-term trends in marijuana use by youth: the Monitoring the Future Study (MTF).¹ Data from the 2000 MTF were collected in the spring of 2000 and thus reflect estimates gathered about 7-8 months after the launch of Phase III of the Media Campaign.

Figure 6-A
Percentage of 8th, 10th, and 12th graders reporting
annual marijuana use: MTF 1991-2000



NSPY provides data about change only between Waves 1 and 2, for the year 2000, but its evidence is parallel. Table 6-A shows no statistically significant change in past year use for three of the four age groups. The 9- to 11-year-olds showed extremely rare annual use in Wave 1 and zero are in Wave 2, a statistically significant reduction. However, this was not a population at any meaningful current risk. Although based on much smaller samples than MTF so it is less sensitive to changes, and with age rather than grade-defined cohorts, NSPY

¹ The MTF study is conducted every spring using nationally representative samples of eighth, tenth, and twelfth graders in their classrooms. Students in both public and private secondary schools are represented. Data collection is via a self-administered paper and pencil questionnaire. The number of schools sampled has been about 425 in recent years, and the number of responding students ranges between 45,000 to 51,000. From 1991 to 1999 the MTF study has maintained a student response rate between 82 and 91 percent in participating schools. The main reason for student nonresponse is student's 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 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 nations' success in combating drug use by youth. Another U.S. Government survey, the National Household Survey of Drug Abuse (NHSDA), 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, and to 1999 and later because of a major redesign in 1999 that disrupted the time series very substantially.

shows similar stability in use throughout 2000. Past 30-day use and “ever” use shows a similar pattern of no change.

Table 6-A
Use of marijuana by age in 2000 (NSPY reports)

Age group	Marijuana use in the past year			
	Wave 1 (%)	Wave 2 (%)	Change (%)	95% Confidence Interval on Change %
9-11	0.8	0.0	-0.8	-0.8 to -0.2
12-13	3.3	3.2	-0.1	-2.2 to +2.0
14-15	11.2	11.5	0.3	-5.6 to +6.2
16-18	29.0	29.3	0.3	-6.6 to +7.2

NSPY results do show statistically significant declines in lifetime and past year usage by two subgroups: 14- to 18-year-olds in the Northeast and by 12- to 13-year-old low sensation seekers. However these are two among the many subgroups compared, and they do not challenge the overall finding that there is little evidence of change from the first half of 2000 to the second half (Detail Tables 6.1-6.4).

This chapter is divided into four sections. This introductory section presents the main results concerning change. Section 6.1 presents overall results on the combined sample from the first two waves of the NSPY survey. In the Section 6.2, the combined Wave 1 and 2 results are compared to the most recently published results from the NHSDA and MTF. The final section is a summary of the findings.

While the prevention and reduction of inhalant use among youth remained an important goal of the Media Campaign, no inhalant-specific advertisements for youth were aired during Waves 1 and 2 of this campaign.² Given the lack of inhalant-specific advertisements targeted at youth, this chapter focuses only on the use of marijuana.

6.1 NSPY BEHAVIORAL RESULTS

This section combines the samples from Waves 1 and 2 in order to provide greater precision for analyses of marijuana use and offers of marijuana as reported by NSPY.

6.1.1 Marijuana Use

Figure 6-B shows NSPY questions on marijuana use. For all youth aged 9 to 18 in the United States between November 1999 and December 2000, the NSPY analysis estimates

² Two inhalant-specific television advertisements, targeted at parents, were shown during Wave 1 of the Campaign. These two advertisements accounted for 204 GRPs of the total 2,162 GRPs for parents.

that 15 percent have ever tried marijuana, around 11 percent have used it in the past year, and 5 percent have used it in the past month.

Not surprisingly, there are marked age differences in patterns of marijuana use (see Table 6-B and Detail Tables 6-1, 6-2, and 6-3). Clearly use of marijuana continues to grow through the later teenage years. This is particularly true for 16- to 18-year-olds, 29 percent of whom report use in past year and 15 percent who report use in the month preceding the interview.

Figure 6-B
NSPY questions on drug behavior

The next questions are about marijuana and hashish. Marijuana is sometimes called pot, grass, or weed. Marijuana is usually smoked, either in cigarettes, called joints, or in a pipe. Hashish is a form of marijuana that is also called hash. From now on, when marijuana is mentioned, it means marijuana or hashish.

Have you ever, even once, used marijuana?

- Yes 1
- No 2

How long has it been since you last used marijuana?

- During the last 30 days 1
- More than 30 days ago but within the last 12 months 2
- More than 12 months ago 3

Table 6-B
Use of marijuana by age in 2000
(Waves 1 and 2 of NSPY)

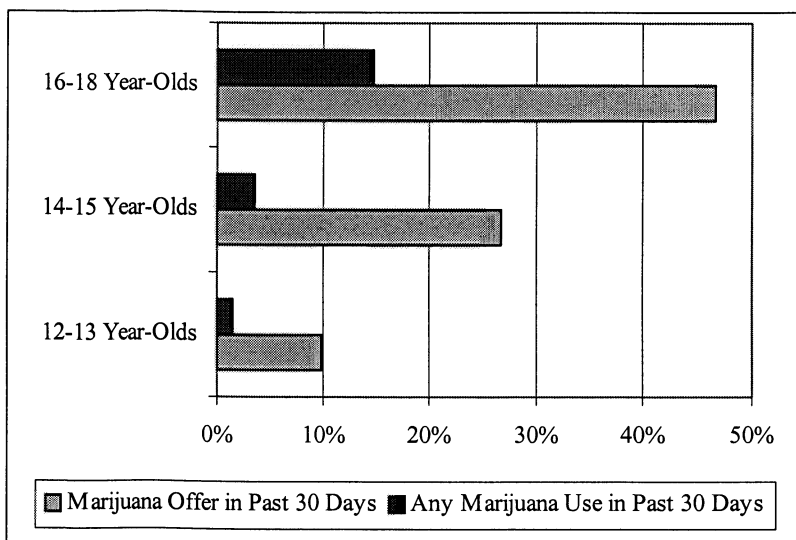
Age group	Marijuana use		
	Ever (%)	Past year (%)	Past month (%)
9-11	0.7	0.4	0.2
12-13	4.9	3.3	1.4
14-15	15.3	11.4	3.6
16-18	40.4	29.2	14.7

Estimates of regular use of marijuana (defined as more than 10 times in the past year) follow the same pattern. Almost 13 percent of youth aged 16 to 18 report regular use of marijuana compared to only 2 percent of the 14- to 15-year-olds and less than 1 percent among the youngest age groups (Detail Table 6-4).

6.1.2 Offers of Marijuana

Youth were also asked about whether they had received offers of marijuana, ever and in the past 30 days, and how frequently they had received such offers in the past 30 days. Again, the pattern of offers is closely related to age. While about 10 percent of 12- to 13-year-olds report they received offers of marijuana in the past 30 days, this figure climbs to nearly 48 percent among 16- to 18-year-olds (Detail table 6-7). There are two striking elements to these results. First, it is clear that youth feel that others are offering them marijuana quite regularly, particularly among the older teens. Second, and perhaps even more striking, is how rarely these youth say that offers have been accepted. In every age group the percentage of youth receiving offers of marijuana once or more in the past 30 days is significantly greater than those who used marijuana in the past 30 days (Figure 6-C). For every one who used marijuana, there are many more who said they had the opportunity but declined.

Figure 6-C
Offers and use of marijuana in 2000
(Waves 1 and 2 of NSPY)



6.1.3 Marijuana Offers and Use: Subgroup Differences

In addition to age, differences in behavior were also examined along other demographic characteristics (gender, ethnicity, region, and urbanicity) and a personality trait (sensation seeking). Where the available sample size made it feasible, subgroup analysis was performed for two separate groups of teens: 12- to 13-year-olds and 14- to 18-year-olds. In other instances, subgroup analysis was only performed for 14- to 18-year-olds—the group most susceptible to marijuana use and offers.

Demographic Differences

- **Gender:** There was a significant difference by gender only with regard to reports on regular use of marijuana. A slightly higher percentage of males than females aged 14 to 18 reported regular marijuana use (10% vs. 6%) (Detail Table 6-4).
- **Race or Ethnicity:** There were no differences in marijuana use across the three compared ethnic groups (white, African American, Hispanic). The one exception was regarding reports by 12- to 13-year-olds on offers of marijuana in the past 30 days (Detail Table 6-7). A greater percentage of Hispanic and African American youth reported on receiving offers of marijuana in comparison to white youth (17.8%, 11.4%, and 7.7%, respectively).
- **Region:** Several comparisons in the detail tables for Chapter 6 show a significant difference in marijuana use and offers of marijuana across regions. In all cases, youth in the West were more likely to report drug use and drug offers than youth in the Northeast and, in some cases, youth in other regions. Specifically, larger percentages of older teens (14 to 18) in the West reported marijuana use in the past year (Detail Table 6-2), use in past month (Detail Table 6-3), and regular use (Detail Table 6-4). Again comparing the Northeast with the West, a larger percentage of younger teens (12 to 13) in the West reported receiving offers of marijuana in the past 30 days (Detail Table 6-7); and a smaller percentage of Western youth reported that they had never received a marijuana offer (Detail Table 6-6).
- **Urbanicity:** Among 14- to 18-year-old youth, self-reported lifetime and past month marijuana use among suburban youth was higher than among town and rural youth.

Differences by Sensation Seeking

There is strong evidence that sensation seeking is a powerful predictor of both drug use and drug offers among youth of all age groups except for children aged 9 to 11, where the drug use is rare altogether. On all comparisons reported in Table 6-C (that summarizes results from Detail Tables 6-1 through 6-7), high sensation seekers report more frequent drug use and offers of marijuana. In addition, high sensation seekers reported regular use more frequently (11.7% vs. 2.3% among 14- to 18-year-olds) (Detail Table 6-4). This pattern of findings is consistent with evidence from many other studies (Bardo et al., 1996). The replication here is noteworthy in several respects. For one, these data come from a representative national sample of youth rather than the convenience samples that many studies have relied on. Also, these associations are found even though only a four-item measure of sensation seeking is used, rather than the usual measures incorporating 12 or more items.³ It is clear, then, that sensation seeking is a major risk factor for marijuana use. Low sensation seekers are significantly less likely to become regular users of marijuana. These results confirm the logic of the Media Campaign's decision to focus its efforts on persuading high sensation seekers to avoid drug use.

³ See Section 2.3.5.

6.2 COMPARISON WITH MTF AND NHSDA MEASURES

Hornik et al. (2000) reported marked differences in estimates of marijuana use throughout the 1990s among the MTF, NHSDA, and the Partnership Attitude Tracking Study (PATS), 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 are expected to vary somewhat from those presented in these three surveys. However, since 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.

Table 6-C
Percentages of marijuana users among high and low sensation seekers in 2000
(Waves 1 and 2 of NSPY)

Age	Sensation Seeking	Ever (%)	Marijuana Use		Marijuana offers	
			Past Year (%)	Past Month (%)	Ever %	Past Month (%)
12-13	High	9.4	6.4	2.4	28.7	16.3
	Low	1.6	0.9	0.6	10.4	5.2
14-18	High	38.9	30.1	14.3	68.8	47.4
	Low	14.7	7.9	2.6	46.8	23.5

NSPY 2000 estimates of past-year use of marijuana are within sampling error limits of NHSDA estimates from the 1999 data (Table 6-D). Estimates of ever-use in NSPY are also close to the upper bounds of NHSDA estimates from the 1999 data. However, the estimates of past-month use in NSPY are considerably lower than those provided by NHSDA. Since past-month usage is more volatile than lifetime (ever) usage or even past-year usage, this difference may be due to a decline in marijuana usage in 2000. The results of the NHSDA, which are due to be published in August 2001 will shed light on this issue.

MTF 2000 estimates of marijuana use are higher than the NSPY 2000 estimates (Table 6-E). 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, 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 April of each year while NSPY data were 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.⁴ To the extent that changes in behavior took place during this period, they are likely to be reflected in differential estimates of marijuana use.

⁴ 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.

Also, the MTF, NHSDA, and NSPY are conducted by different organizations with different backgrounds and goals. No apparent effort has been made to harmonize the two older information sources. The NSPY questions on actual drug use are briefer than those in the NHSDA because of the focus on pre-use cognitive factors and exposure to anti-drug advertising. Furthermore, the NSPY questions are less direct than the MTF and NHSDA questions because they pertain to use among children aged 9 to 11 and there is a manifest desire to avoid educating these young survey respondents about drug use, albeit indirectly.

Table 6-D
Comparison of published NHSDA 1999 data with NSPY 2000 (Waves 1 and 2) data on use of marijuana among youth 12 to 17 (percentages and confidence intervals)

All 12- to 17-year-olds	Marijuana use		
	Ever (%)	Past year (%)	Past month (%)
NHSDA 1999	18.7 (18.0-19.4)	14.4 (13.8-15.0)	7.7 (7.2-8.1)
NSPY 2000 (Waves 1 & 2)	19.2 (17.4-21.1)	14.0 (12.5-15.7)	6.0 (5.0-7.3)

Table 6-E
Comparison of MTF 2000 and NSPY 2000 (Waves 1 and 2) data on use of marijuana

Survey and grade	Marijuana use		
	Ever (%)	Past year (%)	Past month (%)
MTF 8	20.3	15.6	9.1
NSPY 8	13.5	9.3	3.1
MTF 10	40.3	32.2	21.6
NSPY 10	31.0	20.3	9.4
MTF 12	48.8	36.5	21.6
NSPY 12	45.4	36.5	16.2

6.3 SUMMARY

The findings clearly illustrate that the potential for drug use increases with age and with level of sensation seeking. However, there is no strong evidence of a shift in drug behavior between Wave 1 and Wave 2. This is consistent with the MTF results for the 1998-2000 period. Marijuana use seems to have held steady at least for 10th and 12th grade students from 1998 to 2000. For 8th grade students, the MTF shows significant change from 1996 to

2000, but there is no significant change over shorter periods within that time span. The national activities for the Media Campaign were begun with Phase II, which was launched in the summer of 1998. However the full Campaign under Phase III was begun in the fall of 1999. Phase III began only 7-8 months before the MTF 2000 survey, probably too short a period to expect detectable effects on behavior. In contrast to these results from both NSPY and MTF, which show no evidence of change in drug use, the next chapter shows some evidence of increases in anti-drug beliefs and attitudes, particularly among 14- to 18-year-old prior non-users. These may portend a subsequent decline in marijuana use in future rounds of NSPY and MTF surveys, but only time will tell.

Reference

Bardo, M.T., Donhew, R.L., and Harrington, N.G. (1996). Psychobiology of novelty seeking and drug seeking behavior. *Behavioral Brain Research*, 77, 23-43.

Hornik, R. et al. (July 2000). *Evaluation of the National Youth Anti-Drug Media campaign: Historical Trends in Drug Use and Design of the Phase III Evaluation*, National Institute on Drug Abuse.

7. DRUG BELIEFS, ATTITUDES, AND INTENTIONS AMONG YOUTH

The underlying model for the evaluation is that exposure to the Media Campaign messages from all sources is expected to affect young people's attitudes about drugs, their perceptions of normative approval of drugs, and their confidence they can resist drugs (self-efficacy). Changes in attitudes, perceived norms, and self-efficacy are, in turn, expected to reduce intentions to try drugs or use them regularly. This chapter describes the drug-related attitudes, norms, efficacy, and intentions of prior non-users and, in some cases, for prior users of marijuana.

The chapter provides three types of information. First, it provides information about any changes in drug-related beliefs, attitudes, and intentions among youth between the Wave 1 and Wave 2 surveys. Second, it describes the state of youth drug-related beliefs, attitudes, and intentions between November 1999 and December 2000. Finally, it points to differences (or lack of differences) in attitudes, beliefs, and intentions among age, gender, ethnic, regional, and personality subgroups of the population.

As described in Chapter 2, the Media Campaign has two related objectives with regard to marijuana use. First, it seeks to keep youth who have never tried marijuana from trying it. Second, the Media Campaign intends to discourage those who have tried marijuana or used it occasionally from becoming regular users. Those behaviors are viewed as distinct behaviors, and one might expect that the influences on trial would be quite different from the influences on regular use. The questionnaire was structured to keep these two behaviors apart. All respondents were asked about their intentions to try and/or regularly use marijuana in the next year, as well as about disapproval and perceived risk of drug use. However, subgroups of youth were assigned to some questions about trial and regular use outcomes, attitudes, and norms based on their prior use.

Non-users were assigned randomly to questions about trial and regular use, but prior users were assigned only to regular-use questions. It was useful to know how non-users thought about both behaviors, but for prior users, asking questions about trial use was less relevant. Their next decision is about whether to proceed to regular use. Since there were relatively few prior users, questions were asked about the behavior most relevant to them, regular use. Therefore, this discussion is organized around the different subgroups that answered questions about each behavior. Section 7.1 summarizes evidence of change in drug-related attitudes, beliefs, and intentions between Wave 1 and Wave 2 separately for trial use and regular use. Sections 7.2 to 7.4 that report the current state of drug-related attitudes, beliefs, and intentions among youth, focus primarily on non-users. The 9- to 11-year-olds were asked some questions that were different from some questions asked to the older youth; their responses are presented in Section 7.2.

7.1 CHANGE IN DRUG ATTITUDES AND BELIEFS AMONG YOUTH BETWEEN WAVE 1 AND WAVE 2

Information regarding change in attitudes, beliefs, and intentions between Wave 1 and Wave 2 is presented with the understanding that only 6 months have passed between waves and

thus there has been little time for much change to occur. Also, the sample sizes permit only detection of fairly substantial changes. For these reasons, it may be more informative to go beyond simply reporting on statistically significant results to consider pattern of changes in youth drug-related attitudes, beliefs, and intentions. It is also worth noting that evidence of change between Wave 1 and Wave 2 is a precondition for claiming effects of the Media Campaign, but that, by itself, evidence of change cannot establish that the Campaign was successful, since there may have been other influences operating. Chapter 10 takes on this issue directly by examining the extent to which the observed change between Wave 1 and Wave 2 can be attributed to the Media Campaign.

7.1.1 Attitudes, Beliefs, and Intentions Regarding Marijuana Trial

- There was no statistically significant change detected between Waves 1 and 2 in attitudes, beliefs, and intentions among 9- to 11-year-olds. These children were strongly opposed to marijuana use at the start and they have maintained their skepticism.
- There was also no evidence of a statistically significant change among 12- to 13-year-olds (Table 7-A). This finding is not surprising given the already strong anti-drug beliefs and attitudes observed in this age range at Wave 1. Note, however, that the margins for error on all of these change estimates are large, some of the non-significant absolute changes are of a magnitude to be of interest, and a majority of the statistically significant changes go in a positive direction. So while the current conclusion is that there was no significant change over the 6 months between Waves 1 and 2, either the elapse of more time, or the increase in sample sizes available for future reports, may permit detection of changes not now apparent.
- In contrast, there is good evidence of encouraging changes between Wave 1 and Wave 2 among older teens (14-18) who had never used marijuana. There were 17 discrete outcomes assessing beliefs, attitudes, and intentions about trial use of marijuana. Of those, 16 showed change in an anti-drug direction (Detail Tables 7-2 through 7-9, 7-19, 7-21). Of those changes, six were statistically significant. Thus, both by pattern of results and by the presence of specific statistically significant results, there is a firm claim that there was an increase in expressed anti-drug sentiment during Wave 2 compared to Wave 1. The significant changes included substantial effects (9% to 13%) on five of the eight beliefs about outcomes of trial, and a smaller 4 percentage point change in the proportion who said they definitely did not intend to use marijuana in the next 12 months (Table 7-B).

Table 7-A
Summary of changes regarding marijuana trial among 12- to 13-year-old non-users
between Wave 1 and Wave 2

Measure	Wave 1 %	Wave 2 %	Estimated Change %	95% Confidence Interval on Change %
<u>Marijuana trial (use even once or twice)</u>				
<u>% strongly agree: if I use marijuana...I will</u>				
Upset my parents	82.6	82.3	-0.3	-6.7 to +6.1
Get in trouble with the law	44.9	45.4	+0.5	-7.5 to +8.5
Lose control of myself	34.1	33.8	-0.3	-7.9 to +7.3
Start using stronger drugs	12.2	10.2	-2.0	-7.0 to +3.0
(Not) Be more relaxed	55.9	53.6	-2.3	-10.5 to +5.9
(Not) Have a good time with friends	50.9	49.4	-1.5	-9.4 to +6.4
(Not) Feel better	61.1	61.0	-0.1	-8.9 to +8.7
(Not) Be like the coolest kids	64.1	68.5	+4.4	-4.1 to +12.9
% definitely not likely to use even once or twice over the next 12 months	91.6	92.9	+1.3	-1.6 to +4.2
% saying none or a few friends use marijuana	93.6	92	-1.6	-5.0 to +1.8
% saying none or a few other kids the same age use	74.7	76.7	+2.0	-2.7 to +6.7
Mean attitude toward marijuana use (1 to 7 scale)	6.61	6.74	+0.13	-0.05 to +0.31
Mean summed belief about outcomes of marijuana (-2 to +2 scale)	0.75	0.79	+0.04	-0.09 to +0.17
% whose parents strongly disapprove of marijuana use	95.3	95.7	+0.4	-3.1 to +3.9
% whose friends strongly disapprove of marijuana use	68.8	72.6	+3.8	-2.9 to +10.5
% who strongly disapprove of others marijuana use	64.3	68.3	+4.0	0.1 to +11.6
% who perceive great risk of harm from occasional use	46.9	47.2	+0.3	-5.9 to +6.7

Table 7-B
Summary of changes regarding marijuana trial among 14- to 18-year-old non-users
between Wave 1 and Wave 2

Measure	Wave 1 %	Wave 2 %	Estimated Change %	95% Confidence Interval on Change %
Marijuana trial (use even once or twice)				
<u>% strongly agree: if I use marijuana...I will</u>				
Upset my parents	81.3	79.7	-1.6	-8.5 to +5.3
Get in trouble with the law	32.1	43.6	+11.5*	+2.0 to +21.0
Lose control of myself	22.9	36.0	+13.1*	+4.9 to +21.3
Start using stronger drugs	13.1	15.0	+1.9	-3.3 to +7.1
(Not) Be more relaxed	39.7	48.5	+8.8*	+0.2 to +17.4
(Not) Have a good time with friends	37.3	46.3	+9.0*	+0.9 to +17.1
(Not) Feel better	52.7	63.4	+10.7*	+1.5 to +19.9
(Not) Be like the coolest kids	62.7	64.4	+1.7	-6.1 to +9.5
% definitely not likely to use even once or twice over the next 12 months	82.7	87.0	+4.3*	+0.6 to +8.0
% saying none or a few friends use marijuana	69.1	73.1	+4.0	-4.1 to +12.1
% saying none or a few other kids the same age use	29.3	30.3	+1.0	-5.2 to +7.2
Mean attitude toward marijuana use (1 to 7 scale)	6.45	6.57	+0.12	-0.08 to +0.32
Mean summed belief about outcomes of marijuana (-2 to +2 scale)	0.64	0.70	+0.06	-0.08 to +0.20
% whose parents strongly disapprove of marijuana use	91.7	96.9	+5.2	+0.3 to +8.3
% whose friends strongly disapprove of marijuana use	54.2	60.2	+6.0	-2.6 to +14.6
% who strongly disapprove of others marijuana use	42.3	47.4	5.1	-1.3 to +11.6
% who perceive great risk of harm	28.0	31.7	3.7	-2.0 to +9.2
Significant between wave change at p<.05				

7.1.2 Changes in Attitudes, Beliefs, and Intentions Regarding Regular Marijuana Use

- There was an interesting constellation of individually insignificant changes in the same direction toward stronger negative attitudes and beliefs regarding regular drug use among non-using youth, particularly among the younger teens. There were 18 questions that probed views about regular marijuana use. Among 12- to 13-year-olds, all 18 questions appeared to move in an anti-drug use direction, although the individual changes, in all but two cases, were not statistically significant¹. Younger teens were significantly more likely to believe that regular marijuana use would lead to a loss of ambition, and expressed even more negative attitudes toward regular drug use during Wave 2 than they had before during Wave 1 (Table 7-C, Detail Tables 7-10 through 7-18, 7-20, 7-22).
- At Wave 1, all teens already were virtually unanimous in their “definitely not” responses to the question regarding intention to use marijuana regularly (98% for 12- to 13-year-olds and 95% for the 14- to 18-year-olds), so there was virtually no space for movement on that outcome at Wave 2. The same is true for most other attitudes and beliefs for which an anti-marijuana sentiment was already very high at Wave 1.
- The 14- to 18-year-olds showed one significant change toward an anti-drug view: a 5 percentage point increase in the percentage reporting that none or only a few of their friends used marijuana regularly (Table 7-D). Other changes were not significant although the shortness of the Wave 1 and 2 interval, the absolute magnitude of some of the estimates which in their majority are positive, and the size of the 95 percent confidence intervals around the change estimates open the possibility that more time and larger samples will show effects not detected now.

7.2 ATTITUDES OF 9- TO 11-YEAR-OLD NON-USERS ABOUT MARIJUANA TRIAL²

Most children reported opinions that were strongly against marijuana trial. Children continue to hold anti-marijuana beliefs (mean=1.1, where -2=strong pro-drug and +2=strong anti-drug), and strong anti-marijuana attitudes (mean=6.8 on 1-7 scale, where 7=strongly anti-drug) (Detail Tables 7-6 and 7-7). They reported high disapproval of marijuana among parents and friends (Detail Tables 7-8 and 7-9), and perceived a low prevalence of trial among friends. For example, 98 percent said that none or only a few of their friends had tried marijuana (Detail Table 7-4). Most children also reported strong personal disapproval of marijuana trial by parents (92%, Detail Table 7-8). Not surprisingly then, 97 percent of them reported “definitely not” when asked about their likelihood of trying marijuana (Detail Table 7-3). Nonetheless, there were some results on beliefs about outcomes of trial and perceived

¹ Among the 18 items, there were groups that were meant to measure the same latent construct, so the fact they move in tandem may mean that a large number moving in the same direction does not mean very much. For example, the last row of Table 7-C shows that there was no significant variable that is meant to measure the latent variable behind the first eight rows of the table. So even, though all of the first eight appear to move in the same direction and one of them is significant, the mean summed belief is not significant.

² The analyses reported in this and the following section are based on the combined Wave 1 and Wave 2 samples.

Table 7-C
Summary of changes regarding regular marijuana use among 12- to 13-year-olds
between Waves 1 and 2

Measure	Wave 1 %	Wave 2 %	Estimated Change %	95% Confidence Interval on Change %
Regular use (almost every month)				
<u>% strongly agree: if I use marijuana...I will</u>				
Damage my brain	59.0	63.6	+4.6	-3.2 to +12.4
Mess up my life	63.9	69.7	+5.8	-1.7 to +13.3
Do worse in school	63.4	66.6	+3.2	-3.5 to +9.9
Be acting against my moral beliefs	48.3	54.3	+6.0	-1.2 to +13.2
Lose my ambition	44.8	51.9	+7.1*	+0.2 to +14.0
Lose my friends respect	49.1	56.8	+7.7	-0.5 to +15.9
(Not) Have a good time with friends	48.6	55.4	+6.8	-1.8 to +15.4
(Not) Be more creative and imaginative	61.4	62.6	+1.2	-6.9 to +9.3
% definitely not likely to use nearly every month over the next 12 months	97.5	98.2	+0.7	-0.7 to +2.1
% saying none or a few friends use marijuana	94.3	95.4	+1.1	-0.9 to +3.1
% saying none or a few other kids the same age use	87.7	88.1	+0.4	-3.1 to +3.9
% whose parents strongly disapprove of marijuana use	93.2	96.4	+3.2	-0.2 to +6.6
% whose friends strongly disapprove of marijuana use	67.8	73.2	+5.4	-2.4 to +13.2
% who strongly disapprove of others' marijuana use	82.3	82.2	-0.1	-3.8 to +3.4
% who perceive great risk of harm	75.8	76.2	0.4	-5.0 to +5.8
Mean attitude toward marijuana use (1 to 7 scale)	6.61	6.77	+0.16*	+0.06 to +0.26
Mean summed belief about outcomes of marijuana (-2 to +2 scale)	1.13	1.23	+0.10	-0.03 to +0.23

* Significant between wave change at p<.05

Table 7-D
Summary of changes regarding regular marijuana use among 14- to 18-year-olds who
have never tried marijuana between Waves 1 and 2

Measure	Wave 1 %	Wave 2 %	Estimated Change %	95% Confidence Interval on Change %
Regular use (almost every month)				
<u>% strongly agree: if I use marijuana...I will</u>				
Damage my brain	58.3	52.5	-5.8	-14.3 to +2.7
Mess up my life	57.1	60.5	+3.4	-6.6 to +13.4
Do worse in school	57.4	63.2	+5.8	-3.4 to +15.0
Be acting against my moral beliefs	57.5	59.6	+2.1	-7.1 to +11.3
Lose my ambition	44.1	43.8	-0.3	-9.3 to +8.7
Lose my friends respect	41.1	42.7	+1.6	-7.1 to +10.3
(Not) Have a good time with friends	34.6	41.0	+6.4	-3.1 to +15.9
(Not) Be more creative and imaginative	52.2	56.3	+4.1	-5.6 to +13.8
% definitely not likely to use nearly every month over the next 12 months	94.6	95.9	+1.3	-1.1 to +3.7
% saying none or a few friends use marijuana	78.4	83.4	+5.0*	+0.2 to +9.8
% saying none or a few other kids the same age use	46.1	46.6	+0.5	-6.7 to +7.7
% whose parents strongly disapprove of marijuana use	95.7	95.3	-0.4	-3.5 to +2.7
% whose friends strongly disapprove of marijuana use	56	60.1	+4.1	-4.6 to +12.8
% who strongly disapprove of others' marijuana use	66.7	69.0	+2.3	-2.5 to +7.1
% who perceive great risk of harm	65.0	65.0	0.0	-6.2 to +6.1
Mean attitude toward marijuana use (1 to 7 scale)	6.45	6.54	+0.09	-0.05 to +0.23
Mean summed belief about outcomes of marijuana (-2 to +2 scale)	1.11	1.11	0.0	-0.16 to +0.16

* Significant between wave change at $p < .05$

social expectations that suggest children do not see marijuana trial as negatively as might be concluded on initial glance at the data. In addition, while most children perceive friends to be non-users, some do not think their friends strongly disapprove of trial.

7.2.1 Beliefs About Outcomes of Marijuana Trial

The 9- to 11-year-olds were asked about the probability of eight consequences of marijuana trial (Detail Table 7-1). These included two positive consequences: “become more popular,” and “have a good time.” The remainder were negative outcomes: “upset parents,” “do poorly in school,” “make you lazy,” “make you act stupidly and foolishly,” “make you do harder drugs,” and “make you start using marijuana regularly.”³

- Most young children thought marijuana trial would not have positive outcomes. Ninety percent thought marijuana trial would definitely not make them more popular, and 74 percent thought it would definitely not make them have a good time.
- However, they saw some negative outcomes of trial as less probable. A surprisingly small proportion perceived marijuana as a “gateway” drug that would lead them inevitably to harder drugs. Only 20 percent of children in both waves said use of marijuana once or twice would definitely make them use it more regularly, and even fewer (18%) said that marijuana would definitely make them go on to harder drugs.

7.2.2 Social Expectations about Trial

- While 9- to 11-year-old children reported strong disapproval of marijuana use among their friends and parents, a smaller proportion reported strong disapproval by friends than parents (78% vs. 92%) (Detail Table 7-8 and 7-9).

7.3 ATTITUDES ABOUT MARIJUANA TRIAL AMONG 12- TO 18-YEAR-OLD NON-USERS

Non-users become users at increasing rates as they become teenagers. Chapter 6 described the increasing level of use for each age segment; while only 1 percent of 9- to 11-year-olds have ever used marijuana, more than 40 percent of 16- to 18-year-olds report any lifetime use. This section of the semi-annual report deals with non-users of marijuana and the beliefs that might put them at risk of using marijuana at some later date. The non-users remain the majority of every age group, although they become a smaller majority as a cohort ages. The analyses are based on the combined Wave 1 and Wave 2 samples.

The findings highlighted below show that most non-using teens are strongly against marijuana trial. Their own opinions are only a little less strongly anti-marijuana compared to the younger cohorts. However, as they age, teens perceive less strong disapproval of marijuana trial among friends. During the teen years, personality factors, such as sensation

³ Responses were coded as “definitely no,” “probably no,” “probably yes,” and “definitely yes.”

seeking, are predictors of attitudes. Also, non-users do distinguish between trial and regular use of marijuana, as indicated by their relatively stronger anti-drug opinions about regular use.

7.3.1 Attitudes toward Marijuana Trial

Like children, teens were asked about their attitudes toward trial. Two semantic differential scales were used to assess whether they thought marijuana trial was bad/good and enjoyable/unenjoyable.⁴ Their mean scores on the summed measures were strongly anti-drug (6.7 for youth aged 12 to 13, 6.5 for older teens; Detail Table 7-6).

7.3.2 Beliefs about Outcomes of Marijuana Trial

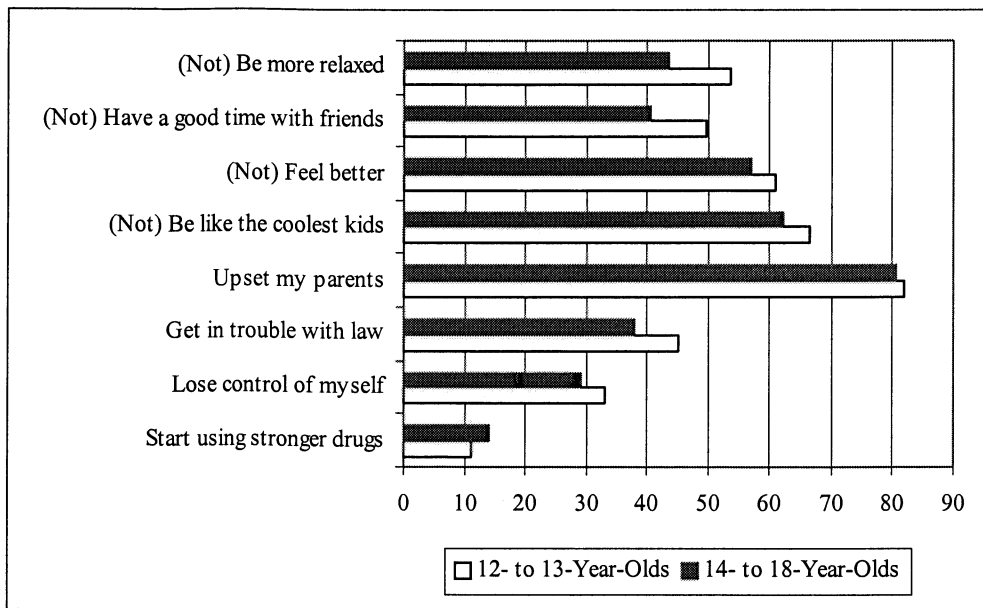
Teens were asked about a set of eight consequences of trial that was different from those asked to the younger children (Detail Table 7-2). Four consequences were negative (upset parents, get in trouble with the law, lose control of myself, and start using stronger drugs), and four were positive (be more relaxed, have a good time with friends, feel better, and be like the coolest kids).⁵ On five of the eight beliefs, the majority of teens did not give strong anti-drug answers:

- About two-thirds of the 12- to 13-year-olds thought that marijuana trial would not lead them to feel better or be like the coolest kids (61% and 66%, respectively). About half of these younger teens thought marijuana trial would not result in being more relaxed (55%) and having a good time with friends (50%). However, fewer older teens (14- to 18-year-olds) disagreed with these positive outcomes (44% and 42%, respectively) (Detail Table 7-2, and Figure 7-A).
- While most 12- to 13-year-olds and 14- to 18-year-olds agreed that marijuana trial would upset their parents (83% and 81%, respectively), other negative outcomes were not seen as very likely.
- Like children, teens tend to reject the gateway theory. Less than one-seventh of 12- to 18-year-olds thought it very likely that using marijuana even once or twice would lead to them “start using stronger drugs.”
- Fewer than half of teens strongly agreed that marijuana trial would result in trouble with the law or in losing control of themselves.

⁴ Questions C4a and C5a in the Teen questionnaire. The NSPY questionnaires can be found on the NIDA web site.

⁵ Responses were assessed on a 5-point scale from “very unlikely” to “very likely,” as shown in question C3a in the Teen questionnaire.

Figure 7-A
Beliefs about outcomes of marijuana trial:
Percent holding strong anti-drug beliefs



7.3.3 Perceived Social Expectations Regarding Marijuana Trial

- While perceived parent disapproval is high for all age groups, perceived friends' strong disapproval of marijuana trial is lower among 14- to 18-year-olds (57%) relative to younger teens (71%) and children (78%) (Detail Tables 7-8 and 7-9).⁶
- For all age groups, friend disapproval is lower than parent disapproval. However, the gap between friend disapproval and parent disapproval grows with age (differences are about 15 percent, 25 percent, and 37 percent for the youngest to the oldest age groups). In other words, as teens become older, their peer group's expectations conflict more sharply with parent expectations (Figure 7-B).

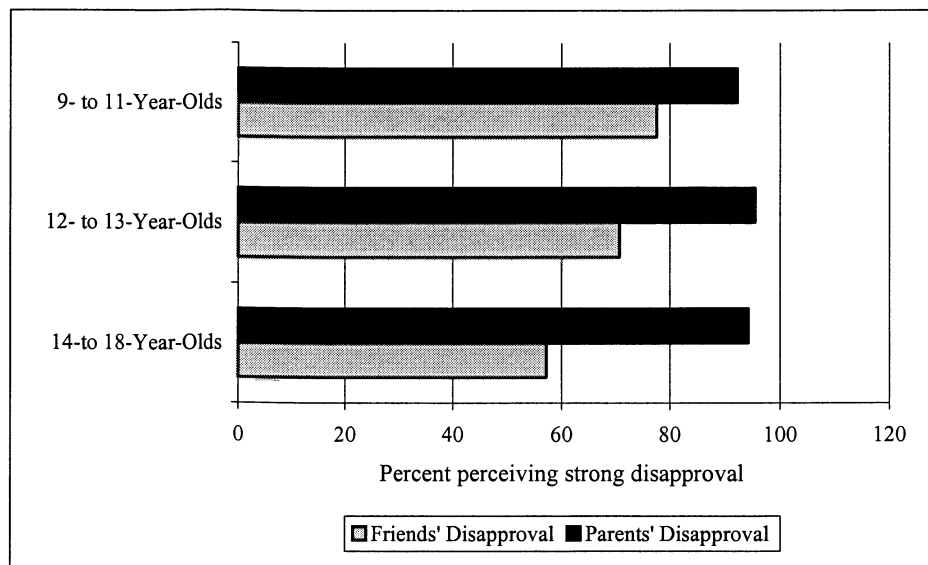
7.3.4 Perceptions of Trial Among Others

- Most teens reported that none or few of their friends used marijuana even once or twice (Detail Table 7-4).⁷

⁶ Questions C7a and C8a in the Teen questionnaire.

⁷ Question C10a in the Teen questionnaire. The answer categories displayed on the screen for the respondent were: None, A few, Some, Most, and All.

Figure 7-B
Perceived disapproval by parents and friends of marijuana trial



- However, teens in both age groups thought that trial occurred among friends much less often than among other teens in general (Table 7-E). Clearly, older teens see a good deal of marijuana use around them that is reflected in their responses about other teens; however, just as they mostly claim they are not marijuana users themselves, they also see most of their friends as non-users.
- Compared to older teens, 12- to 13-year-old youth perceived marijuana trial as being much less prevalent among their friends and their peers (Table 7-E).

Table 7-E
Perceptions of marijuana trial among others:
Percent none or few used marijuana

Use	12-13	14-18
Friends' use	92.8	71.1
Use by other kids of same age	75.7	29.8

7.3.5 Intention to Try Marijuana

- While most currently non-using teens do not intend to try marijuana⁸ even once or twice in the next 12 months (Detail Table 7-3), intentions to avoid use decrease by age: 92 percent of youth aged 12 to 13 said they definitely would not try it, compared to 85 percent of the older teens who had never used marijuana. There were no differences by gender or ethnicity in intention to try marijuana.

⁸ Question C1 in the Teen questionnaire.

7.3.6 Trial Marijuana Use: Subgroup Differences

- Subgroup differences analyses in the detail tables generally collapse estimates across ages of youth, in order to have enough respondents in the comparison groups to be able to capture important differences.

Differences by Demographic Characteristics

- Gender: There were inconsistent differences by gender across attitudes and beliefs related to trial. For most of these outcomes, there were no significant gender differences. In the two cases where there were significant differences, they went in opposite directions. While more boys claimed that none or a few other kids of the same age used marijuana at all (49% versus 42%; Detail Table 7-5), more girls than boys claimed that their friends strongly disapproved of marijuana trial (68% versus 56%) (Detail Table 7-9).
- Race or ethnicity: For most attitudes and beliefs about trial assessed, there were no differences across the three compared racial or ethnic groups (white, African American, Hispanic). The one stable exception was for the sum of all beliefs about the likelihood of negative outcomes of marijuana trial. African Americans and Hispanics were a little less likely than white youth aged 12 to 18 to express anti-drug beliefs. On a -2 to +2 scale, whites averaged 0.78 versus 0.56 for African Americans and 0.59 for Hispanics (Detail Table 7-7).
- Region: For most attitudes and beliefs about trial, there were no significant differences among regions. The only exceptions were for reports of strong disapproval of others' occasional use of marijuana (Detail Table 7-19) and perception of great risk of harm from occasional use of marijuana (Detail Table 7-21). In both cases, the youth from the Northeast reported significantly less concern than the youth from the South, with the youth from the Midwest and West in-between.
- Urbanicity: There was no consistent pattern in differences among urban, suburban, and town/rural youth with regard to trial use outcomes. As with the other subgroup analyses, the predominant pattern was no difference at all. For the three significant results, the direction for the three groups was not consistent. In the case of summed beliefs about outcomes, urban youth were less anti-drug than town/rural youth with suburban youth in-between (Detail Table 7-7); in the case of reports of disapproval of others' occasional use of marijuana, and perception of great risk of harm, the suburban youth were least anti-drug (Detail Tables 7-19, 7-21).

Differences by Sensation Seeking

The results summarized in the detail tables point to some important differences in trial-related attitudes and beliefs by level of sensation seeking. In general, high sensation seekers were less likely to hold strong anti-drug attitudes and beliefs in comparison to low sensation seekers. Nonetheless, these differences may be an artifact of the strong association between

sensation seeking and age. Therefore, it was also important to examine differences between high and low sensation seekers separately within each age group. The results reported below suggest that sensation seeking interacts with age to produce differential outcomes in terms of trial-related cognitive outcomes:

- Among youth aged 12 to 18, low sensation seekers reported strong friend disapproval of trial more frequently than did high sensation seekers (73% vs. 50%, Detail Table 7-9). A closer examination reveals that this difference between high and low sensation seekers exists within each group of teens but varies with age (a difference of 27% for 12- to 13-year-olds compared to 18% for 14- to 18-year-olds) (Table 7-F).
- Low sensation seekers reported more frequently that friends and peers had not tried marijuana than did higher sensation seekers (Detail Tables 7-4 and 7-5). This difference increases with age (a difference of 19% for 14 to 18 year-olds vs. 9% for 12- to 13-year-olds regarding perceived trial by friends, and 17% vs. 12%, respectively, regarding perceived trial by other kids of the same age) (Table 7-F).

Table 7-F
Differences in cognitive outcomes of marijuana trial by age and sensation seeking

	High Sensation Seeking	Low Sensation Seeking
<u>Perceived trial by friends</u>	<u>% reporting none or a few friends try</u>	
12- to 13-year-olds	87.8	96.3
14- to 18-year-olds	61.6	80.3
<u>Perceived trial by other kids</u>	<u>% reporting none or a few kids try</u>	
12- to 13-year-olds	68.5	80.4
14- to 18-year-olds	21.5	38.2
<u>Perceived friends' disapproval of trial</u>	<u>% reporting friends strongly disapprove</u>	
12- to 13-year-olds	54.6	81.8
14- to 18-year-olds	48.5	66.4
<u>Intention to try marijuana</u>	<u>% definitely not intending to try</u>	
12- to 13-year-olds	85.2	97.1
14- to 18-year olds	78.6	92.1

Note: All differences between high and low sensation seekers are significant at the .05 level

- Fewer high sensation seekers (81%) among youth aged 12 to 18 expressed intentions to avoid marijuana trial than low sensation seekers (94%) (Detail Table 7-3).

7.4 BELIEFS AND ATTITUDES ABOUT REGULAR MARIJUANA USE AMONG 12- TO 18-YEAR-OLD NON-USERS AND 14- TO 18-YEAR-OLD PRIOR OCCASIONAL USERS

Non-users tended to give stronger anti-drug responses about regular use than about trial use, suggesting that they see the two behaviors as distinct from one another. Prior occasional users, unsurprisingly, were more positive than prior non-users about regular marijuana use on every measure, although they still retained some skepticism. Also, there were important differences in attitudes and beliefs about regular use by age, sensation seeking, and some demographic characteristics.

The non-users included 12- to 18-year-olds; however there were too few prior users among 12- to 13-year-old youths to be included in the sample of prior users. When comparisons are made between users and non-users, they include only 14- to 18-year-olds in both groups. Also, the prior occasional user sample used here is restricted to youth who said they had used once or twice, but excludes those who used regularly in the past year. Regular use was defined as using marijuana “almost every month for a year.” The responses to questions about regular use for non-users and for prior users are responses about a behavior both groups report they have not yet done.

7.4.1 Attitudes toward Regular Marijuana Use

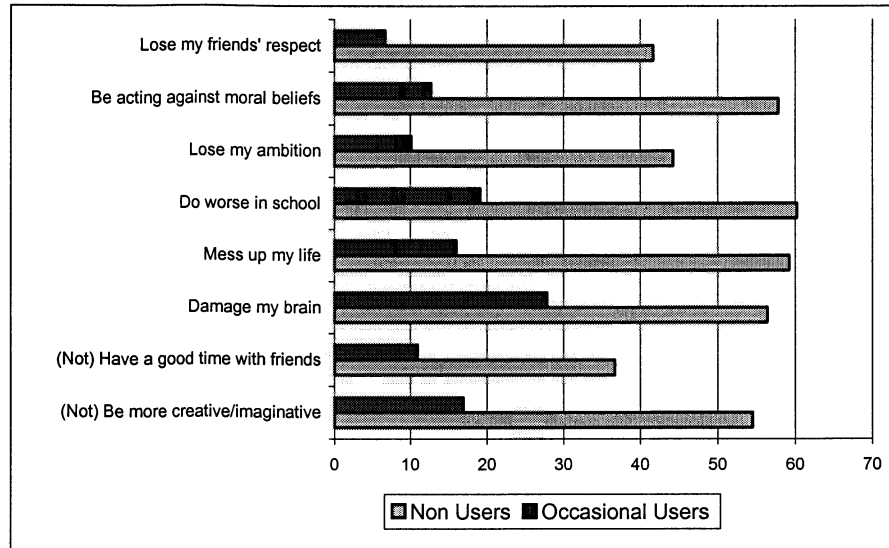
In addition to their attitudes toward marijuana trial, teens also were asked about their attitudes toward regular marijuana use. The mean scores for the non-users on the summed measures were strongly anti-drug (6.69 for youth aged 12 to 13, and 6.50 for older teens; Detail Table 7-15). Clearly these means are close to the ceiling of 7.0 for anti-drug attitudes. These average responses are almost identical to the responses of non-users to attitude questions about trial use, which also were close to the ceiling. However, prior occasional users were clearly much less opposed to regular use (although none had reported regular use themselves). Their mean (4.77) was much lower, although still slightly more anti-drug than the neutral point of 4.0.

7.4.2 Beliefs about Outcomes of Regular Use

Teens were asked about a set of eight consequences of regular use that were mostly different from the consequences addressed for trial use. Six consequences were negative (damage brain, do worse in school, acting against moral beliefs, lose ambition, and lose friends’ respect), and two were positive (be more creative and have a good time with friends). On most beliefs, the majority of even non-using teens did not give strong anti-drug answers (Detail Tables 7-10 and 7-11). On every outcome belief, nonetheless, prior users expressed significantly less strong anti-drug beliefs than non-users (See Figure 7-C).

- About 60 percent of all non-user teens thought that it was “very likely” that regular marijuana use would result in brain damage, poor performance in school, and a messed up life.

Figure 7-C
Beliefs of 14- to 18-year-old non-users and occasional users about consequences of regular use:
Percent strong anti-drug



- About 40 percent of all non-users believe that regular use would “very likely” lead them to lose their ambition or their friends’ respect.
- Finally, 54 percent of all non-users believed that regular use was “very unlikely” to result in being more creative and imaginative, but only 36 percent believed that it was “very unlikely” to result in having a good time with friends.
- Only between 7 and 28 percent of all prior using 14- to 18-year-olds expressed strong anti-drug beliefs with regard to any of these outcomes.
- Scores on the summed scale of beliefs regarding regular use were strongly anti-drug among younger and older non-using teens alike (mean = 1.2, Detail Table 7-16). Prior using teens scored much lower on each of the individual items and in their overall belief score. On the +2 to -2 scale, the prior using 14- to 18-year-olds were at -0.1, essentially right in the middle in their beliefs in the positive versus negative outcomes of regular use.

7.4.3 Perceived Social Expectations Regarding Regular Use

- Perceived parents’ strong disapproval of regular marijuana use is high (95%) for all non-using teens (Detail Table 7-17). It is also quite high (75%) for all prior-using teens. The majority of them know as well as their non-using peers that their parents would strongly disapprove of regular use of marijuana.

- Teen reports of friends' disapproval of regular marijuana use offer a very different picture. First, many fewer teens perceive strong disapproval among their friends than among their parents. For 14- to 18-year-old non-users, for example, only 58 percent believe their friends would strongly disapprove of regular marijuana use (Detail Tables 7-17 and 7-18). Second, the occasional users, who were only a little different from the non-using teens on perceived parental disapproval, are much different on friend disapproval. Only 12 percent of the occasional users think their friends would strongly disapprove of regular use.
- Also, for all age groups, perceived peer disapproval is lower than perceived parent disapproval. However, the gap between friend disapproval and parent disapproval grows with age (differences are 25% among 12- to 13-year-olds and 37 percent among 14- to 18-year-olds). In other words, as teens become older, their peer group's expectations conflict more sharply with parent expectations.
- About equal proportions of non-using teens reported strong parent disapproval of marijuana trial and marijuana regular use. A similar pattern was evident for perceived friend disapproval (Detail Tables 7-8, 7-9, 7-17, and 7-18).

7.4.4 Perceptions of Regular Use by Others

- Older youth report more marijuana use than younger teenagers. Chapter 6 presented the sharp increase in self-reported marijuana use by age. This pattern is consistent with what youth report about their friends' use. The overwhelming majority of younger teens (95%) report that none or few of their friends use marijuana nearly every month.⁹ The percentage of older non-using teens reporting the same is significantly lower (81%) (Table 7-G, Detail Table 7-13).
- About 88 percent of 12- to 13-year-olds, and 47 percent of non-using 14- to 18-year-olds believe that none or few other kids their age use marijuana nearly every month. Youth thus make a sharp distinction between their own friends and "other kids," which presumably includes a wider circle of peers. This is particularly true for older, non-using teens. The gap between friends and other kids was 7 percent for the younger teens, but 34 percent for older teens (Table 7-G, Detail Table 7-14).
- Prior-using teens are, however, in a peer environment that is radically different from their non-using peers. Most have some friends who are regular users and almost all are aware of some peers who are regular marijuana users. Only 33 percent of them say that none or a few of their friends use every month, and 20 percent say none or few of other kids use every month (Table 7-G, Detail Table 7-13).
- Regular use was seen as less prevalent than trial use among both friends and other kids, particularly by 14- to 18-year-olds. That is, the percentages of youth reporting none or few of their friends or peers use regularly were higher for regular use measures than for trial use (Table 7-G, Detail Tables 7-4, 7-5, 7-13, and 7-14).

⁹ See question C12 in the teen instrument. The answer categories displayed on the screen for the respondent were None, A Few, Some, Most, and All. The NSPY questionnaires can be found on the NIDA web site.

Table 7-G
Perceptions of trial and regular use by friends and other kids:
Percent reporting none or a few try or use every month

Use	12-13 Non-users	14-18 Non-users	14-18 Occasional users
Friends' use			
Trial	92.8	71.1	nr
Regular use	94.9	80.9	31.2
Use by other kids of same age			
Trial	75.7	29.8	nr
Regular use	87.9	46.4	21.0

nr = not relevant

7.4.5 Disapproval of and Perceptions of Risk Associated with Occasional and Regular Use of Marijuana

In addition to being asked about their own marijuana use, youth also were asked about their attitudes toward marijuana use by others.

Disapproval of Marijuana Use

- Overall, teens disapproved of marijuana use by others and, as anticipated, expressed stronger disapproval of regular use than occasional use.¹⁰ However, strong disapproval of occasional use declines with age, as does disapproval of regular marijuana use (Table 7-H and Detail Tables 7-19 and 7-20). These patterns are similar to findings presented earlier regarding disapproval of own use by peers, in which older teens tended to report less disapproval by peers of their own use.

Table 7-H
Disapproval of occasional and regular marijuana use among all youth aged 12 to 18:
Percent reporting strong disapproval of others' use

Age	Occasional use	Regular use
12 to 13	63.9	79.3
14 to 15	42.1	62.0
16 to 18	26.9	48.7

¹⁰ See question C33 in the Teen questionnaire.

Perceived Risk of Harm From Marijuana Use Among all 12- to 18-Year-Olds

As expected, in all age groups, the perceived risk associated with marijuana use is greater for regular use than for trial use¹¹ (Table 7-I). Indeed, even among 12- to 13-year-olds, fewer than half perceive great risk associated with use once or twice. In contrast, the majority of youth through age 15 continue to see great risk in regular (monthly or more) use of marijuana. Also, perceived risk associated with both marijuana trial and regular use decreases with age. Greater proportions of younger (compared to older) youth perceive great risk in occasional and regular use (Table 7-I, Detail Tables 7-21 and 7-22). It is no surprise that non-users are much more likely than prior users to perceive great risk in regular marijuana use. Among all 14- to 18-year-olds, the proportion perceiving great risk of marijuana use is 53 percent; among prior users it is 24 percent.

Table 7-I
Perceived great risk of even once or twice and regular marijuana use

Age	Once or twice use	Regular use
12 to 13	45.1	73.8
14 to 15	27.8	61.3
16 to 18	18.6	45.5

7.4.6 Self-Efficacy to Resist Marijuana

Self-efficacy, the confidence to resist marijuana use in tempting circumstances, was high for most youth respondents. The self-efficacy scale summed the responses to five questions about the youth's ability to refuse marijuana if he or she "really wanted to" in various circumstances: at home feeling sad or bored, if a close friend suggested it, at a party where others are using it, on school property and someone offers it, and hanging out at a friend's house. Responses varied from -2 to +2, where +2 represented a "completely sure I can say no" response to each circumstance of use. Overall respondents were confident they could resist drug use if they wanted to (a mean of 1.6, where 2 represents high self-efficacy to refuse marijuana) (Detail Table 7-23). This is consistent with the data in Chapter 6, which showed that while a large number of youth said they had been offered marijuana in the past month, relatively few said they had used it. Youth's reported confidence in saying no was not much different for older and younger teens. There was a large difference between non-using and occasionally using 14- to 18-year-olds (1.65 versus 1.3), suggesting that most users were much less confident of their ability to say no.

- Occasional users, particularly the few in the 12- to 13-year-old group, express markedly lower self-efficacy to resist marijuana than non-users (see Table 7-J and Detail Table 7-23).

¹¹ See question C33 in the Teen questionnaire.

Table 7-J
Self-efficacy by age and prior use: Average score (-2=low; +2=high)

Self-efficacy	12-13	14-18
Non-users	1.62	1.65
Occasional users	nr	1.34

nr = not relevant

7.4.7 Intentions to Use Marijuana Regularly

- Most respondents, regardless of prior use, said they definitely would not use marijuana even once or twice or regularly in the next 12 months (Detail Table 7-12).¹² However, the percentage of youth reporting definitely not intending to try or use marijuana regularly decreases by age (Figure 7-D).
- Most non-users intend to stay non-users. That is almost universally true for 12- to 13-year-olds (92% say “definitely not” to marijuana trial in the next year). It is mostly true for 14- to 18-year-old non-users as well. However while 85 percent say “definitely not,” it is true that the remaining 15 percent of current non-users are not so absolute in their rejection of trial. They may well represent the population at most risk of transition to marijuana use.
- If non-users mostly don’t intend to use marijuana at all, even more so do they reject any possibility of their becoming regular users. Ninety-eight percent of 12- to 13-year-olds and 95 percent of 14- to 18-year-old non-users say “definitely not” and when asked whether they will use marijuana regularly in the next year. While some proportion of non-users might consider trial, fewer than 1 in 20 will consider regular use.
- Occasional users offer sharply different responses to these intention questions. The 14- to 18-year-old occasional users say “definitely not” to occasional use in the next year only 20 percent of the time. Since this is already their current behavior, they are reporting in four out of five cases that there is some likelihood that they will continue what they have already done in the past year. On the other hand, one out of five of them who admits to using marijuana at some point indicates that he or she will not continue the behavior. When asked about their intention to move from occasional use to regular use, about half are clear that they will not progress to such higher use level. The rest, however, do not say “definitely not,” and can be seen as a group at possible risk of regular use. The Campaign and the evaluation plan have made a sharp distinction between the two types of behaviors, moving from non-use to trial, and moving from occasional use to regular use. The sharp difference in intention to begin regular use, comparing non-users and prior users, justifies that distinction (Detail Tables 7-3 and 7-12).

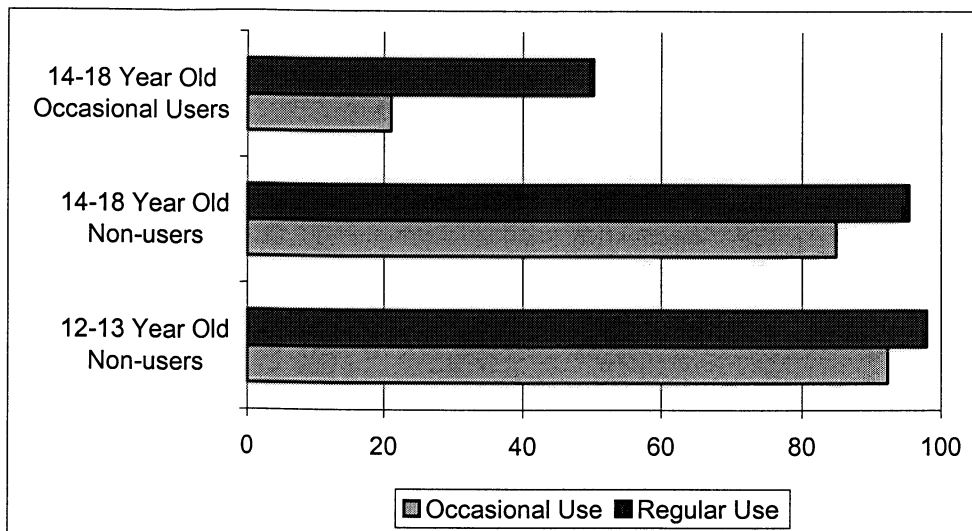
¹² Question C2 in the Teen questionnaire.

7.4.8 Regular Marijuana Use and Self-Efficacy: Other Subgroup Differences

It was possible to analyze subgroup differences only about regular use for the non-using youth for most attitudes and beliefs. There were too few prior-using youth to permit further subgroup analysis. This analysis showed some differences in attitudes and beliefs regarding regular marijuana use by demographic characteristics and sensation seeking:

- Gender: For most attitudes and beliefs there were no significant gender differences. More boys than girls claimed that none or a few other kids of the same age used marijuana nearly every month (65% vs. 56%; Detail Table 7-14). On the other hand, more girls claimed that their friends strongly disapproved of marijuana trial (69% vs. 55%). The opposite direction of these differences is similar to the one observed regarding marijuana trial. In addition, gender was a predictor of self-efficacy among non-users as well as prior-users. Among non-users, boys, younger (12-13) and older (14-18) alike, expressed significantly less self-efficacy to resist marijuana (1.55 and 1.59, respectively) than did girls of the same age group (1.68 and 1.70, respectively) (Detail Table 7-23). The same was true among prior occasional users (.33 and 1.11 for boys compared to .73 and 1.5 for girls).

Figure 7-D
Intentions to use marijuana:
Percent saying definitely not intending



- Ethnicity: There were several important differences in attitudes and beliefs about regular use across the three compared ethnic groups (white, African American, Hispanic) in cognitions about regular marijuana use. First, in comparison to whites, fewer Hispanics reported that none or few of their friends use marijuana regularly (81% vs. 87%), with African Americans in-between (83.6%) (Detail Table 7-13). Second, as was the case for marijuana trial, there was an ethnic difference on the sum of all beliefs about the likelihood of negative outcomes of regular marijuana use

(Detail Table 7-16). African Americans and Hispanics were a little less likely than white youth aged 12 to 18 to express anti-drug beliefs (0.92, 1.0, and 1.21, respectively). The same pattern was true for reports on friends' disapproval of regular use (Detail Table 7-18), that were higher among whites (66.5%) compared to Hispanics (59%) and African Americans (46.5%). Next, disapproval of others' regular marijuana use was higher among white youth (75%) compared to Hispanic youth (70%) and African American youth (67%) (Detail Table 7-20). Furthermore, Hispanics and African Americans were significantly less likely than whites to agree that regular marijuana use presents great risk (64% and 63%, respectively, compared to 71%) (Detail Table 7-22). Finally, on average, white youth had significantly greater perceived self-efficacy to refuse marijuana (1.72) compared to African American youth (1.51) and Hispanic youth (1.47) (Detail Table 7-23). Taken together, these ethnic differences suggest that there is a greater room for change toward anti-drug cognitions among non-using African Americans and Hispanics aged 12 to 18 than among whites.

- **Region:** For most attitudes and beliefs there were no significant differences among regions. One exception was reports of regular use by other kids (Detail Table 7-14) where youth from the Northeast reported significantly less that none or few kids were using regularly than did youth in the West and Midwest. In addition, youth from the South were less likely to report strong disapproval of regular use by parents compared to youth in the Midwest (93% vs. 98%, Detail Table 7-17). Finally, Northeastern youth reported on average less self-efficacy to refuse marijuana than Southern and Midwestern youth (Detail Table 7-23).
- **Urbanicity:** In contrast to attitudes and beliefs regarding trial use, there was a consistent pattern in differences among urban, suburban, and town/rural youth with regard to views about regular use. In all three cases where significant differences exist, urban 12- to 18-year-old youth were less likely to report strong anti-drug cognitions. For example, urban teens were less likely than suburban and rural teens to report no regular use by friends (83% vs. 89% and 87%, respectively) (Detail Table 7-13). In addition, fewer urban teens reported that they strongly disapproved of regular use by others compared to town and rural teens (Detail table 7-20). Lastly, on average, urban teens reported lower self-efficacy to refuse marijuana compared to suburban and rural youth (Detail Table 7-23).

7.4.9 Differences by Sensation Seeking

Detail Tables 7-12 through 7-23 show important differences in attitudes and beliefs with regard to regular use by level of sensation seeking. Similar to views regarding marijuana trial, high sensation seekers were less likely to hold strong anti-drug attitudes and beliefs in comparison to low sensation seekers. However, here too it was important to examine these differences within each age group separately. The results reported below seem to strengthen the argument that sensation seeking interacts with age to produce differential views.

- **Low sensation seekers** report none or few friends using marijuana regularly more frequently than high sensation seekers (91% vs. 81%) (Detail Table 7-13). This difference is greater among 14- to 18-year-olds (Table 7-K). The same pattern is true

regarding reports on regular use by other kids (Detail Table 7-14), but the difference between high and low sensation seekers is quite comparable among younger and older teens (Table 7-K).

- Significantly fewer high sensation seekers report friends' disapproval of regular use (53% vs. 70%) (Detail Table 7-18). This difference of about 17 percent is practically identical among younger and older teens (Table 7-K). There was no difference in perceived parents' disapproval by sensation seeking.
- There is a sharp difference (36%) by sensation seeking in relation to disapproval of others' occasional use (Detail Table 7-19) and a substantial difference (19%) with regard to disapproval of others' regular use (Detail Table 7-20). In both cases the difference between low and high sensation seekers is similar across age groups (Table 7-K).
- There is also a notable difference in perceived harmfulness of occasional and regular use by level of sensation seeking. Relative to high sensation seekers, greater percentages of low sensation seekers agreed that others put themselves at great risk through occasional use (45% compared to 26%) and regular use (75% vs. 62%) (Detail Tables 7-21 and 7-22). This difference between low and high sensation seekers increases with age, particularly regarding regular use (Table 7-K).
- Finally, most low and high sensation seekers in each age group express intentions to definitely not try or use marijuana regularly, but low sensation seekers report so in larger proportions than high sensation seekers (see Table 7-K and Detail Table 7-12).

7.5 SUMMARY

Three broad findings stand out from the evidence presented in this chapter. There is credible evidence of an increase in desirable beliefs and attitudes between Waves 1 and 2. Reinforcing results reported in the first semi-annual report, most youth express strong misgivings about marijuana use. As youth age, and if they are high sensation seekers and/or prior users, there is a weakening of such misgivings on some measures.

New findings

- There is good evidence of encouraging changes in anti-drug sentiment among older teens (14 to 18) with regard to marijuana trial between Wave 1 and Wave 2. Weaker but still encouraging evidence was found of change among younger teens (12-13) concerning regular use of marijuana.
- African American and Hispanic youth report somewhat weaker attitudes and beliefs regarding regular marijuana use in comparison to white youth. It seems that room for change is greater among members of these racial or ethnic groups.

Table 7-K
Differences in cognitive outcomes of regular use by age and sensation seeking among youth who have never tried marijuana

	High Sensation Seeking	Low Sensation Seeking
<u>Perceived regular use by friends</u>	<u>% reporting none or a few friends use</u>	
12-13	91.5	97.0
14-18	75.8	86.4
<u>Perceived regular use by other kids</u>	<u>% reporting none or a few kids use</u>	
12-13	85.7	89.4
14-18	42.6	49.3
<u>Friends' disapproval of regular use</u>	<u>% reporting friends strongly disapprove</u>	
12-13	60.1	76.9
14-18	49.8	66.5
<u>Disapproval of occasional use by others</u>	<u>% reporting strong disapproval of use</u>	
12-13	49.7	77.3
14-18	30.9	59.2
<u>Disapproval of regular use by others</u>	<u>% reporting strong disapproval of use</u>	
12-13	72.6	89.2
14-18	58.5	77.4
<u>Risk of harm from occasional use</u>	<u>% saying great risk of harm</u>	
12-13	38.7	53.4
14-18	20.2	40.2
<u>Risk of harm from regular use</u>	<u>% saying great risk of harm</u>	
12-13	72.7	78.2
14-18	56.9	73.4
<u>Intention to use marijuana regularly</u>	<u>% definitely not intending to try</u>	
12-13	95.5	99.5
14-18	93.1	97.7

Note: All differences between high and low sensation seekers are significant at the .05 level

Reinforced findings from first semi-annual report

- Children and youth of all ages already express, on average, strong anti-marijuana attitudes and beliefs, particularly with regard to regular use of marijuana. However, the strength of anti-marijuana sentiment decreases as age increases. In addition, prior-users of marijuana are less likely to report strong anti-drug attitudes and beliefs.

- Across all ages, belief is low that marijuana is a gateway drug that will lead youth inevitably to the usage of harder drugs.
- Most youth, regardless of age and prior use, already perceive that their parents express strong disapproval of marijuana trial and regular use.
- Perceived disapproval by friends of personal marijuana trial and regular use is considerably lower than perceived disapproval by parents for all age groups. Moreover, the gap between perceived parent disapproval and friend disapproval of marijuana use increase with age. Thus, as teens become older, their friends' expectations conflict more sharply with their parents' expectations.
- Teens, particularly older ones (14 to 18), seem to believe that marijuana trial and regular use are more prevalent among peers in general than among their own friends.
- Teens disapprove of regular use by others more strongly than occasional use. Strong disapproval of both occasional and regular use, however, declines with age. The same pattern holds for the perceived risk of harm associated with occasional and regular use.
- Overall, teens are confident in their ability to refuse marijuana use. However, experience with marijuana does appear to decrease this confidence. In addition, there is evidence that boys have less self-efficacy to refuse marijuana than do girls.

Age and sensation seekers

- Intention to avoid marijuana is already high among all age groups but is less strong among older teens and high sensation seekers. Intentions to avoid trial or occasional use are less strong than intentions to avoid regular use.
- Sensation seeking is an important predictor of drug-related attitudes, beliefs, and intentions among teens. In general, high sensation seekers are less likely to report strong anti-marijuana attitudes and beliefs as well as being less likely to hold a strong intention not to try marijuana or use it regularly. There also is some evidence that the gap in cognitive outcomes between high and low sensation seekers increases with age.

8. PARENT-CHILD TALK ABOUT DRUGS, MONITORING, AND FAMILY ACTIVITIES

As noted earlier, parents are also primary targets of the Campaign. The overall goal for this target audience is that they become more actively involved in their children's lives. Specific behaviors encouraged by the Campaign include talking about drugs, monitoring, and spending time with children in entertaining activities. This chapter has four major sections: changes within 2000, overall patterns in 2000, evidence for diversity, and a summary.

8.1 CHANGES WITHIN 2000

The analyses within this change section include all parents of children from ages 9 to 18. In the detail tables supporting this chapter, and in Chapter 11, where the change analyses are combined with analyses of the associations between exposure to Campaign advertising and parental outcomes, the parents are separated according to the age of their children. This reflects a strong assumption that the effects of the Campaign might vary with the age of the child involved. However, analyzing the data in this way limits its sensitivity to detecting change. For this section, parents of all aged children are treated as a single sample. In no case were findings of "no change" in this chapter reversed when parents of different aged children were examined separately.

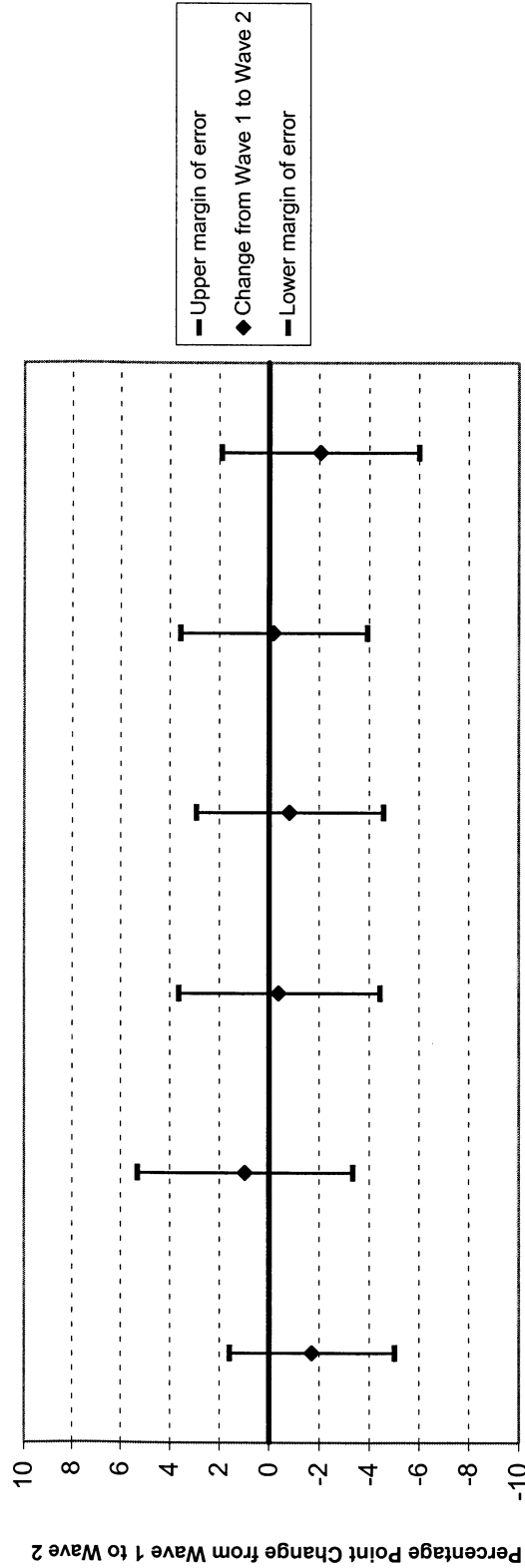
- There was no statistically significant evidence for change between Waves 1 and 2 with regard to parental reports of having talked with their children about drugs. However, the margin for error is large. Thus this finding of no significant effect leaves open the possibility of undetected change in parental behavior between the first and second halves of 2000. This is illustrated in Figure 8-A. For example, on the topic of conversations about anti-drug ads, an observed change between Wave 1 and Wave 2 between a 2 percentage point increase and a 6 percentage point decrease would be consistent with a finding of "no statistically significant evidence for change" between waves. Detailed change estimates by demographic groups are given in Detail Tables 8-1 through 8-5 and 8-19. There was a decline in parental talk with their younger children about the anti-drug ads between Waves 1 and 2. However, no other change was statistically significant.
- There was scant evidence of change between Waves 1 and 2 with regard to monitoring behavior. The estimated changes with margins of error are illustrated in Figure 8-B. Note that there was a barely significant increase of two percentage points from 93 percent to 95 percent of parents requiring their child to be home before midnight. When these findings are broken down by youth demographics, there are no significant changes between the waves (Detail Tables 8-6 through 8-10).
- There was also little evidence for change in parent-child activities between Waves 1 and 2. The overall figures for all parents of youth aged 9 to 18 in Figure 8-C are not significant. When the sample is subset to just female youth, there is a significant increase in the percent engaging in fun family activities from 54 percent to 61 percent. (This may be related to the fact that some Wave 2 interviews were done in July and

August.) There was no significant change in parental reports of going someplace for fun activity with male children (Detail Table 8-12).¹

- None of the estimates of the percent of parents engaged in various anti-drug activities changed significantly for parents as a whole (Figure 8-D), even though the confidence limits were rather narrow. It appears that these sorts of activities had very stable engagement patterns during 2000. Detail Tables 8-13 through 8-17 show only one significant change looking at all the activities individually for many demographic groups. Parents with some college reported a 100 percent increase in letter writing to politicians and newspapers from 5.1 percent to 10.2 percent. However, this change is just barely significant. Moreover, parents with less education and those with more education both reported drops in letter writing, so there is no clear trend in the change with increasing education levels. The best conclusion is that there was probably very little change in the level of parental involvement in community anti-drug efforts between Waves 1 and 2.

¹ Thus, parents report that they are engaging with their children in fun activities to a very substantial degree. This is particularly true for parents of younger children. In fact, it would be difficult for the Campaign to show success in this area, if its goal was to increase the proportion of parents who engage in such activities at least once a week. This level of activity is already universally claimed. Perhaps accordingly, during the second half of 2000, Campaign messages about doing fun things with children were less prevalent than in the first part of the year. If the Campaign decided to return to this area of focus, one could only expect to be able to show success if the Campaign adopts a goal of increasing the weekly frequency of such activity to more than once per week.

Figure 8-A
Changes from Wave 1 to Wave 2 in parental reports of
conversations with their children about drugs over prior 6 months
(point estimate with upper and lower margin of error)



	Family Rules about Drug Use	How to say no to drugs	Drug use in the media	People in trouble with drugs	Any topic at least twice	Anti-Drug ads
Wave 1	79.2%	67.1%	56.3%	65.1%	77.1%	49.1%
Wave 2	77.4%	78.1%	55.9%	64.2%	77.1%	47.0%
Change	-1.8%	+11.0%	-0.4%	-0.9%	0.0%	-2.0%

Figure 8-B
Changes from Wave 1 to Wave 2 in parental reports of monitoring activities
(point estimate with upper and lower margin of error)

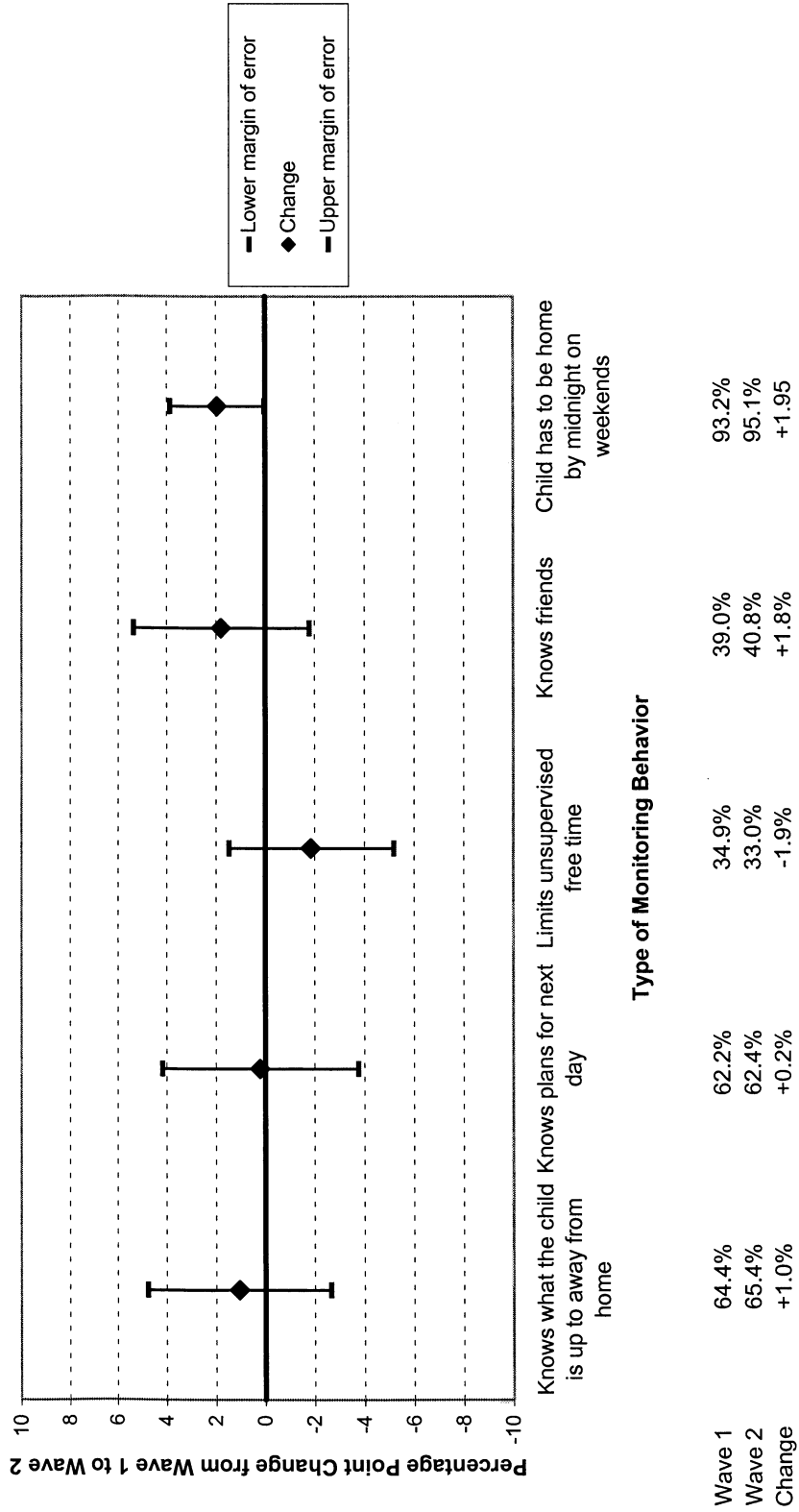


Figure 8-C
Changes from Wave 1 to Wave 2 in parental reports of doing fun activities with child
 (point estimate with upper and lower margin of error)

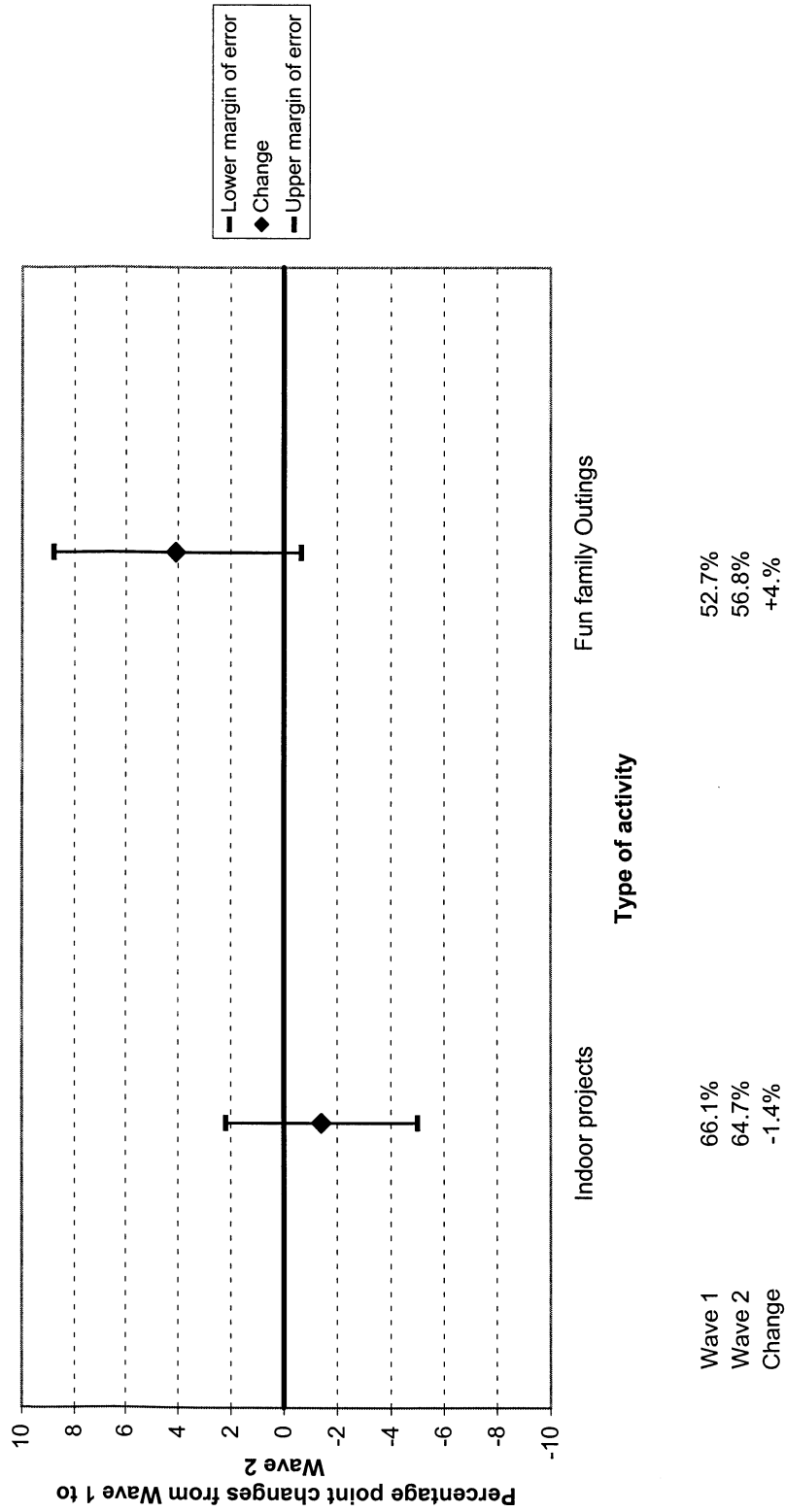
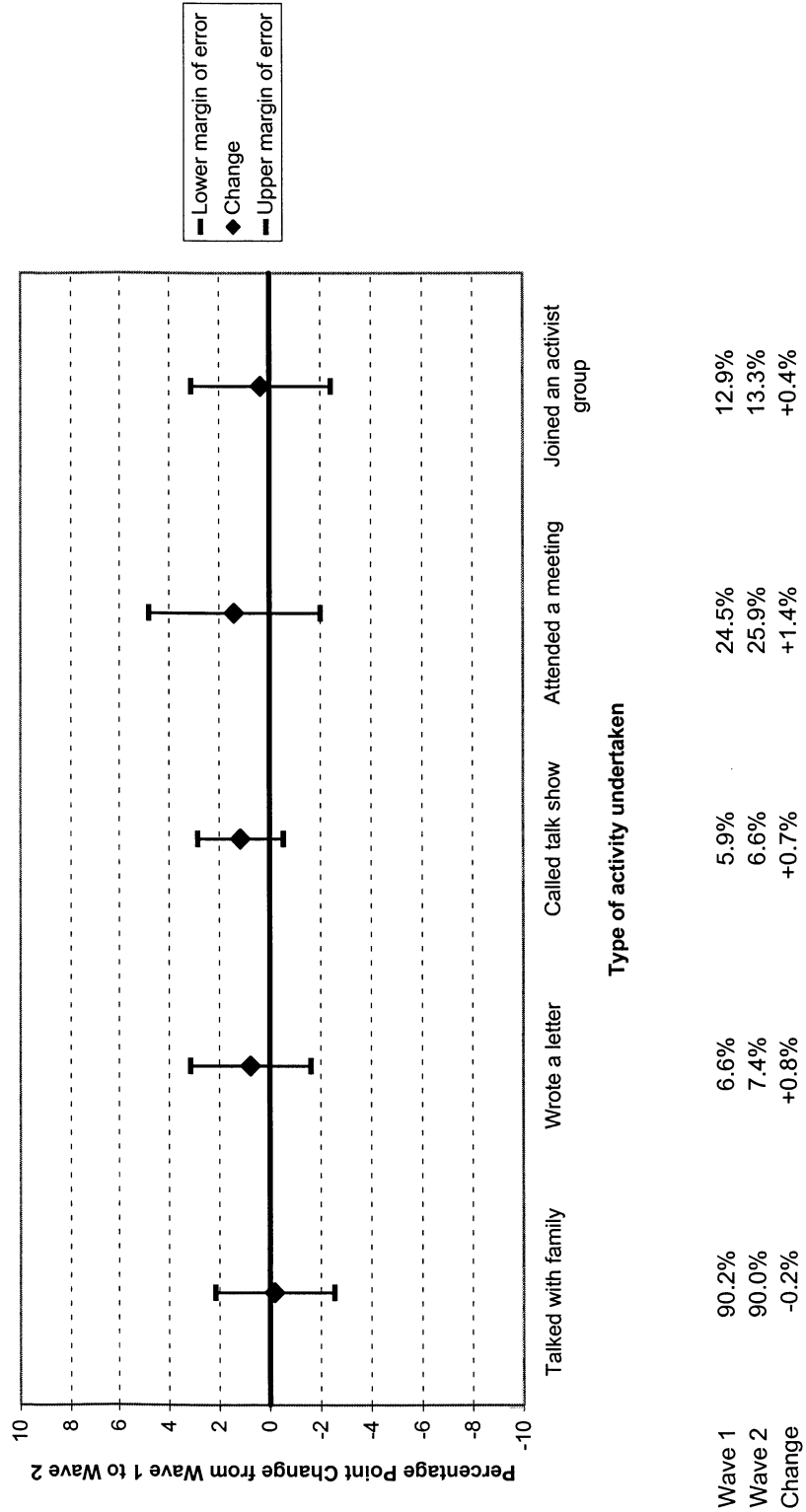


Figure 8-D
Changes from Wave 1 to Wave 2 in parental direct involvement in the Anti-Drug Campaign
(Point estimate with upper and lower margin of error)



8.2 OVERALL PATTERNS IN 2000

During the NSPY data collection, parents and youth were asked about past conversations about drugs, conversations about anti-drug ads, and child-monitoring activities. Parents also were asked about whether they engaged in family activities with their child, and whether and what type of activities they attended to support their opinions about drug use. Also described are the levels of agreement between parent and child reports at the aggregate level.

8.2.1 Parent-Child Talk About Drugs

Parents report frequent talk with their children about drugs, across all age groups. About 90 percent report having talked with their 9- to 18-year-old child at least once in the previous 6 months, and 77 percent report having talked at least twice (Detail Table 8-5). Chapter 4 dealt with children's reports of conversations with parents. Some of these results are repeated here in order to compare the two sets of reported behavior.

Children report conversations less often than their parents, and the gap increases with age. This tendency was sustained through Wave 1 and Wave 2 surveys. Parents' claims of two or more conversations increase with age, but the youth's recall of such conversations decreases. The gap in parent-child reports for 9- to 11-year-olds is noticeably different from all older children (Table 8-A and Detail Table 8-5).

Table 8-A
Parent-child reports of conversation about drugs:
Percent who had two or more conversations
(Average of Wave 1 and Wave 2 combined)

Report	9-11	12-13	14-15	16-18
Parent report	72	79	81	79
Child report	60	58	55	50
Size of gap	12*	22*†	25*†	29*

* Difference significant with two-sided test of size 0.05.

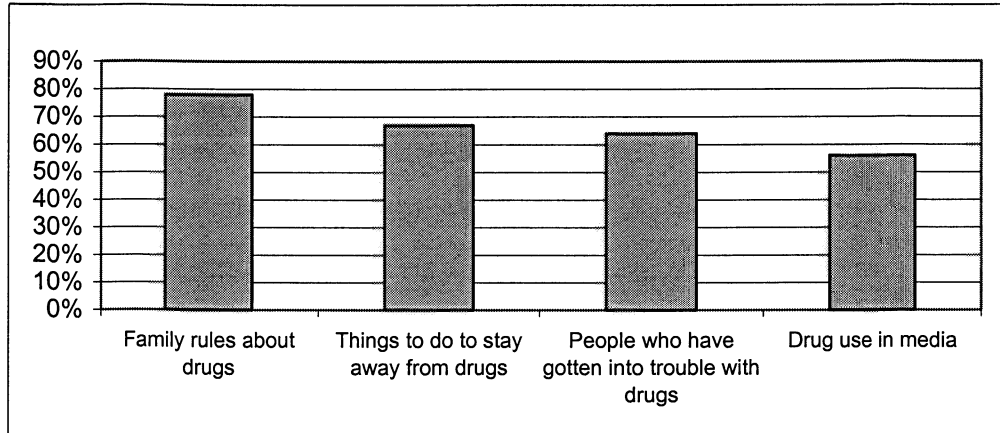
† Differences are shown based on unrounded estimates of parent and child reports.

- Parents' report of conversations did not appear to vary much by gender of child, race, region, or urbanicity (Detail Table 8-5). However there was a statistically significant tendency for mothers to report more talk than fathers. While 72 percent of fathers reported two or more conversations with their children, 80 percent of mothers reported that frequency of conversation (not in Detail Tables).²
- In addition to frequency of conversation, parents and children were asked whether they had talked about four drug-related topics. According to parents, family rules and

² Both mothers and fathers were asked to report on conversations that they or their spouse held with their child, so the reason for this disparity may not be entirely due to time differences in levels of conversations with mothers and with fathers.

expectations loomed largest. Nearly four-fifths of the parents claimed they had talked about family rules concerning drugs in the previous 6 months. Between 56 percent and 67 percent of parents claimed to have discussed the other three topics also (see Figure 8-E and Detail Tables 8-1 to 8-4).

Figure 8-E
Percent of parents talking with child about each topic in
past 6 months
(Average of Wave 1 and Wave 2 combined)



As with frequency of talk, children reported each specific topic of conversation less often than their parents did. For three of the topics, the gap grows larger by age: while parents report similar levels of topic-specific talk for all of their children, older children tend to report less conversation (Detail Tables 8-1 to 8-3). On average, across these three topics, 16- to 18-year-olds reported conversation about 23 percentage points less frequently than did 9- to 11-year-olds. These topics were family rules and expectations about drugs, specific things a child could do to stay away from drugs, and drug use in the media.

- However, for the fourth topic, “people we know who have gotten in trouble with drugs,” the pattern is different (Table 8-B). Nearly 20 percentage points more of the 16- to 18-year-olds reported discussing this topic with their parents than did the younger 9- to 11-year-old cohort. Consistently, nearly 18 percentage points more of the parents of teens in the oldest age group reported such a conversation than did parents of 9- to 11-year-olds. Clearly, as drug use becomes more common, the topic becomes more of an issue for parents and children.

Table 8-B
Percent who had conversations about “People we know who have gotten in trouble with drugs”
(Average of Wave 1 and Wave 2 combined)

Report type	9-11	12-13	14-15	16-18	Increase with youth age 16-18 vs. 9-11
Parent report	55	65	70	72	+18*
Child report	34	45	51	54	+20*
Gap	20*†	20*	18*†	18*	-2

* Difference significant with two-sided test of size 0.05.

† Differences are shown based on unrounded estimates of parent and child reports.

8.2.2 Talk About Anti-Drug Ads

The parent-child conversational gap is similar when it comes to the issue of talk specifically about anti-drug ads (Detail Table 8-19).

- Half of all parents claim that they have talked with their children about the anti-drug ads. But only a little more than one-third of their children recalled such conversations (Table 8-C). The divergence between parent and youth report again increases with age. About half of 9- to 11-year-old children and their parents report conversations about anti-drug ads. Among 16- to 18-year-olds, only 19 percent of the youth reported such conversations, while 45 percent of their parents recalled them. The gap increases from essentially no difference between 9- to 11-year-olds and their parents to 26 percentage points among the 16- to 18-year-olds and their parents.

Table 8-C
Parent-child reports of conversation about anti-drug ads
(Average of Wave 1 and Wave 2 combined)

Report	9-11	12-13	14-15	16-18
Parent report	46.5	50.9	51.7	44.6
Child report	47.9	38.8	30.5	18.7
Size of gap	-1.4	12.1*	21.2*	25.9*

* Difference significant with two-sided test of size 0.05.

8.2.3 Parental Monitoring of Children

Parents report a fair amount of monitoring, averaging 2 on a 4-point scale from 0 to 3 (Detail Table 8-20).³ Parental reports of monitoring decline with children’s age (2.4 for 9- to

³ Based on average response to questions C1 through C3 of the Parent questionnaire. Monitoring behaviors asked about include knowing what the child is doing when away from home, having a pretty good idea of the child’s plans for the new day, and not allowing them to hang out freely with friends without adult supervision.

11-year-olds vs. 1.6 for 14- to 18-year-olds). However, as with reports of conversation, parent and child reports of monitoring are discrepant, with children reporting less monitoring on average than did parents.⁴ Table 8-D presents the percentages of parents and children who agree that the parents always or almost always undertake the indicated activity.

- For both Wave 1 and Wave 2, there is at least a 10 percentage point difference in parent-child reports in all age groups and for three types of monitoring activity (Detail Tables 8-6 to 8-8). Interestingly, the parent-child gap decreases by age across the three monitoring activities, mostly reflecting a declining tendency for parents to claim that they monitor older children.

Table 8-D
Parent and child reports of monitoring
(Average of Wave 1 and Wave 2 combined)

Report		9-11	12-13	14-15	16-18
Know what child is doing when away from home	Parent	77.3	67.0	61.7	51.2
	Child	52.0	52.4	46.8	41.2
	Gap	25.3	14.6	14.9	10.0
Know child's plan for next day	Parent	74.3	63.9	58.4	50.0
	Child	32.5	34.6	31.5	28.5
	Gap	41.8	29.3	26.9	21.5
Limit time w/o adult supervision	Parent	53.4	33.6	26.8	16.9
	Child	33.4	15.9	8.3	5.6
	Gap	20.0	17.7	18.5	11.3

- Parents of high sensation seeking 12- to 13-year-olds and of 14- to 18-year-olds report less monitoring than parents of low sensation seekers: 1.99 versus 2.15 for youth aged 12-13, and 1.65 versus 1.91 for older teens.⁵

8.2.4 Parent-Child Activities

Hand in hand with greater monitoring and parent-child talk, another goal of the campaign (at least during part of the first year of Phase III) was to motivate parents to increase the time they spend with their children in entertaining activities. Questions about activities were asked only of parents, regarding each child in the sample. Youth were not asked these questions, so parent-child reports could not be compared.

- Parents of almost all children report they are engaging in some “fun” activities with their children. Nearly all parents of 9- to 18-year-olds reported engaging in some fun activities, either at home (82%) and/or away from home (79%) with their child in the past week (not shown in Detail Tables). It is only when the standard is pushed higher,

⁴ Based on question C35 of the Teen questionnaire and C29 of the Child questionnaire.

⁵ Not shown in Detail Tables.

to more than once in the past week, that clear variation appears in the percent of parents engaging in these activities (Table 8-E and Detail Tables 8-11 and 8-12).

- Fewer parents claim twice-a-week activities with their older children (Table 8-E). This pattern is not surprising since at older ages children’s willingness to spend time with parents begins to compete more heavily with their desire to spend time with friends.

Table 8-E
Parent reports of activities by age of child: Percent engaging in activities more than once in the past week (Average of Wave 1 and Wave 2 combined)

Report	9-11	12-13	14-15	16-18
Did projects or activities with child at home	80	70	63	49
Went someplace for fun with child to do activity we both enjoy	67	61	49	41

8.2.5 Parents’ Prior Involvement in Activities to Support Opinions About Drug Use

Since exposure to anti-drug advertising may increase activism around drug issues, parents were asked about their involvement in activities to support opinions about drug use. Across both Wave 1 and Wave 2, parents reported a fairly low amount of involvement in activities (overall average=1.42, where 5 is the highest score—Detail Table 8-18).

- The most often mentioned activity was “expressed views to family members” (90%), and the least often were “written letter to political official/newspaper” (7%) and “called radio or TV call-in show” (6%).

8.3 EVIDENCE FOR DIVERSITY

- Other than variation with the age of the child, there was little demographic variation in the level of discussion about anti-drug ads. The only exception was that mothers were significantly more likely to talk with their children than were fathers. While 53 percent of mothers claimed that they had talked about the drug ads, only 40 percent of fathers did so.⁶ This is consistent with the previous finding that mothers were more likely than fathers to talk about drugs more generally.
- There are a few subgroup differences in parental reports of monitoring. Parents report significantly more monitoring of female children: an average of 2.14 of the 5 queried types of monitoring for daughters versus an average of 1.91 for sons (Detail Table 8-20). Parents of African American children report significantly fewer types of monitoring than parents of white or Hispanic children do: 1.82 versus 2.09 and 1.99, respectively.

⁶ Not shown in Detail Tables.

- In general, there were few demographic differences in the frequency of personal participation in political anti-drug activities. One difference found is that African American parents reported more involvement in three of the activities than white parents did: calling in radio/TV shows, attending meetings/rallies, and joining groups actively working on the issues (Table 8-F and Detail Tables 8-13 to 8-18). They also reported undertaking a larger number of any of the five activities: 1.7, on average, compared to 1.4 for white and Hispanic parents. Hispanics were not significantly different from whites except on the frequency of expressing political views to family members.
- Engagement in political activities in support of views tended to increase with parental education (Table 4-F and Detail Table 4-18). One exception to this general trend is that college graduates are less likely to call in to radio and TV talk shows.

Table 8-F
Parents' prior involvement in activities by ethnicity/race, region, and education: Percent reporting participation
(Average of Wave 1 and Wave 2 combined)

Race	Expressed views to family %	Wrote letter %	Called radio/TV show %	Attended meeting/rally %	Joined activist group %	Number of activities Engaged in
White	91	6	4	23	11	1.36
African American	92	11	15	35	21	1.73
Hispanic	86	6	7	25	13	1.37
African American - White Gap	+2†	+4*†	+10*†	12*	10*	0.37*
Hispanic - White Gap	-5*	0	3*	2	2	0.01
Less than High School	84	7	7	23	12	1.3
High School Graduate	89	6	7	20	10	1.3
Some College	93	8	7	28	14	1.5
College Graduate	91	7	4	28	17	1.5

* Difference significant with two-sided test of size 0.05.

† Differences are shown based on unrounded estimates of parent and child reports.

8.4 SUMMARY

Parents were asked to describe their activities as parents within the framework of the behaviors that the Media Campaign has advocated. In most cases, parents claim they are doing fairly well, but there were essentially no changes in any of the parental behaviors. This was true for the sample made up of all the parents; it was true for the sub-samples of parents defined by the age of their children (Detail Tables 8-1 through 8-20).

- Parents claim they talk with their children about drugs with some frequency. Between 72 and 80 percent claim they have talked with their children at least twice in the past 6 months.
- Almost half of all parents claim they have talked about the anti-drug ads with their children. In particular, 48 percent claim such conversations with their 14- to 18-year-old children.
- Parents claim a moderate amount of monitoring of their children's activities but it varies sharply with age. Between 50 and 74 percent claim they always or almost always know "what their child is doing when they are away from home" and "what child's plans are for the coming day." One-third or fewer claim they always or almost always "limit the time the child spends with other children without adult supervision," except with respect to 9- to 11-year-olds, for whom more than half of parents make this claim.
- Parents almost universally report that they do fun activities with their children, both at home and other places. An age effect appears only when parents who claim to do these fun activities twice a week or more are compared.

In contrast, when we asked the youth whether their parents had discussed drugs with them and how closely their parents monitored them, a substantially different picture emerged.

- Seventy-nine percent of parents claimed to have two or more conversations about drugs with their 16- to 18-year-olds; only 50 percent of the youth of that age reported such conversations.
- Forty-five percent of parents of 16- to 18-year-olds claimed to have discussed the anti-drug ads, but only 19 percent of the youth reported such conversations.
- Children perceive much less monitoring by their parents than their parents claim. However, parent-child differences in reports of parental monitoring decrease among older children. The main reason for this closure of the monitoring gap between parents and youth is that parents claim less monitoring for older children.
- No parallel youth data is available to compare with parental reports of engaging in fun activities.

9. ATTITUDES ABOUT TALKING, PARENTAL MONITORING, AND CHILDREN'S DRUG USE

This chapter presents parents' reports of intentions, attitudes, self-efficacy, and perceived social expectations regarding talking with their children about drugs and about child monitoring. Also included is their perception of whether or not their children had used drugs in the past and their concern that their child might use drugs in the future. This collection of variables represent the cognitive outcomes among parents that have been targeted by the Campaign. As discussed in Chapter 2, it is hoped that change in these cognitive outcomes will presage change in actual parenting behaviors. The chapter has four main sections: changes within 2000, overall patterns in 2000, evidence for diversity, and a summary.

9.1 CHANGES WITHIN 2000

As in chapter 8, and in order to maximize power to discover change, all parents were collected into a single sample for these change analyses. There was no change on any of these variables when parents were divided by the age of their children (Detail Tables 9-1 through 9-29). However, there was a concern that the failure to detect change might reflect the smaller samples of parents available for analyses by child-age subgroups. To make sure that this was not the case, the age subgroup analyses were combined. In the few cases where there was evidence of significance for the full sample, this was put in the context of the evidence from the age-defined subgroups.

Following the presentation device in Chapter 8, all results are presented in Figures 9-A through 9-F. For each outcome a vertical bar pictures the results. The observed change is captured by the central point on the vertical bar, with the 95% confidence limits for change represented by the upper and lower ends of the vertical bar. As has been discussed previously, when there is no statistically significant change between waves, there is some risk that there has been true change undetected by the study: the taller the vertical bar, the greater the risk. If there was significant change, the vertical bar for that outcome would not cross the horizontal bar.

- There was no consistent pattern of change in parental cognitions about talking with their children between Waves 1 and 2 of the data collection. This is pictured in Figures 9-A for self-efficacy concerning talk with children and Figure 9-B for intentions to talk. Figure 9-F provides additional summary information, with the first vertical bar presenting the sums of all the individual items in 9-A, the second vertical bar presenting the summary attitude scale, and the third bar summarizing the individual items in 9-B.
- Out of the 10 discrete results and three summary results dealing with talking, one did show a significant change: parents' reports of self-efficacy to talk with their children in the context of a tense relationship. When subgroups defined by child-age were examined, this change was significant only for parents of children aged 16 to 18: 46 percent said they were very sure they could talk to their child in such a context at Wave 2, up from 34 percent in Wave 1 (Detail Table 9-3).

Figure 9-A
Changes from Wave 1 to Wave 2 in parental feelings of self-efficacy to discuss drugs with their children under varying conditions and the parental perception of others' expectations
(Point estimate with upper and lower margin of error)

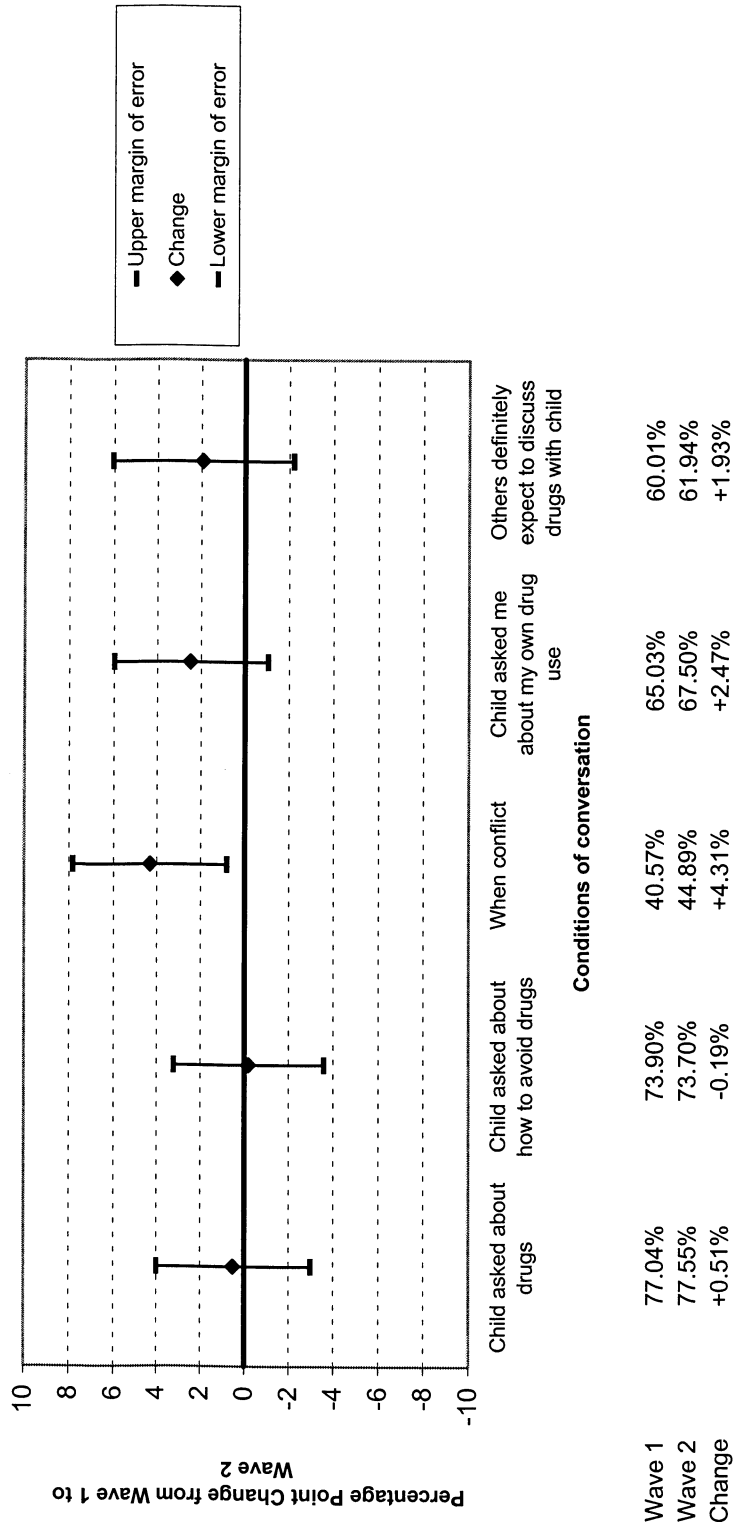


Figure 9-B
Changes from Wave 1 to Wave 2 in parental reports of intentions
to hold various sorts of drug discussion with their children
(Point estimate with upper and lower margin of error)

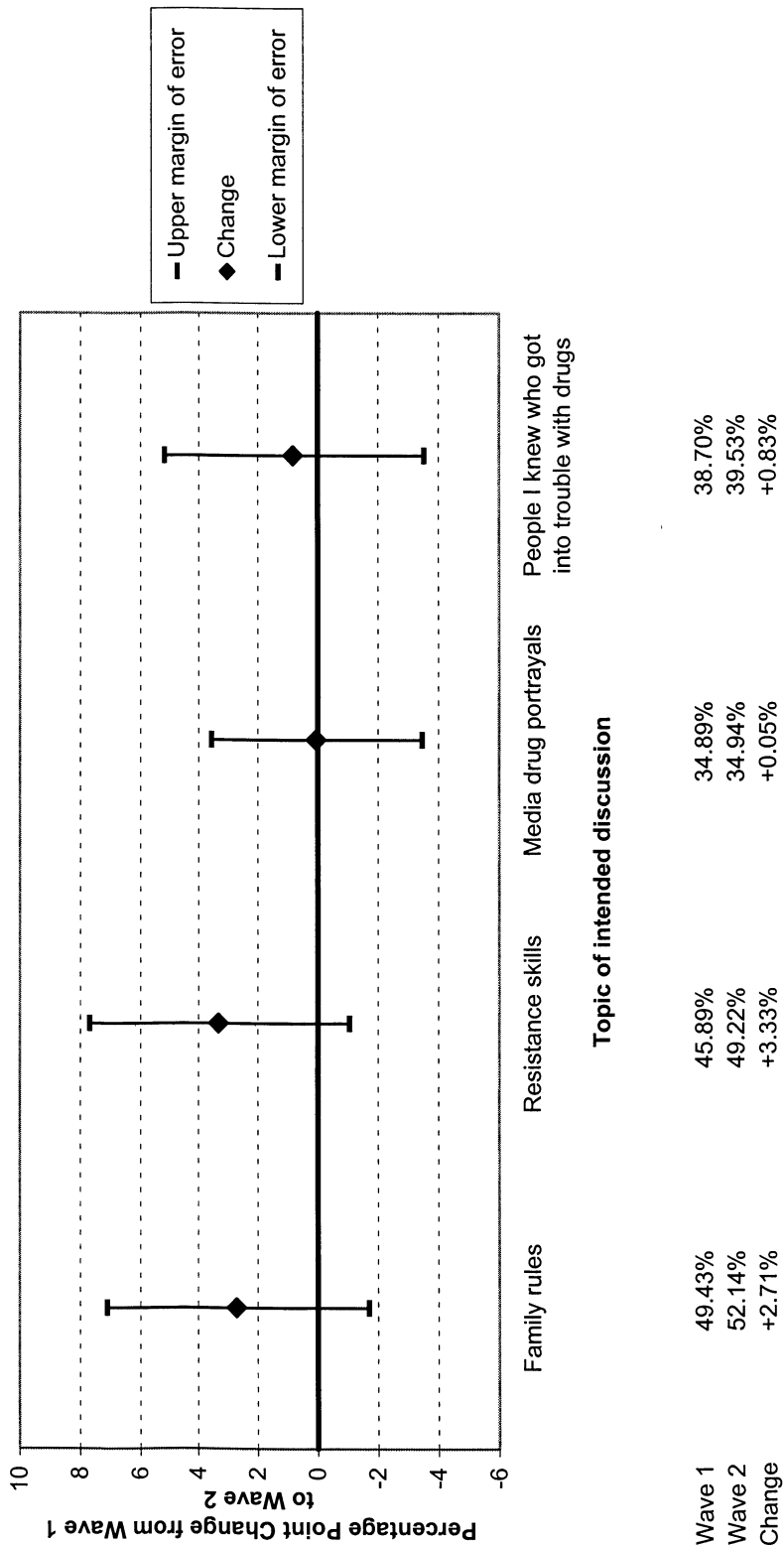


Figure 9-C
Changes from Wave 1 to Wave 2 in parental belief in effectiveness of monitoring
(Percent holding strong belief on consequence with upper and lower margin of error)

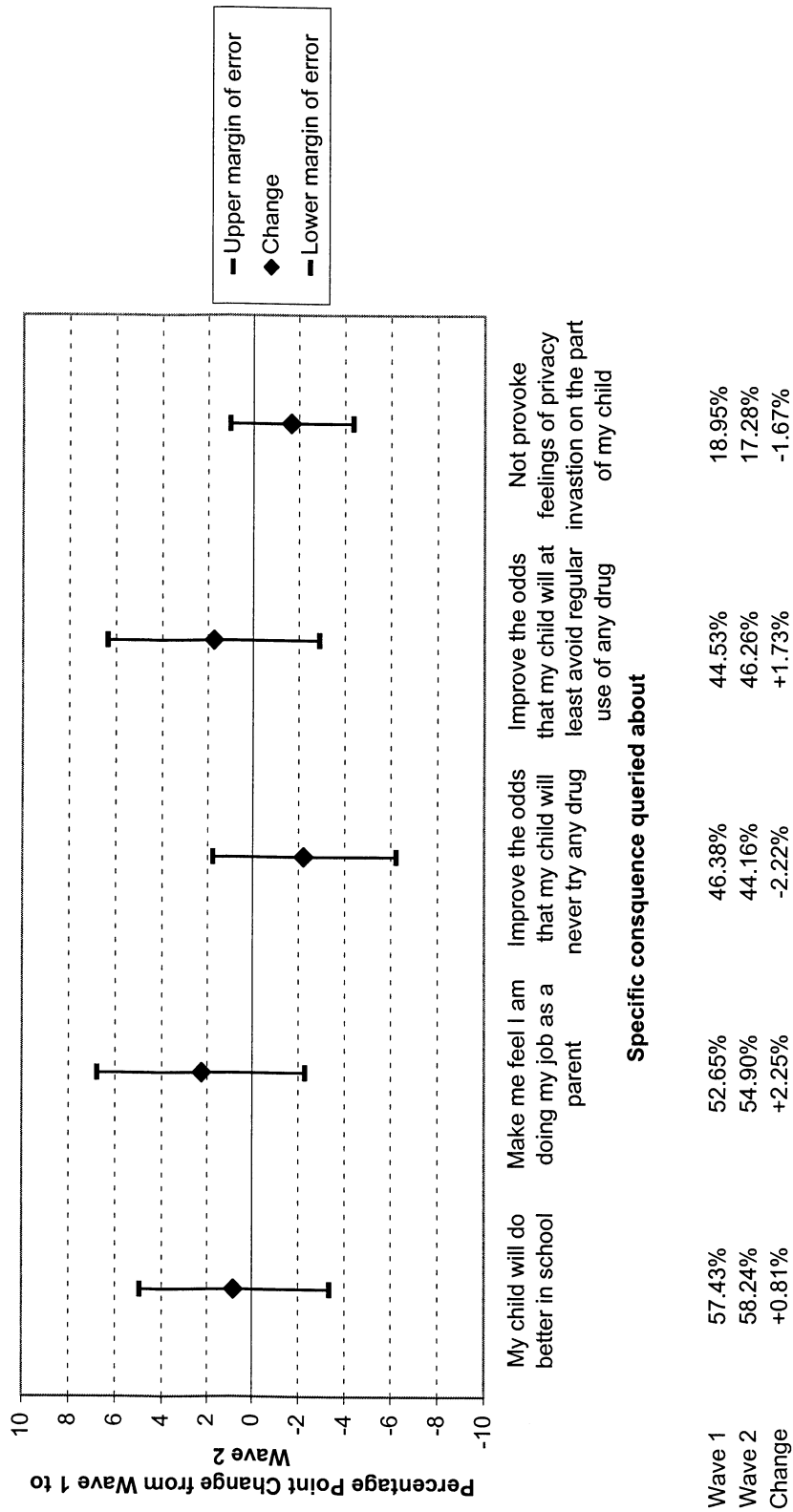


Figure 9-D
Changes from Wave 1 to Wave 2 in parental strong intentions to engage in various monitoring activities
(Point estimate with upper and lower margin of error)

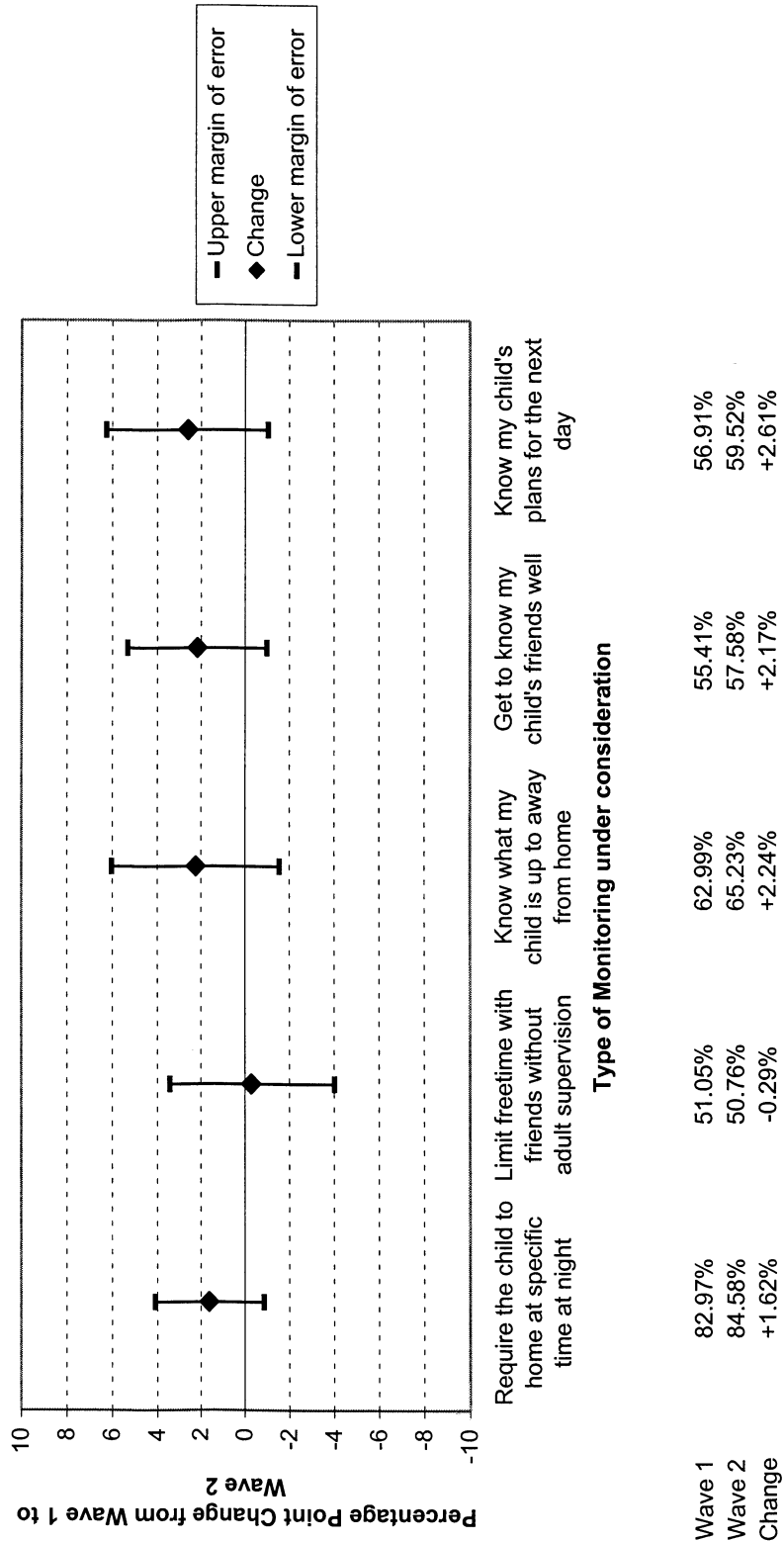


Figure 9-E
Changes from Wave 1 to Wave 2 in parental assessment of risk confronting their child
(Point estimate with upper and lower margin of error)

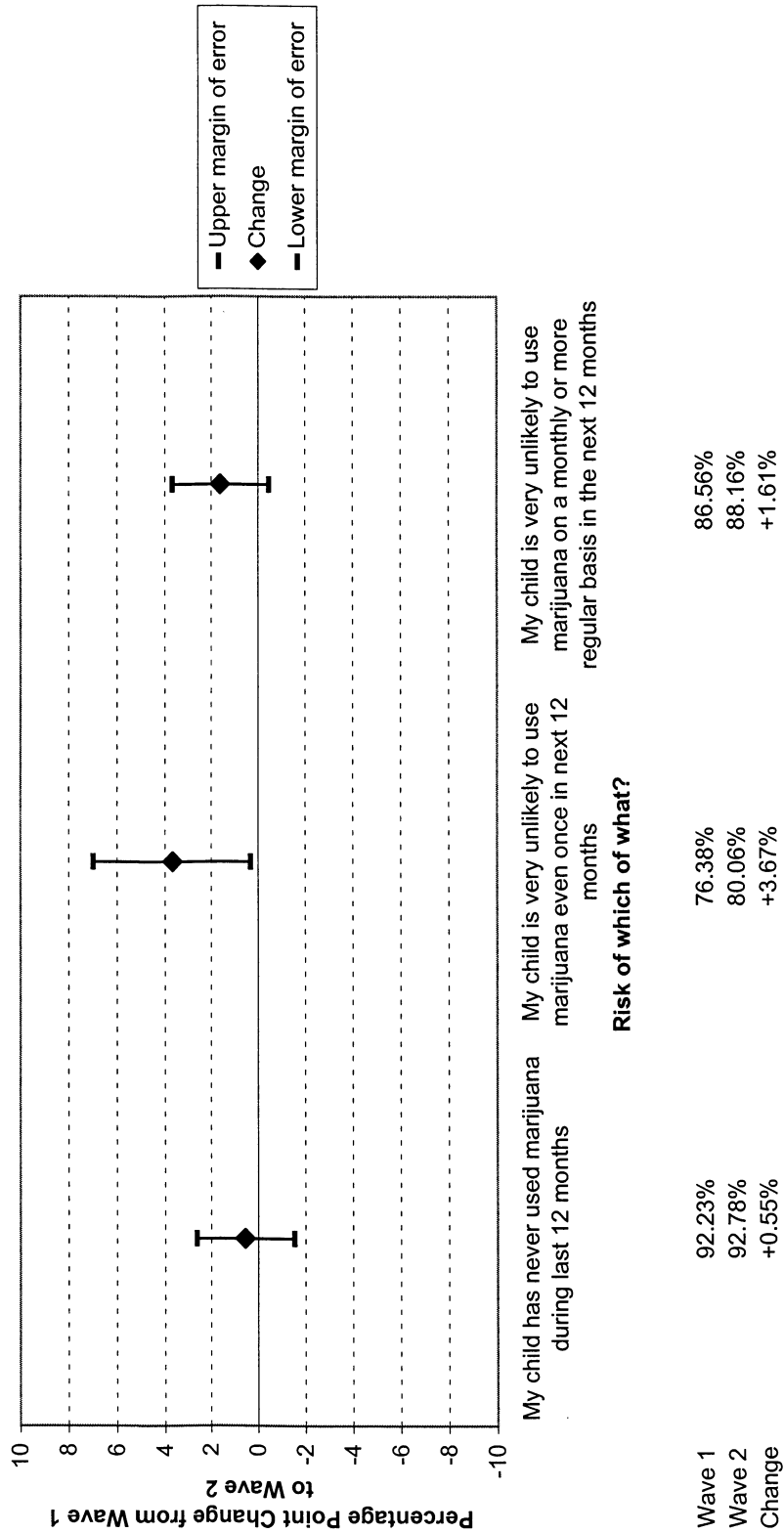
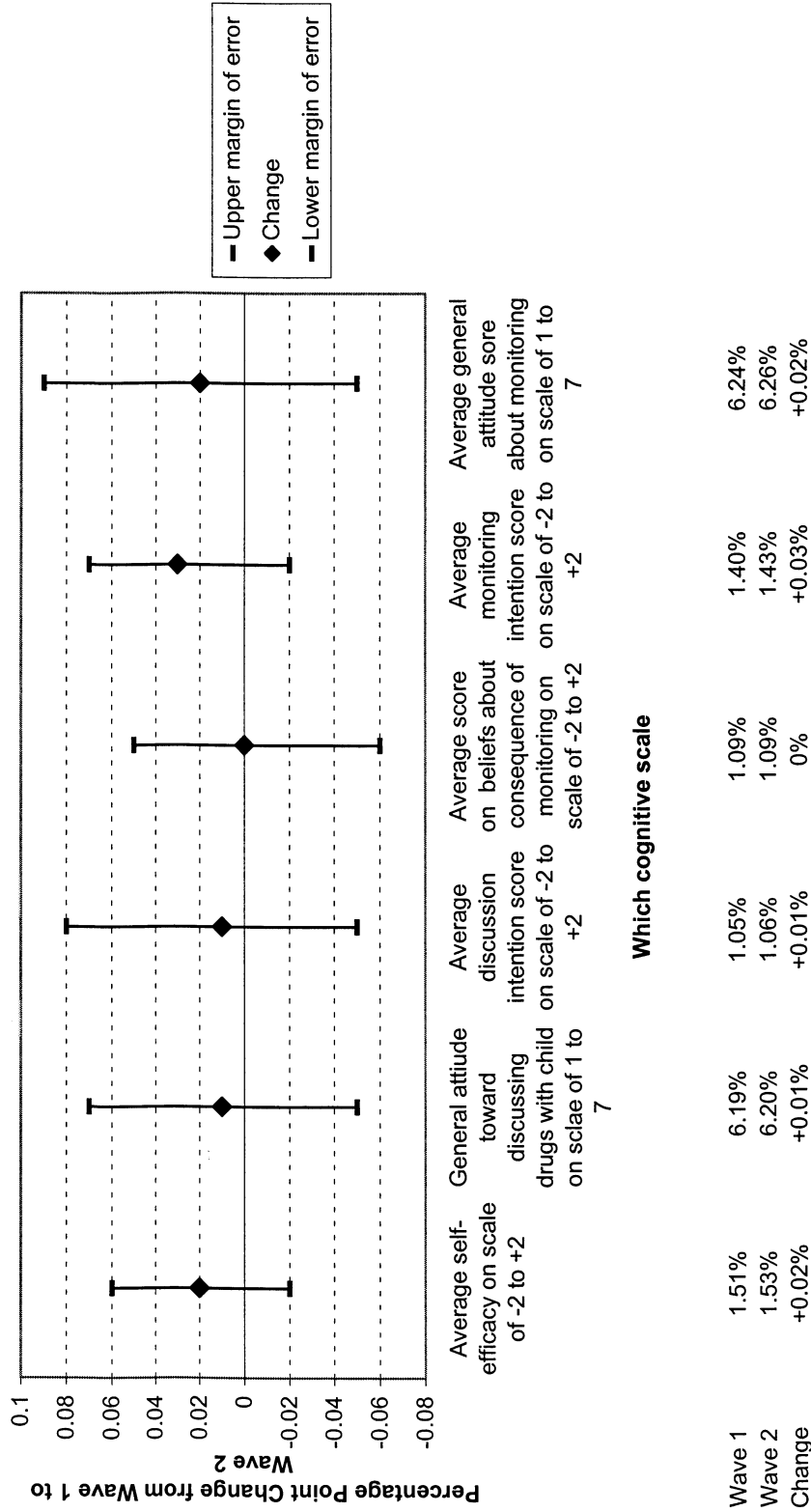


Figure 9-F.
Changes from Wave 1 to Wave 2 in parental score on various cognitive scales
about drug discussions with children and monitoring of children
(Point estimate with upper and lower margin of error)



- From the child’s side, there was no overall statistically significant increase from Wave 1 to Wave 2 among all youth, aged 12 to 18, in their perception of ease in talking with parents about drugs. However, male youth did show such a change: 23 percent said it would be very easy, up from 16 percent in Wave 1 (Detail Table 9-8).
- There was no consistent pattern of change on parental cognitions about monitoring between waves. In Figures 9-C and 9-D, one can observe that there is little evidence for change in parental beliefs between Waves 1 and 2; the same is true for parental intentions to engage in various monitoring activities. This flat pattern is reinforced in the fourth and sixth bars in Figure 9-F, which summarize the individual items in figures 9-C and 9-D respectively as well as in the fifth bar in that figure, which presents summary attitudinal responses.
- No change was detected in parental perceptions of whether their children had used marijuana in the previous year, nor on whether their children would use regularly in the next year. However, there was an upward shift in the percent of parents who perceived their child (aged 12 to 18) as being very unlikely to use marijuana even once or twice in the coming 12 months (Figure 9-E). The percent of parents who viewed trial use by their child in the next year as very unlikely climbed 4 percent from the Wave 1 level of 76 percent. Table 9-A presents the results for this measure for each of the parent groups defined by child-age subgroups. None of the age-defined subgroups of parents (or youth) showed a significant change on this belief. It was only when all the parents were included in a single sample that the analysis had the power to show a significant effect. However, the patterns of change are quite similar for parents and youth. Parent perceptions appear to be shifting coincident with youth reports of intention to use marijuana (Detail Table 9-28.)

Table 9-A
Reports by parents of “very unlikely” that their child will use, and reports by youth that they will “definitely not” use marijuana in the next year

For children aged:		Wave 1	Wave 2	Change
12-13	Parents	86.4	89.0	2.6
	Youth	87.5	89.8	2.3
14-15	Parents	75.3	78.1	2.8
	Youth	75.3	78.5	3.2
16-18	Parents	69.8	74.7	4.9
	Youth	59.2	63.4	4.2
12-18, inclusive	Parents	76.4	80.1	3.7*
	Youth	72.5	76.1	3.6*

* Between wave change significant at p<.05

- As already noted, all six scales about parental thinking about discussing drugs with their children and about monitoring their children were essentially flat (Figure 9-E). Although the error bars might appear to be as large as those in the previous figures,

the scale of the graph is very different. The error bars, in fact, are very tight around the estimates of near zero change, since these results are based on mean of multi-item scales, rather than simple two-valued recoded variables. So this figure presents very strong evidence in favor of a finding of no fundamental changes between waves in parents thinking about how they should approach the task of parenting, particularly with regard to drug usage by their children.

9.2 OVERALL PATTERNS IN 2000

All of the patterns presented in the first semi-annual report can be more accurately estimated with the combined sample from Waves 1 and 2. The story is basically the same. Since the fourth semi-annual report (scheduled for spring 2002) will use all of 2000 as baseline for comparison, these stable patterns have been re-estimated on the combined dataset and are discussed at length here for future reference.

9.2.1 Parental and Youth Cognitions about Talking with each other About Drugs

The cognitions discussed here consist of intentions to hold such conversations in the future, attitudes about such conversations (e.g., are they Pleasant/Unpleasant? Good/Bad? Important/Unimportant?), perceptions of social norms (perceived expectations that others might have about whether the parent should engage in such discussions), and feelings of self-efficacy to engage in such discussions.

Parental intentions to Talk with Children About Drugs¹

- Most parents said they were very likely or likely to talk to their child about drugs.² Parents were asked how likely it was that they would discuss each of a variety of topics over the next 12 months with the particular child in question. Across ages and topics, the average proportion replying “likely” or “very likely” was close to 0.80. This was in the same range as the proportions who said they had already talked about these topics in the past year (see Figure 8-A).

Table 9-B displays the percentages of parents who said they were “very likely” to talk about each of the four subjects (Detail Tables 9-9 through 9-12).

¹ See question D2 of the Parent questionnaire, which can be found on the NIDA web site.

² See question D1 of the Parent questionnaire, which can be found on the NIDA web site.

Table 9-B
Parents' intentions to talk to their child about drug topics, by child's age:
Percentage saying very likely
(Average Wave 1 and Wave 2)

Child's age	Family rules about using drugs	Specific things my child can do to stay away from drugs	Drug use in movies, music, and on TV	People we know who have gotten into trouble with drugs
9 to 11	50.5	50.9	38.6	34.1
12 to 13	54.6	51.5	38.9	41.3
14 to 15	54.8	51.1	38.0	45.8
16 to 18	44.9	37.6	24.9	37.8

- There was variation in the intention to talk by age of child. The parents of 16- to 18-year-old youth were noticeably less likely to intend to talk about the first three topics than the parents of younger children.

Attitudes About Talking with Children About Drugs³

- On average, consistent with their intentions, parents report very positive attitudes toward talking with their children about drug use (Detail Table 9-6).

Social Expectations About Talking⁴

- Across Wave 1 and Wave 2, between one-half and two-thirds of all parents reported that people important to them thought they “definitely should” talk to their child about drug use (about 57% to 67% in different child age groups) (see Detail Table 9-7).
- There was one significant difference by child's age in perceived expectations to talk. Among parents of 14- to 15-year-olds, 68 percent said people important to them thought they “definitely should” talk to their child about drug use, while among parents of 9- to 11-year-olds only 57 percent said the same (Detail Table 9-7).

Self-Efficacy About Talking to Children About Drugs

- On average, parents reported high self-efficacy about talking to their children about drugs (mean=1.5, on a scale from -2 to +2 where +2 is high self-efficacy; Detail Table 9-5).
- Self-efficacy to discuss drugs is the highest if the discussion is initiated by the child and the lowest if initiated in a context of poor parent-child relationships. Across Wave

³ See question D2 of the Parent questionnaire, which can be found on the NIDA web site.

⁴ See question D4 of the Parent questionnaire, which can be found on the NIDA web site.

1 and Wave 2 surveys, this pattern does not seem to vary by age of the respondent's child (Table 9-C and Detail Tables 9-1 to 9-4).

Table 9-C
Self-efficacy to talk with children by age of child:
Percent saying they are very sure they could talk if...
(Average Wave 1 and Wave 2)

Age of child	Child asked questions about drug use in general	Child asked specific things to do to avoid drugs	Child and I were having conflicts about other things and relationship was tense	Child asked me about my own past use of drugs
9 to 11	76.9	74.5	45.8	63.1
12 to 13	77.8	73.7	43.9	64.9
14 to 15	78.6	75.0	41.7	68.7
16 to 18	76.3	72.0	39.6	69.2

Children's Perceptions of Talking to Parents About Drugs

- Although parents seem to report relatively strong intentions, attitudes, and self-efficacy about talking with their children about drugs, most children reported that it was not easy to talk to their parents about drugs (Detail Table 9-8). Overall, only 19 percent of 12- to 18-year-old children said it would be very easy to talk with their parents about drugs.

9.2.2 Parental Monitoring

Intentions to Monitor Children's Behavior⁵

- In general, across Waves 1 and 2, parents expressed moderately strong intentions to monitor (on a -2 to +2 scale, the average across children of all ages=1.4) (Detail Table 9-25).
- Average scores on intentions to monitor were highest for parents of younger children, decreasing among parents of older children: 1.6 for 9- to 11-year-olds, and 1.1 for 16- to 18-year-olds (Detail Table 9-25). This pattern was repeated for each of the specific items that made up the "intention to monitor" scale (Table 9-D and Detail Tables 9-20 through 9-24).
- All of the Table 9-D results about intentions are closely parallel to the age-specific behavior reported in Chapter 8. In Table 8-E, and Detail Tables 8-6 through 8-10, the proportions who claimed to "always" or "almost always" perform each monitoring activity are provided; they are quite similar in magnitude to the proportion of parents who say they are "very likely" to perform these monitoring behaviors in the future.

⁵ See question C9 of the Parent questionnaire, which can be found on the NIDA web site.

- There are significant differences in average scores of parental monitoring intentions by child’s sensation-seeking among parents of adolescents (12- to 18-years-old), even after controlling for age. Overall, parents of high sensation-seeking children expressed significantly stronger intentions to monitor than did parents of low sensation-seeking children: 1.5 versus 1.3 on a –2 to +2 scale.
- Regardless of child’s age, parents tended to favor curfews as a monitoring strategy above other methods: between 70 and 92 percent of parents said they planned to implement curfews in the next 12 months (Table 9-D and Detail Table 9-20). Interestingly, higher numbers of parents reported requiring their child to be home before midnight on weekend nights during the school year (Detail Table 8-10).

Table 9-D
Intentions to monitor in the next 12 months: Percent reporting “very likely”
(Average Wave 1 and Wave 2)

Age of child	Require child to be home at specific time at night	Limit the time child spends with other children without adult supervision	Know what child is doing when s/he is away from home	Personally know child’s friends well	Know what child’s plans are for the coming day
9 to 11	92.2	68.0	75.4	64.8	70.4
12 to 13	87.0	58.8	66.7	58.0	61.2
14 to 15	84.2	49.4	63.3	55.3	54.6
16 to 18	70.8	25.5	49.3	46.3	44.4

- Compared to other monitoring behaviors, limiting time without adult supervision is less likely to be intended by parents of older children. Only 37 percent of parents of children 14 to 18 years old reported that they were very likely to practice this method of monitoring. This compared to 77 percent for the curfew question and around 50 percent for the other three forms of monitoring.
- Except for having a specific time for returning home at night, less than half of the parents of 16- to 18-year-old children said they were “very likely” to implement any of the five monitoring methods.

9.2.3 Beliefs about Effectiveness of Monitoring

In order to understand what types of concerns might drive parental monitoring, parents were asked their thoughts about certain costs and benefits associated with monitoring. This section reports the proportion of parents who gave the strongest pro-monitoring response to each question—typically strongly agreeing with a pro-monitoring belief or strongly disagreeing with an anti-monitoring belief statement.

- In general, parents of younger children had more faith in the efficacy of monitoring strategies to produce positive outcomes and less concern about violating privacy than did parents of older children (Table 9-E and Detail Tables 9-14 through 9-19).

**Table 9-E
Beliefs about consequences of monitoring:
Percentage holding strong pro-monitoring beliefs
(Average Wave 1 and Wave 2)**

Age of child	Make it more likely that child will do well in school	Make me feel I am doing my job as a parent	Make it less likely my child will try any drug, even once or twice	Make it less likely my child will use any drug nearly every month	Make my child feel I am invading his/her privacy (disagree)
9 to 11	67.5	62.4	54.8	NA	23.5
12 to 13	62.1	56.3	48.6	53.1	18.4
14 to 15	56.2	51.6	41.5	47.4	14.8
16 to 18	44.3	43.4	34.8	37.8	14.3

- Only half or fewer of the parents strongly agreed that monitoring would have positive consequences for their child's future drug use. Parents are not convinced that their monitoring is key to preventing youth drug use, particularly for their older children.
- Only 15 percent of parents with children aged 14 to 18 strongly reject the idea that monitoring would make their children feel their privacy had been violated. Thus, 85 percent appear to anticipate opposition or resentment from their older child.

9.2.4 Attitudes Toward Monitoring

- In general, parents held strong pro-monitoring attitudes. On a score from 1 to 7, where 7 reflects a positive attitude, the average score across all parents was 6.2 (Detail Table 6-26).
- While parents of all children thought highly of the abstract value of monitoring, they tended to express somewhat less positive attitudes about monitoring if their children are older (average=6.5 for 9- to 11-year-olds vs. 5.9 for 16- to 18-year-olds) (Detail Table 9-26).

9.3 CONCERN ABOUT YOUTH DRUG USE

9.3.1 Perceived Likelihood of Past Use

- Most parents thought that their child had not used marijuana in the past 12 months (about 93 % of all parents).
- There were expected age-related differences. Parents' perceptions that their children had never used marijuana declined with children's ages (Table 9-F and Detail Table 9-27).

Congruence with Youth Reports of Use

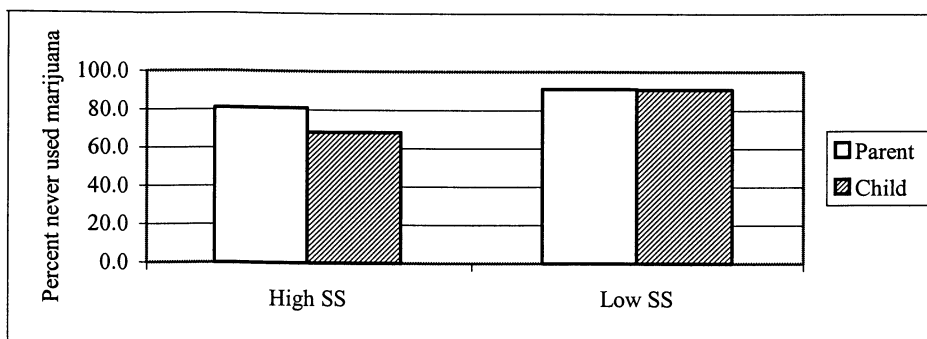
- Parent and youth reports of marijuana use at the population level were remarkably congruent for most age groups, except among the 16- to 18-year-olds. If parents of youth at a given age level said their children were “very unlikely” to have used marijuana in the past year, youth in the age group reported use in similar proportion. In the only exception, parents of 16- to 18-year-old children perceived 10 percentage points less marijuana use in the past 12 months than youth reported (Table 9-F).

Table 9-F
Parent and youth reports of marijuana use in the past 12 months:
Percent never used
(Average Wave 1 and Wave 2)

Report type	9 to 11	12 to 13	14 to 15	16 to 18
Parent report	99.9	97.9	90.7	81.1
Child report	99.6	96.8	88.7	70.9

- Parents of 14- to 18-year-olds who are high sensation seekers reported less “never use” than parents of low sensation seekers in the same age group (81 percent vs. 92 percent) (Detail Table 9-27).
- Interestingly, parent-child reports were more congruent for low sensation seekers in the latter age group than for high sensation seekers (see Figure 9-A). It appears that all of the discrepancy between parents and youth for 16- to 18-year-olds reported in Table 9-F, is attributable to families of sensation-seeking youth. Parents do believe their sensation-seeking youth are more likely to have used marijuana than do parents of low sensation-seeking youth. Nonetheless, they underestimate the prevalence of marijuana use more seriously than do parents of low sensation seekers.

Figure 9-G
Reports of prior behavior by child’s sensation seeking among 14- to 18-year-old youth



9.3.2 Perceived Likelihood of Future Use

- Most parents were less certain that their children would avoid trial and regular use of marijuana in the next year than they were about whether or not their child had used marijuana in the past year (Table 9-G and Detail Tables 9-27 through 9-29). However, they were more confident that children would avoid future regular use than trial use.⁶

**Table 9-G
Parent perceptions of prior and future marijuana use by children
(Average Wave 1 and Wave 2)**

Use	9 to 11	12 to 13	14 to 15	16 to 18
Child's prior use (% never used in past 12 months)	99.9	97.9	90.7	81.1
Child's future use (% very likely child will not use even once or twice)	93.7*	87.7	76.7	72.3
Child's future use (% very likely child will not use every month)	95.0	91.6	84.3	77.6

* NOTE: Parents of 9- to 11-year-olds were asked this question only at Wave 2.

Congruence of Parent-Youth Reports of Intention

- As with prior behavior, aggregate youth reports of intentions to use marijuana even once or twice were congruent with parents' reported expectations (Detail Table 9-28) for youth aged 12 to 13 and 14 to 15. There was less consistency between youth aged 16 to 18 and their parents.
- Parent estimates of child's intention for trial use differed by child's sensation seeking. Parents of high sensation seekers reported fewer definitely not intentions for trial use compared to parents of low sensation seekers, with a larger difference found among parents of youth aged 14 to 18. (Table 9-H and Detail Tables 9-28 and 9-29). Youth's sensation seeking also made for a significant difference among parents of 14 to 18 year olds regarding estimates of intention for regular use; parents of high and low sensation-seeking 12- to 13-year-olds were not significantly different from each other.
- Parents consistently underestimate the risk of trial reported by youth for both 12 to 13 and 14- to 18-year-old high sensation seekers. At the same time, they over-estimate the risk of both trial and regular compared to reports by low sensation-seeking youth aged 14 to 18.

⁶ Based on question E7 of the Parent questionnaire, which can be found on the NIDA web site.

Table 9-H
Parent-child estimates of intention by child’s sensation seeking:
Percent definitely not
(Average Wave 1 and Wave 2)

Age	Trial		Regular use	
	High SS	Low SS	High SS	Low SS
12 to 13 years				
Parent	84	90	90	93
Child	78	96	90	99
14 to 18 years				
Parent	69	82	77	86
Child	57	86	74	93

SS = sensation seeking

9.4 EVIDENCE FOR DIVERSITY

- A significant difference is found in parents’ intentions to talk about drugs by ethnicity/race. Across the first three topics, parents of African American and Hispanic youth report significantly stronger intentions to talk than did parents of white youth. The fourth topic shows a similar, albeit nonsignificant, pattern (Table 9-I and Detail Tables 9-9 through 9-13). African Americans and Hispanics were not significantly different from one another.

Table 9-I
Parents’ intentions to talk to their child about drug topics
by child’s ethnicity/race: Percent saying very likely
(Average Wave 1 and Wave 2)

Child’s ethnicity/race	Family rules about using drugs	Specific things my child can do to stay away from drugs	Drug use in movies, music, and on TV	People who have gotten into trouble with drugs
White	46.6	41.9	30.6	37.2
African American	60.1	57.7	41.1	44.6
Hispanic	59.8	62.2	46.0	42.0

- Overall, parents of African American and Hispanic children had somewhat more positive attitudes about talking than did parents of white children. On a scale from 1 to 7, where higher scores represent more positive attitudes, parents of African American and Hispanic children averaged 6.4, while parents of white children averaged 6.1 (Detail Table 9-6). These results are consistent with the previously reported evidence about intentions to talk in the next year.
- Overall, significantly more parents of African American and Hispanic children perceived a strong social expectation to talk to their child about drug use than did parents of white children: 69, 66, and 59 percent, respectively (Detail Table 9-7).

- There is a difference in youth's perceptions of ease in talking with parents about drugs by ethnicity/race: 25 percent of African American children say it would be very easy, a perception shared by only 18 percent of white children (Detail Table 9-8).

9.5 SUMMARY

As reported in the first semi-annual report, the majority of parents expressed strong intentions to talk about drugs with their child as well as to monitor. However there is minimal evidence for change in the essential responses to these question between Waves 1 and 2. Interestingly, while parents expressed relatively strong intentions to monitor, and generally positive attitudes about the value of monitoring, they continue to have less strong hopes that monitoring would positively affect the likelihood that their child would try or use drugs regularly. There was fairly strong evidence that parents thinking about monitoring was flat from the first to the second half of 2000.

Self-efficacy and norms regarding talking are not as strongly supportive of talking as expected. About one-third of parents continues to feel that there was less than strong approval by others for talking with children about drugs. Parents, particularly of 16-18 year olds, did feel more capable of talking about drugs in time of family strife, but their self-efficacy under other circumstance was flat. It is also important to reiterate that even though parents say they intend to talk with their children, the majority of children continue to report that it would not be easy for them to do so.

Most parents think their children will not use marijuana in the future and the percent appears to be rising. This appears to parallel change in youth data in the same age ranges. Youth reports of intention tend to agree highly with parents' estimates, although there is some separation as youth mature, with parents increasingly underestimating youth intentions. Parents tend to underestimate the risk for high sensation seeking youth but may overestimate the risk for low sensation-seeking youth.

10. PRELIMINARY EVIDENCE ABOUT CAMPAIGN EFFECTS ON YOUTH DRUG COGNITIONS

This chapter presents some preliminary evidence concerning the effect of the Media Campaign on beliefs, attitudes, and intentions about marijuana use. This is an interim and a partial assessment of such influence. It focuses on evidence that personal exposure to the Campaign is associated with holding desirable beliefs, attitudes, and intentions with regard to any marijuana use and, secondarily, that there has been change in these cognitions in between Waves 1 and 2 of data collection. It examines this evidence for 12- to 13 and 14- to 18-year-olds who have not used marijuana in the past. Direct effects of individual exposure are an important potential path of influence. Also 12- to 18-year-old non-users are an important target audience. However, the analyses in this chapter are not a complete assessment of the Media Campaign effects. More definitive analyses will be done in future reports. The most conclusive assessment will be available in 2004 once the complete longitudinal histories of the youth and their parents have been collected and analyzed.

The preliminary analyses presented in this report are sensitive to relatively substantial personal effects reflecting differences between individuals in exposure to the Campaign. They may not detect Campaign influence insofar as the effects are mediated by social networks around youth (parents, friends or broader social networks) or if they are mediated by institutional actions (schools, legal enforcement, general mass media coverage of drugs). They may not detect longer term, slower developing Campaign effects. They may not detect smaller effects, which may be beyond the power of available samples, or effects that are specific to a subgroup (like high sensation seekers). Further, the analyses only address the Campaign influence on non-users to avoid becoming users; the other target behavior, keeping occasional users from becoming regular users, is not examined because sample sizes of occasional users are too small.

The evaluation plan presented in Chapter 1 reflects the multiple routes through which the Campaign might affect a youth's beliefs and behavior. These routes include:

Social network routes:

- 1. Influence on parents who influence their children*
- 2. Influence on friends who influence target youth*
- 3. Influence on broader social networks that affect youth*

Institutional routes:

- 4. Influence on public institutions (e.g., schools or voluntary organizations) that sponsor activities that influence youth.*
- 5. Influence on mass media portrayal of drugs, which influences the general social climate which, in turn, influences youth.*
- 6. Influence on regulatory, legislative, and/or enforcement behavior of public institutions (e.g. police, courts, or city councils), which affect youth.*

Individual routes:

- 7. Influence on individuals who are personally exposed to Campaign messages, over the short term.*
- 8. Influence on individuals who are personally exposed to the Campaign messages, with delayed effects.*

This report examines evidence for only one of these routes (#7): influence on individuals who are personally exposed to the Campaign messages, over the short term.

All of the eight routes suggest that there will be positive change in beliefs and behavior over time as the result of the Campaign. However, each of them has different implications for how to detect the presence of Campaign influence. They all require that there be evidence for association of exposure to the Campaign with youth outcomes that cannot be explained by other influences. They differ in that the unit of effect, and thus the appropriate unit for analysis of exposure, varies.

Influence of the Campaign through parents, for example, requires evidence organized at the parent-child dyad level, and a demonstration that parent exposure affects child belief and behavior. Influence of the Campaign through friends requires evidence at the friendship network level, and a showing that the aggregate level of exposure among a social network is associated with a youth's beliefs and behavior. The institutional hypotheses require evidence organized at the institutional constituency level; for example, for enforcement and regulatory route effects, data organization might be at the community level defined by political borders, and a showing that exposure on average in the community is associated with youth beliefs and behavior. Only the individual influence routes (#7 and #8) are appropriately analyzed at the individual level; such analysis entails looking for evidence that individual youth exposure is associated with individual youth outcomes. Route #8, which posits delayed effects, requires association of exposure measured at one point with outcomes measured at some later point. Only route # 7, involving short-term effects of exposure, can begin to be examined through evidence of cross-sectional association of exposure and outcomes at the individual level. This is an important potential route of influence, perhaps the one most commonly considered as a likely way that a mass media Campaign affects its target audience.

10.1 THE LOGIC OF PRELIMINARY EFFECT ANALYSES

This chapter considers whether the available evidence, after one year of data collection during a time period largely overlapping with Phase III of the Media Campaign, is consistent with a claim that the Campaign affected beliefs and behavior. The basis for such a claim involves consideration of two types of evidence:

- 1) **Evidence that there has been “good” change in the relevant outcome variable.**
Over the long run, if there is not evidence for desirable change in the relevant outcomes, any claim of Media Campaign effects is on shaky ground. It is possible that a lack of change could be consistent with a good Campaign effect, if no change masks a Campaign effect which has stabilized a bad trend. Nonetheless, it will be difficult from a policy perspective to defend such a no-change result as an endorsement of the Media Campaign. On the other hand, the change comparisons that can be demonstrated for this report cover a very short time period, 6 months on average. Looking back on the most striking period of decline in drug use, from 1978 through 1992, the annual rate of decline in current marijuana use was 1.8 percent, equivalent to only 0.9 percent each 6 months (see Hornik et al., 2000). Thus, expectations for rates of change over 6 months should be realistic. Also the effective sample sizes available for Wave 1 versus Wave 2 comparisons are relatively small. They might not permit establishing that worthwhile positive changes are statistically significant. Evidence of change has been presented in Chapters 6, 7, 8, and 9, and will play an

important role here as well. Still, there are stronger expectations that the Media Campaign will produce change in survey responses from year to year, or over the course of the multiple years of the Campaign, rather than from half-year to half-year. Failure to show evidence of change will be less problematic in this report than in future reports. Also, it will be useful to include evidence of change not only from the NSPY surveys but also from the annual MTF and NHSDA surveys.

2) **Evidence of association between individual exposure to the Media Campaign and relevant outcomes.** Given the individual model of short-term effects, it is expected that youth who have been more exposed to the Campaign will hold more anti-drug beliefs, attitudes, and intentions than will youth with less exposure. Association is estimated in three distinct ways:

- A comparison of the mean on a particular outcome measure for the entire population with the mean on the outcome measure for the people who were only a little or not at all exposed to the message. This analysis captures the average realized effects of the Campaign.
- A comparison of the mean on the particular outcome measure for the group with the highest level of exposure compared to the mean for the people who were only a little or not at all exposed to the message. This assessment captures the potential effects of the program if it had been possible to expose the entire population at the highest level achieved. It describes the maximum potential effect.
- An estimate of the overall dose-response association of the exposure measure and the outcome measure. This test, in contrast to the previous two, exploits all of the information in the sample, to detect the presence of an association. The particular test used, the Jonckheere-Terpstra test, captures the presence of an overall positive or negative monotonic association between two ordered variables.

All comparisons are adjusted for observed differences among the exposure comparison groups on confounder variables, and weighted to reflect the overall population. The procedure is described in Appendix D. All of the estimates reported are then “counterfactual,” that is, they represent estimates of what the scores on the outcome measure would have been, had all members of the population had equal exposure to messages. The methods used to produce these estimates assume that there are no unincluded confounder variables, also called “omitted covariates.” Omitted covariates are pre-existing traits that both influence exposure to the Campaign and outcomes of interest. The questionnaire was carefully designed to capture all the variables that the designers imagined or the literature suggested might be relevant, but if unmeasured variables affected cognitions about drug use and affected (recall of) exposure, these results will be misleading. An additional risk is ambiguity of causal direction, or reverse causation, which is always present when inferences rely on cross-sectional data. It is not usually possible with cross-sectional data to decide which variable is cause and which effect, even when confounders are controlled, except by assumption. This potential problem will be less of a concern in the ultimate longitudinal analyses, where temporal order between exposure and outcomes can be understood.

In the tables in this chapter, for each outcome variable and for each age subgroup, four types of information are summarized, based on Detail Tables 10-1, through 10-2b, as well as the from tables 7-C and 7-I in Chapter 7. The information includes:

- The amount and direction of change in the outcome variable between Wave 1 and Wave 2.
- The difference between the average person's score on the variable and the no/low exposure population's mean, called the *direct effect*.
- The difference between the mean for the highest exposed group and the mean for the no/low exposure group, called the *potential maximum effect*.
- The result of the Jonckheere-Terpstra test for the overall monotonic association between exposure and outcome.

In addition to these statistics, there is a section of Detail Figures that immediately follows the Detail Tables. For each age group and exposure index, there are a series of graphs that visually illustrate the nature of the relationship between exposure and the various outcomes. The actual population response is shown as a solid line across the graph with two parallel error bands. The counterfactual projections for the various exposure levels are also shown with accompanying error bars. These allow the reader to personally assess whether the relationship is flat, increasing, decreasing, or has some other shape.

For individual variables, an inference of actual Media Campaign effect on a behavior or cognition in the population will be most convincing if supported by a finding of evidence of (a) change in the outcome along with evidence of (b) a direct effect. However, these are stringent criteria that may miss some Campaign effects in this preliminary assessment. Given that only 6 months have elapsed between Waves 1 and 2, there might have not been enough time for the Campaign to produce change on the entire population. Evidence that there is (d) an overall monotonic association and/or that there is evidence for (c) the potential maximum effect would be consistent with a claim that the Media Campaign is working, but just not at the level required to produce an average population level effect. All of these comparisons are limited by the effective sample sizes involved in particular tests. Evidence that one criterion for inference is met, but not another, may sometimes reflect relative sample sizes available for a particular test. Interpretation of particular results will reflect that potential difficulty.

Evidence that there is change in an outcome without evidence of association would suggest that either some other influence produced the change, or that the Campaign affected the outcome but through one of the other routes of effect described previously.

From a policy view, claims based on the overall association or potential maximum effect results are not a claim that the Campaign was effective at a population level. They suggest that the Campaign could be effective with more time to operate on higher exposure levels.

The individual outcome analyses are important, but there is a good reason to be conservative about claims of effects based on a few scattered "good" results. There are many analyses in this chapter increasing the possibility of finding apparently significant (but in reality non-existent) effects by chance. Therefore, the individual analyses are presented in the context of

an examination of overall effects for the population and for an age subgroup. Preliminary claims are more convincing if consistent findings are made from related behaviors and cognitions.

For the overall pattern of effects, all of the analyses that deal with a single age subgroup can be looked at as a set. In this case, a causal claim is strengthened if most of the set of variables tends to be changing in a “good” direction, and there is a tendency for at least one of the measures of association to be consistently positive, across the set of outcomes. The set of measures can be examined to see whether they tend to move in one direction.

10.2 THE DISTRIBUTION ON THE MEASURES OF EXPOSURE

This chapter presents the association of each outcome with two measures of exposure: the general recall exposure measure and the specific recall exposure measure, which are both described in Chapter 3 and in detail in Appendix F. The general measure of exposure reflects broad claims of exposure to anti-drug messages through a range of media. The specific recall exposure measure is a focused indicator based on the measures of prompted recall of the Campaign sponsored television (and for parents, radio) ads; however, it does not capture exposure through other media.

The two measures of exposure measure quite different things and, unsurprisingly, are distributed very differently. The specific measure of television ad recall is divided into four categories: less than once per month, 1 to 3 times per month, 4 to 11 times per month and 12 or more times per month. The general exposure measure is divided into three categories collapsing the first two categories into one: 0 to 3 times per month, 4 to 11 times per month, and 12 or more times per month. In each case, the lowest category was meant to represent what exposure would have been absent the Campaign. For the specific recall measure, the lowest category of exposure of less than once per month is clearly “low.” It is quite unlikely that exposure at that level would have any appreciable effect on beliefs or behavior. About 21 percent of the 12- to 18-year-old non-users had reported such low exposure. In contrast, only 6 percent of the same population reported less than once per month exposure on the general recall measure. As a practical matter, that proportion was simply too small to permit the analyses proposed for this chapter. Thus the two lowest categories were combined, and the new low category, 0 to 3 times per month and now including 22 percent of the respondents, is used as the low category for analyses involving general exposure.

Zero to three times a month is not the same as no exposure and it may seem awkward to have that group represent what exposure would have been absent the Campaign. Still there is conceptual as well as practical justification for considering those exposed less than once per week as the low category. That group may well represent or even underestimate what has been the historical pattern of exposure before the launch of the Campaign. The general exposure questions are parallel to the type of question asked on the Monitoring the Future (MTF) survey for many years, although MTF asked only about exposure to radio and television advertising. That survey had reported that in the pre-Campaign period, around 50 percent of youth already reported weekly exposure to television and radio anti-drug advertising (see Table 3-F). The measure used here sums not only the radio and television exposure question but also three other exposure questions relating to other channels (movies, print, outdoor). Thus it is likely that the pre-Campaign level for this summed general

exposure measure would have been higher than once per week. Representing the pre-Campaign period with a 0 to 3 times per month category is not only practically necessary but also conceptually legitimate. If anything, it may underestimate what would have been recalled absent the Campaign.

In contrast, the “high” exposure category (12 or more times per month) includes more than half of the respondents for the general exposure measure, but only 7 percent of the respondents to the specific exposure measure. This will cause some difficulties for the potential maximum effect analyses that involve direct comparison of the high exposure group with the low exposure group when the specific exposure measure is used.

10.3 THE STRUCTURE OF THE ANALYSIS

The structure of the analysis is clearest with a single example. For this purpose, it is useful to look at the effects of exposure to the Campaign, as indicated by the association of the general exposure measure with 14- to 18-year-olds’ tendency to say “definitely not” when asked about their likelihood of marijuana use in the next year.

Overall, 84.8 percent of non-using 14- to 18-year-olds say “definitely not” to any use of marijuana in the next year (see Table 10-A). The question is: does that proportion vary with the individual’s level of exposure? In particular, are adolescents with more exposure more likely to say “definitely not” than those with less exposure? If individual differences in Campaign exposure had affected intentions in this non-using population, high exposed youth would express more reluctance to try marijuana than low exposed youth.

The analysis begins with a simple presentation of the association between reported intentions and summed general recall.

Table 10-A
Intentions for trial use of marijuana in the next 12 months among youth aged 14 to 18 who have never tried marijuana by general recall of ad exposure (weighted data, *not corrected for confounder effects*, observed N=1365)

	Entire sample	Less than 4 times per month (C2)	4-11 times per month (C4)	12 or more times per month (C5)
	%	%	%	%
Percent of exposure group definitely not intending to try marijuana in the next 12 months	84.8	85.0	83.7	85.2
Percent of sample of all youth aged 14-18 (whether or not ever smoked marijuana) with each exposure level	100.0	24.0	26.3	49.4

Table 10-A presents the basic association found in the combined Wave 1 and Wave 2 data. Two points can be made on the basis of this table.

- The percentages presented in the table are calculated on the basis of the sample weighted to represent the U.S. population. There are a total of 1,365 non-using 14- to 18-year-olds available for this analysis. However, this overstates the effective sample size, corrected for clustering and weighting, which is 1,238.
- There is no interpretable association between exposure and (non-)intentions in this simple table. The group with the lowest exposure and highest exposure report the same intention not to use marijuana, with the group in the middle slightly lower than the other two. There are no statistically meaningful differences.

However Table 10-A is not an appropriate basis for inference. There may be some other characteristics of individuals that are associated with both exposure and with intentions. Those characteristics may bias the association toward finding a Campaign effect; they may also bias it in the opposite direction. Also, there is no statistical basis for deciding which of the two associated variables is cause and which effect. At this time in the evaluation there is nothing analytical to be done about the second risk; it requires arguments about plausibility. However the first risk is one that can be dealt with statistically.

The particular method applied here is based on the technique called propensity scoring, originally developed by Rosenbaum and Rubin for dichotomous independent variables, and generalized to the multivalued case by Rosenbaum and Joffe, by Imbens (and extended through original work described in Appendix D).

This method involves the following steps:

1. Without looking at the data, decisions are made about which variables are best thought of as “causally prior” to the Campaign (i.e., as having fixed values prior to the Campaign and thus not subject to influence by the Campaign). Such variables can be legitimately considered as confounders. Whether or not they are actually confounders then depends on their influence on exposure and on outcomes of interest. The set of variables, several of which represent many variables in their own right, that were considered to be causally prior for youth included:
 - Parental race, ethnicity, age, income, and marital status,
 - Strength of religious feelings on the part of both the parent and the youth and family functioning,
 - Neighborhood characteristics from the 1990 Decennial Census,
 - Parental and youth media consumption habits and language,
 - Parental substance use (alcohol, tobacco, marijuana and hard drugs),

- Youth school attendance, school level, academic performance, and participation in extra curricular activities, and post-secondary plans,
 - Youth antisocial behavior, association with antisocial peers, and use of marijuana by close friends of youth, and
 - Youth tobacco and/or alcohol use of a long-standing nature, and sensation-seeking tendencies.
2. The probability of being “exposed” at a given level is estimated as incorporating a wide variety of available potential confounders as predictors. For each person, a set of “propensity scores” is generated representing the predicted probability of being at each exposure level. The propensity score model is validated by establishing that confounders do not vary by level of propensity.
 3. The propensity to be at a given level of exposure is then statistically controlled. An estimate is generated for each level of observed exposure on the relevant outcome. The estimate is weighted reflecting the observed propensity scores to reflect what the outcome score would be if all respondents had received that level of exposure.

The new values, controlled for confounders, and with the appropriate confidence intervals, are then reported in a new analysis, as reflected in Table 10-B. These estimates are also graphed in Detail Figure 10-1b. Visually, there appears to be a definite upward trend in intentions to avoid marijuana as exposure increases.

Table 10-B
Intentions for trial use of marijuana in the next 12 months among youth aged 14 to 18
who have never used marijuana by general recall of ad exposure
(weighted data, *corrected* for confounder effects)

	Exposure Level (real or hypothetical)				Measures of Effect			
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)	Direct Campaign Effect (C1-C2)	Monotone Dose-Response Relationship?*	Potential Maximum Campaign Effect (C4-C2)	Temporal Change from Wave 1 to Wave 2
Cognition	84.8	79.2	82.9	86.3	5.6		7.1	+4.3%**
% definitely not intending								
Confidence Interval	(82.7-86.7)	(69.7-86.3)	(78.2-86.9)	(83.5-88.8)	(-1.8-13.1)		(-1.6, 15.9)	(0.6, 8.0)

* There is an asterisk in this column for every row where significant evidence of a monotone dose-response relationship was found.

** 95% CI around change does not include 0.

This method controls for any pre-existing differences on all the characteristics listed under the first bullet. More details on this methodology are given in Appendix D. It yields valid inferences provided that there are no important confounders that were not included in the questionnaire. As explained above, considerable care went into questionnaire design to

include as many plausible covariates as feasible, given constraints on how long people are willing to sit through interviews.

Table 10-B provides the following information:

- The marijuana intention for the “actual” column is, of course, the same as it was in Table 10-A, since that represents the full population. In contrast, all the other estimates are changed, since they are corrected for the effects of confounders. They represent counterfactual estimates of what the estimates would have been within each exposure level, if the distribution of exposure had been unrelated to confounders and reweighted so that they reflected the same population distribution as found in the overall sample.
- The low exposure group mean of 79.2 percent is lower, but not significantly lower than the entire population mean of 84.8 percent on nonintention to try marijuana. Thus, while the observed Campaign effect of 5.6 percent is in the right direction, it is not significant. There is no average effect of the Campaign on intentions to try marijuana.
- The highest exposure group reports more nonintention than the low exposure sample, with the difference at 7.1 percent. However, again there is no statistically meaningful difference between the two groups. However, it is worth noting that the confidence interval around the “low” estimate is quite wide, reflecting the relatively small effective sample size included in that exposure group. The sign of the association measure is positive. All of the outcome variables have been coded so a positive association is consistent with a desirable Campaign effect and a negative association is consistent with an undesirable Campaign effect.
- The overall association is also not significant by the Jonckheere-Terpstra test of monotonicity. (The column is blank.) While each level of exposure shows a higher level of nonintention than each lower levels, the association may merely be the result of chance.
- The final column presents the evidence about change in intentions that was presented in Chapter 7 and Detail Table 7-3. The 14- to 18-year-old non-users displayed a small (4.3%) but statistically significant shift toward increased nonintentions between Wave 1 (82.7%) and Wave 2 (87.0%).
- Thus, there was change in the intentions between waves, but no significant estimates of association between general exposure and intention to use marijuana. This result does not permit a claim of Campaign effects. The observed change may have been due to the Campaign but this cannot be claimed based on the current analyses. More complex analyses in later reports may be able to revise this assessment.
- In isolation, this result is then ambiguous as to Campaign effects. As tempting as it is to claim that it is almost significant, and thus almost justifying an inference of Campaign effects, this cannot be done. It cannot be done because of the formal rules of statistical inference, and because it is one test out of many. If the effects are real, and not merely present by chance, one might expect to see a similar pattern across

most of the related outcomes. As already noted, the interpretation of single results is promising when the results are definitive, but there may also be much to be learned by comparing across the set of results.

The Detail Tables 10-1a, 10-1b, and 10-2a, 10-2b present effect analyses for nine outcome variables. The 10-1 series of Detail Tables pertains to the general index while the 10-2 series pertains to the recall-aided index. In the Tables 10-C, 10-D, 10-E, and 10-F, the full set of results are summarized presenting each of the three measures of association, and the results of the change analysis presented previously in Chapter 7. Tables 10-C and 10-D provide information for 14- to 18-year-olds, for general and specific exposure measures, while Tables 10-E and 10-F provide parallel information for 12- to 13-year-olds.¹ In all cases these are the results controlled for confounders and weighted to reflect the population distribution. The analysis begins with the 14- to 18-year-old non-users' responses to the questions about marijuana trial. The first row presents the results used in the introductory example.

Table 10-C
General exposure Campaign effects on cognitions
about marijuana trial among 14- to 18-year-old non-users

	Campaign Effect (actual-low)	Maximum effect (high-low)	Monotone Dose-Response Relationship?*	Change between Waves
Percent definitely not intending to try marijuana	5.6	7.1		+4.3**
Percent whose friends strongly disapprove of marijuana trial	3.6	4		+6.0
Percent whose parents strongly disapprove of marijuana trial	3.3	5.1		+5.2**
Percent who strongly disapprove of occasional marijuana use	-5.5	-2.4		+5.1
Percent believing that few or none of their peers have used marijuana in past 12 months	-5.9	-5.5		+1.0
Percent perceiving great risk of harm from occasional marijuana use	-1.4	0.9		+3.7
Mean attitude scale toward marijuana trial 1 = strong pro-drug / 7 = strong anti drug	0.19	0.17		+12
Mean self-efficacy scale for refusing marijuana offers -2 = cannot resist / +2 = can resist	0.1	0.17		-.08
Mean belief scale about consequences of marijuana trial -2 = strong pro-drug / +2 = strong anti-drug	0.07	0.07		.06

* Jonckheere-Terpstra test; **95 percent CI around change does not include 0

¹ Detail Tables 10-1 and 10-2 summarizes the evidence for all 12- to 18-year-olds. There are large differences between younger and older teens in their beliefs as well as behaviors. Although combining all 12- to 18-year-old non-users would improve statistical power if there were no interactions with age, such interactions have been found. In this chapter, the two groups are analyzed separately.

Table 10-C includes nine discrete variables, some of which are scales including multiple items. Eight of the nine variables showed positive overall change. Two of these showed statistically significant positive change between Waves 1 and 2. However, none of the observed association measures were significant. Perhaps the addition of extra sample in Wave 3 will lead to a stronger finding, where the effects are now not significant, but as of this report the evidence does not support a Campaign effect.

The data for the association of the specific exposure measure with outcomes are presented in Table 10-D. However, the potential maximum effects are not reported in these tables. The effective sample sizes for the highest exposure category were too small to make reliable estimates, and the estimation of potential maximum effects was then not calculable (see Detail Tables 10-2a and 10-2b). Table 10-D shows no evidence of direct Campaign effects. It does have one significant association: those who report more specific exposure to television advertising are less likely to believe that few or none of their peers have used marijuana in the past 12 months.

Table 10-D
Specific exposure Campaign effects on cognitions
about marijuana trial among 14- to 18-year-old non-users

	Direct Campaign Effect (actual-low)	Monotone Dose- Response Relationship?*	Change between Waves
Percent definitely not intending to try marijuana	-2.3		+4.3**
Percent whose friends strongly disapprove of marijuana trial	-1.7		+6.0
Percent whose parents strongly disapprove of marijuana trial	-2.4		+5.1**
Percent who strongly disapprove of occasional marijuana use	2.1		+4.3
Percent believing that few or none of their peers have used marijuana in past 12 months	-2.1	*	+1.0
Percent perceiving great risk of harm from occasional marijuana use	-0.6		+3.7
Mean attitude scale toward marijuana trial 1 = strong pro-drug / 7 = strong anti drug	-0.17		+12
Mean self-efficacy scale for refusing marijuana offers -2 = cannot resist / +2 = can resist	0.05		-.08
Mean belief scale about consequences of marijuana trial -2 = strong pro-drug / +2 = strong anti-drug	-0.10		+0.06

* Jonckheere-Terpstra test p<05; **95 percent CI around change does not include 0

This result is pictured in Detail Figure 10-2A, which also provides the mean and upper and lower confidence limits for each exposure subgroup. These data indicate that youth with higher frequent exposure to the ads are less likely to believe that none or only a few of their peers have ever tried marijuana. Although the Campaign has suggested that one of the messages it might emphasize is that there are fewer youth using drugs than one might think, there have not been any ads yet broadcast that carry this message explicitly. Perhaps, then, this observed association is unsurprising. It makes sense that youth who see a large number

of messages expressing concern about marijuana may infer that more than a few of their peers have used marijuana. It is worth noting that the association is not accompanied by any change across waves in the belief, which lessens its importance. A media campaign must first capture the attention of its target audience regarding the campaign's focal issue (i.e., marijuana use among youth) before it can deliver its central message (e.g., the advantages of a drug-free lifestyle). Note that this association cannot be explained by media consumption, race, age, socio-economic class, or any of the other variables listed above. This set of results will be subjected to further examination in future reports, most notably when the longitudinal data become available.

The 12- to 13-year-olds' reports of change in marijuana trial related beliefs were not so convincing as for 14- to 18-year-olds. While all nine beliefs go in a desirable direction, none of those changes are significant. On the other hand, there are some scattered results showing association for the 12- to 13-year-olds, but they are not easily interpretable.

Table 10-E presents the results for general exposure effects for 12- to 13-year-olds. The first significant result concerns the perception of frequency of peer use of marijuana; the result seen above for the 14- to 18-year-olds is more strongly present. Not only is there an overall association, but there is evidence of a direct Campaign effect as well as a maximum effect. Detail Figure 10-1a presents the full picture of the results. For 12- to 13-year-olds, as for 14- to 18-year-olds, more exposure to the Campaign appears to be associated with a belief that more peers use marijuana.

The second significant result in this table involves the mean attitude scale. However, the overall association for this variable is just as significant, the absolute size of the gaps between the low and high exposure groups is quite small, and the trend of change between waves is positive not negative (albeit not significant.) It also does not reappear in any of the other tables. This second result is then probably not reliable evidence for an undesired Campaign effect.

The third significant result shows a positive Campaign effect on the sum of beliefs about the consequences of marijuana trial. There is also evidence of a significant direct Campaign effect. However, there is no accompanying temporal change. The other similar measures in the table don't show a consistent pattern, and there is no replication of it for 14- to 18-year-olds, or for the 12- to 13-year-olds using the specific exposure measure. This result then has also to be interpreted as tentatively consistent with Campaign effects. Perhaps more time is needed for the Media Campaign to affect enough people to have detectable change effects.

The final table looks for associations with the specific exposure measure among non-users aged 12 to 13. Once again, the potential maximum effects are not presented in the table because there are relatively few youth in the highest exposure category. In this table there are no significant results at all.

Table 10-E
General exposure Campaign effects on cognitions
about marijuana trial among 12- to 13-year-old non-users

	Campaign Effect (actual-low)	Maximum effect (high-low)	Monotone Dose- Response Relationship?*	Change between Waves
Percent definitely not intending to try marijuana	-2.7	-3.2		+1.3
Percent whose friends strongly disapprove of marijuana trial	0.3	-2		+3.8
Percent whose parents strongly disapprove of marijuana trial	-0.4	-0.5		+0.4
Percent who strongly disapprove of occasional marijuana use	-0.1	2.2		+4.1
Percent believing that few or none of their peers have used marijuana in past 12 months	-8.5**	-11.5**	*	+2.0
Percent perceiving great risk of harm from occasional marijuana use	2.3	5.2		+0.4
Mean attitude scale toward marijuana trial 1 = strong pro-drug / 7 = strong anti drug	-0.06	-0.07	*	+1.13
Mean self-efficacy scale for refusing marijuana offers -2 = cannot resist / +2 = can resist	0.09	0.12		+0.01
Mean belief scale about consequences of marijuana trial -2 = strong pro-drug / +2 = strong anti-drug	0.22**	0.26**	*	+0.04

* p<.05 Jonckheere-Terpstra test; **95 percent CI around change does not include 0

Table 10-F
Specific exposure Campaign effects on cognitions
about marijuana trial among 12- to 13-year-old non-users

	Campaign Effect (actual-low)	Monotone Dose-Response Relationship?*	Change between Waves
Percent definitely not intending to try marijuana	1.6		+1.3
Percent whose friends strongly disapprove of marijuana trial	-2.0		+3.8
Percent whose parents strongly disapprove of marijuana trial	2.4		+0.4
Percent who strongly disapprove of occasional marijuana use	-2.5		+4.0
Percent believing that few or none of their peers have used marijuana in past 12 months	-3.1		+2.0
Percent perceiving great risk of harm from occasional marijuana use	-4.7		+0.4
Mean attitude scale toward marijuana trial 1 = strong pro-drug / 7 = strong anti drug	0.04		+1.13
Mean self-efficacy scale for refusing marijuana offers -2 = cannot resist / +2 = can resist	0.10		+0.1
Mean belief scale about consequences of marijuana trial -2 = strong pro-drug / +2 = strong anti-drug	0.01		+0.4

* p<.05 Jonckheere-Terpstra test; **95 percent CI around change does not include 0; N-M: not monotonic

10.4 SUMMARY

The youth results present a complex picture. There is evidence for a positive change in beliefs and attitudes (“cognitions”) between waves particularly for 14- to 18-year-old youth. There is, however, little consistent evidence for association between either measure of exposure and the cognitions for either age group. The only significant association that showed some consistency across tables suggested that exposure was associated with increased awareness that marijuana use is not rare among youth. The two other reported significant associations went in opposite directions and appeared only in one of the four tables, and are probably best interpreted as chance results. As a whole, these results do not yet support a claim of Campaign positive effects on non-user youth’s cognitions about marijuana trial. The observed changes in cognitions are an optimistic result, but attribution of them to Campaign effects remains uncertain. More data and longitudinal analyses will be required to sort these findings out more conclusively.

The introduction noted that this chapter would present only a partial assessment of Campaign effects on youth. It does not examine alternative routes of effects, effects that are mediated by social networks or through institutional changes. Those routes of effect might produce change that would not appear in the individual respondent-based association data. It

also examines individual effects only through the first year of Phase III of the Campaign. Other effects may appear once the Campaign has had more time to operate. Also, when more respondents are available after the third wave of data collection, there may be more statistical power to detect effects that now appear insignificant. In addition, the analysis focused entirely on Campaign influences on non-users' perception of trial marijuana use. There may be effects on perceptions of regular use among non-users or among occasional users. These will be examined in subsequent reports.

In sum, this partial assessment finds evidence of temporal change, particularly among older youth, with uncertainty about attribution. For younger respondents there were some interesting, scattered, associations but no evidence, yet, of temporal change. These results contrast sharply with the evidence for the parent Campaign presented in the following chapter.

Reference

Hornik et al., (August 2000). *Evaluation of the National Youth Anti-Drug Media Campaign: Campaign Exposure and Baseline Measurement of Correlates of Illicit Drug Use from November 1999 Through May 2000*. National Institute on Drug Abuse.

11. PRELIMINARY EVIDENCE ABOUT CAMPAIGN EFFECTS ON PARENTING BEHAVIOR AND COGNITIONS

11.1 Introduction

This chapter presents results for parents parallel to those for youth provided in Chapter 10. Chapter 10 outlined the logic, the procedures, and the limitations of the analytic approach used in both Chapters 10 and 11.

The results from the two analyses are quite different. Chapter 10 reprised the fairly consistent evidence from chapter 7 that there had been desirable change between waves on many of the cognitive outcomes related to marijuana trial. However there was little matching consistent evidence that exposure was related to the outcomes that exhibited temporal change. The most credible conclusion was that youth cognitions were changing, but there was too little evidence permitting the attribution of the changes to the individual influence of the campaign.

Chapter 11 predominantly shows the opposite pattern of significant associations without matching temporal change. Substantial and consistent evidence is presented below of associations between exposure to Campaign advertising and parental cognitions about discussing drugs and monitoring children. However, in Chapters 8 and 9, there was little evidence of consistent change between waves on these same variables. The discussion at the end of the chapter returns to the interpretation of these ambiguities.

The parent analyses are essentially identical in logic to the youth analyses.

For each outcome variable, separately for parents of each age subgroup, four types of information are relevant to an assessment of Campaign effects on parents.

- The amount and direction of change in the outcome variable between Wave 1 and Wave 2;
- The difference between the average person's score on the variable and the no/low exposure population's mean, called the *direct effect*;
- The difference between the mean for the highest exposed group and the mean for the no/low exposure group, called the *potential maximum effect*; and
- The result of a test¹ for a monotone dose-response relationship between exposure and outcome. A monotone dose-response relationship is one where higher doses steadily elicit stronger responses. In this case, the "dose" is exposure to the Campaign, and the "response" is any of various parental cognitions that have been targeted for change by the Campaign. Also, there are graphs in Detail Figures 11-1 through 11-6 that depict the nature of any relationship between exposure and outcomes. Since all the cognitions have been coded in such a way that higher values of the response indicate outcomes that are more consistent with campaign objectives, one would hope to see a

¹ The test is a special version of the Jonckheere-Terpstra test for a monotone dose-response relationship. Details are given in Section D.5.4 of Appendix D.

curve that is steadily rising from left to right. If the curve is falling from left to right, that would be a sign of an effect in the opposite direction of that desired by the Campaign. These graphs have error bars for both the actual outcome observed in the population and for each of the counterfactual projections. Shorter error bars are better than tall error bars because they indicate more precise estimates.

The parent analyses focus on those outcomes that were the explicit target of Campaign messages to parents. They include measures of parenting behaviors and measures of the beliefs and intentions known to be related to those behaviors. The topics covered include parent-child conversations about drugs, parental monitoring of youth behavior, parental engagement in “fun” activities with their children, and a parental perception of whether or not their child is at risk for marijuana use. In all cases but the last, a positive Campaign influence is consistent with more: more talk, more monitoring, and more fun activities. In the case of the “at risk” measure, the expectations are ambiguous. On the one hand, the explicit message of the Media Campaign is that children are at risk; on the other hand, if parents attend to the other messages of the Campaign and intervene with their children, they may decide that their children are at less risk. The data about risk perception are included in the tables, but in the search for patterns of association, the risk variable is treated separately.

As in Chapter 10, analyses are presented both for the general measure of Campaign exposure across all channels, and for the prompted recall measure based on recognition of specific television and radio ads played for the respondents. This is slightly different than for youth. The youth-specific exposure measures included only recalled exposure to television advertisements, while the parent-specific recall measure includes both radio and television. However, television dominates the parent-specific recall measure. In Chapter 3, the low level of specific recall for radio ads by parents (or youth) was detailed. The distributions of the two exposure measures are presented in Table 11-A.

Table 11-A
Distributions of general and specific recall

Exposure level	General recall exposure	Specific recall exposure
Less than once per month	29%	30%
1 to less than 4 times per month		35%
4 to 11 times per month	28%	27%
12 or more times per month	43%	8%

There are adequate numbers of parents in each of the three categories of exposure for the general exposure measure to permit meaningful analysis of direct Campaign effects and potential maximum Campaign effects, as well as an assessment of the overall association. In contrast, for the specific recall measure, the proportion of parents in the highest category is small. Therefore, for the individual outcomes, estimates for that category of respondents are very unstable. For that reason, there is no inclusion of maximum effect estimates for the specific recall measure in this chapter, although the outcomes for which the estimates are available can be found in the Detail Tables 11-2, 11-4, and 11-6.

Results are presented separately for parents of 9- to 11-, 12- to 13- and 14- to 18-year-old youth. Most of the questions were asked specifically in reference to parental behavior for a

particular child, given that parents may treat each of their children differently. It would be possible then that the effects of the Campaign on parent behavior would vary with the age of the child. In Chapter 9, the parent change results were collapsed across all children's ages, largely to be able to have greater sample power. Still, evidence for change was rare, and almost always seemed focused on parents of one age group rather than across all age groups. In this chapter, the analysis returns its focus to the parents of age-specific sub-groups.

Table 11-B presents the results for parents of 9- to 11-year-olds concerning the effects of general exposure to the Campaign, based on the analyses more fully presented in Detail Table 11-1. There are 12 measures (excluding the at-risk variable) that might be expected to show Campaign effects. Nine of the 12 are statistically significant for direct effects and 8 of 12 for the maximum effects. Seven of 12 show significant monotone dose-response relationships.

All five talk items had significant results on all three tests. This is illustrated when looking at the Detail Figures on pages DF-21 and DF-22. All five items show clear upward trends.

The monitoring items show direct effects for two of four items, but pass the maximum and monotone tests for only one item. This pattern is again visually very clear in the Detail Figures on page DF-19. The attitudes question has an upward trend, but the other three show nonmonotone patterns consistent with no Campaign effect.

One of the two activity items, about doing something out of the home more than twice a week, shows effects on all indicators of association, while the other item shows only a trend in the right direction. See page DF-20. For fun outdoor activities, there is a strong upward trend with increasing exposure. For fun indoor activities, there is a similar pattern, but the error bars are wider, thereby preventing any definitive assessment.

General Campaign exposure does not appear to be related to parental assessments of risk for this age group. None of the three tests in Table 11-B are significant and an examination of the relevant Detail Figure (on page DF-20, lower right corner) indicates a strongly nonmonotone pattern. No assessment of temporal change in this parental cognition is possible for youth in this age range because the question was introduced for this age range for the first time in Wave 2.

Table 11-B
Relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 9- to 11-years-old who have not previously tried marijuana (November 1999 through December 2000)

	Campaign effect (actual-low)	Maximum effect (high-low)	Monotone dose-response relationship? [†]	Change between waves
About Talk				
Percent of children whose parents report having had 2 or more conversations with them about drugs in the past 6 months	5.8%*	10.8%*	*	+1.0
Mean parental response on summary scale of intentions to talk with child(ren) about drug use (-2 = very unlikely / +2 = very likely)	0.16*	0.28*	*	0.0
Mean parental response on summary scale of parents general attitude toward discussing drugs with child(ren) 1= extremely bad, unpleasant and unimportant 7= extremely good, pleasant and important	0.17*	0.30*	*	0.0
Percent of children whose parents perceive that important others think they definitely should talk with their children about drugs over the next 6 months	6.1%*	11.3%*	*	+1.7
Mean parental response on summary scale of perceived self-efficacy to talk with child(ren) about drugs -2 = very unsure / +2 = very sure of ability	0.05*	0.07*		+0.1
Percent of children whose parents report having talked to them about family rules or expectations about drug use	7.3%*	11.6%*	*	-0.4

[†]There is an asterisk in this column for every row where significant evidence of a monotone dose-response relationship was found by the Jonckheere-Terpstra test. An asterisk in other columns indicates a significant effect or change.

Table 11-B (continued)
Relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 9- to 11-years-old who have not previously tried marijuana (November 1999 through December 2000)

	Campaign effect (actual-low)	Maximum effect (high-low)	Monotone dose-response relationship? [†]	Change between waves
About Monitoring				
Mean number on summary scale of parental monitoring activities performed (0 to 5)	-0.01	-0.04		-0.02
Mean parental response on summary scale of intentions to monitor child(ren)'s activities -2 = very unlikely / +2 = very likely	0.03	0.03		0.0
Mean parental response on summary scale of attitudes toward monitoring child(ren)'s activities 1= extremely bad, unpleasant and unimportant 7= extremely good, pleasant and important	0.07*	0.13*	*	-0.01
Mean parental response on summary scale of beliefs about effectiveness of monitoring child(ren)'s activities -2 = Strongly disagree / +2 = Strongly Agree on Effectiveness	0.06*	0.05		0.05
About doing "fun" things				
Percent of parents reporting going someplace for fun with children at least twice in the past week	7.1%*	9.3%*	*	+2.2
Percent of parents reporting doing projects or activities with child at home at least twice in the past week	3.5%	4.2%		-2.4
About perception of risk				
Percent of children whose parents perceive them as very unlikely to try marijuana even once or twice in the next 6 months	0.4%	-1.1%		NA

[†]There is an asterisk in this column for every row where significant evidence of a monotone dose-response relationship was found by the Jonckheere-Terpstra test. An asterisk in other columns indicates a significant effect or change.

These results are essentially repeated for parents of 12- to 13-year-olds and 14- to 18-year-olds for general exposure as presented in Detail Tables 11-3 and 11-5. This pattern is also consistent with the results for the analyses based on the specific exposure measures, as well, although the pattern is weaker (Detail Tables 11-2, 11-4, and 11-6.). Table 11-C summarizes all of the results across ages, exposure measures, and outcome criteria.

Table 11-C
Pattern of association of exposure and outcomes among youth

Age	General Exposure			Specific exposure		
	9 to 11	12 to 13	14 to 18	9 to 11	12 to 13	14 to 18
Direct effects: # that were positive	11 of 12	11 of 12	12 of 12	8 of 12	9 of 12	9 of 12
Direct effects: # statistically significant	9 of 12	8 of 12	9 of 12	4 of 12	3 of 12	0 of 12
Potential maximum effects: positive	11 of 12	11 of 12	12 of 12	NA*	NA*	NA*
Potential maximum effects: statistically significant	8 of 12	9 of 12	10 of 12	NA*	NA*	NA*
Overall monotonic relationship present	7 of 12	9 of 12	9 of 12	5 of 12	5 of 12	1 of 12
Number of Wave 1 to Wave 2 changes that are significant	0 of 12	0 of 12	0 of 12	0 of 12	0 of 12	0 of 12

* Some of the maximum effect estimates had reliability below acceptable levels.

Clearly, those who recalled more exposure to general anti-drug advertising were more likely to report desirable behaviors and beliefs and intentions than those with less recalled exposure. In virtually every case where the direct effects were significant, there was also a monotone dose-response relationship. With each higher level of exposure came a “better” level on the outcome variable. However, for none of the outcomes was statistically significant evidence of temporal change yet collected. Perhaps temporal changes will appear with more time or as samples become larger.

The presence of effects does vary with the topic discussed. Table 11-D summarizes the evidence for direct effects according to the topic.² In general, the effects for talk were more consistently present than for monitoring or fun activities. Of 36 talk analyses (6 items by 3 age groups by 2 exposure measures), 22 showed significant direct Campaign effects. For monitoring, 7 out of 28 were significant, while for fun activities 4 out of 12 were significant. It is also interesting to note that most of the non-significant ones were in a positive direction also.

Table 11-D also makes clear that the effects were much more often found for the general exposure measure than the specific exposure measure. Excluding the risk items, 26 of the 36 general exposure analyses showed effects, but only 7 of the 36 specific exposure analyses

² For more detail, see Detail Tables and Detail Figures 11-1 through 11-6.

showed effects. The discussion section will discuss some of the implications of that difference.

Table 11-D
Number of significant direct Campaign effects among youth by
age and exposure measure

Age	General exposure			Specific exposure		
	9 to 11	12 to 13	14 to 18	9 to 11	12 to 13	14 to 18
Topic (number of items)						
Talk (6)	6	5	4	4	3	0
Monitoring (4)	2	2	3	0	0	0
Fun activities (2)	1	1	2	0	0	0
Risk (1)	0	0	1	0	0	0

Also, as noted above, there was an ambiguous expectation for the measure of the tendency for parents to see their children at risk for marijuana use in the next year. In the short run, the Campaign is trying to raise the level of parental concern. On the other hand, if parents act in ways that they believe reduces the risk of their children’s taking drugs, then it would be expected that they would perceive less risk. For five of the six sub-groups (three age groups by two exposure measures) there were no significant associations. For the sixth there was a significant result. Parents of 14- to 18-year-olds were more likely to perceive their children as at risk if they reported higher general exposure. This association was monotonic as can be visually confirmed by looking at the lower right figure on page DF-36. Parents with low and medium exposure levels are not significantly different from the overall level, but parents with high exposure levels are clearly more concerned about the risk. While 77 percent of those with low exposure reported their child was “very unlikely” to use marijuana in the next year, only 71 percent of those with the highest level of exposure expressed a similar view. This is a hard result to interpret, recalling that in Chapter 9, evidence was presented that somewhat fewer Wave 1 than Wave 2 parents, and particularly among parents of the oldest teens, perceived their children at risk of using marijuana in the next year. Thus Campaign exposure is related to increasing risk perception, but over time there is decreasing risk perception. Since the association is found only for one of six analyses with the measure, and the change data are inconsistent with it, not too much can be made of it.

11.2 Summary

There is impressive and consistent evidence for associations between parental exposure and reported behavior and cognitions related to several Campaign objectives in the desired direction. The effects are most pronounced for parent reports of talk, including all of the measures associated with that variable: recalled overall talk, talk about rules, intentions to talk, attitude toward talk, social expectations for talk, and for self-efficacy for talk; but it is also established for the monitoring and fun activities objectives. The effect also tends to be stronger for the general exposure measures rather than the specific exposure measure. However, there is minimal evidence for population change on these objectives.

There are several competing interpretations that can be offered for these results where there appears to be good evidence for an association, but there is minimal evidence of consistent temporal change. We provide four speculative interpretations below:

- There was possibly a real Campaign effect but the sample sizes were too small to detect the temporal changes. This would be particularly true if changes were limited to those who were actually heavily exposed to the Campaign, but the estimates of overall change are based on samples including those more and less exposed alike. The average effects might be diluted enough to be undetectable without larger samples. Such changes might be detected with more elapsed time and larger samples available for future reports.
- There was possibly a real Campaign effect on beliefs and behavior, but the results look as they do because there was a secular trend toward *reductions* in these outcomes. The parents with less exposure to the Campaign actually suffered a decline in these outcomes, while the parents with higher exposure were enjoying an increase. On average there was no trend, but absent the Campaign, the trend would have been negative.
- There are possibly real effects of the Campaign but they are short-lived. At any given time those reporting more exposure were affected by it, but behavior and beliefs return to their original levels quickly. Then exposure during Wave 2 did not add to the effects of Wave 1, but substituted for them. Thus there is an association of exposure and beliefs but no change over time, since the exposure levels are constant or declining between waves. Effects do not cumulate, but require constant reinforcement.
- A last explanation would suggest that the findings are consistent with an inference of no Campaign effects. It is possible, although the analysis carefully controlled for a wide range of potential covariates, that the observed association is only an artifact of omitted covariates and that if those covariates were controlled, the associations would have disappeared.

It is also possible that the observed associations might have reflected reverse causation. What would this mean? Parents who were committed to engaging with their children about drugs were more likely to engage with counter-drug advertising. When asked whether they could recall anti-drug exposures, these committed parents were more likely to say yes. While the propensity score analysis works to limit the risk that other confounder variables might explain an observed association, in the absence of retrospective measures cannot separate the causal effects of engagement on exposure (and recall of exposure) versus the effects of the exposure on engagement, which may be the essential construct measured by the parenting talk and monitoring constructs.

As part of this speculation, it is worth recalling that the effects for the specific exposure measures were less consistently found than for the general exposure measures. There are two ways to interpret this advantage to the general exposure measures. One would be the straightforward idea that the general exposure measures captured not only the targeted television and radio exposure picked up by the specific exposure measures, but also exposure through other media (print, outdoor) and

through non-targeted exposure through radio and television (so-called “spill”). These other types of exposure were also effective, and including them lends more ability to detect effects. However, there is another quite different interpretation.

The stronger results for the general exposure than for the specific exposure measures may be consistent with the reverse causation explanation. The general exposure measures allow respondents to demonstrate their engagement with anti-drug messages without requiring any specific memory of a message. The specific exposure measures, because they are contingent on prompted message recall, are more demanding. One speculative interpretation would suggest that claims of ad recall are another means by which engaged parents establish their engagement, but that such an engagement effect is less likely to be present for the specific recall measures. In future waves, we will explore a number of options for examining the possible influence of both reverse causation and omitted covariates.

In summary, the choice between these and other possible explanations is difficult to make on the basis of data now available. Sorting out the best explanation for observed effects will come with later rounds of data collection. They may show trends in outcomes not now seen. Also, once data begins to be accumulated for the same parents over time, so that earlier exposure can be associated with later change in these outcomes, it will be possible to make a stronger argument about temporal order and thus which comes first: exposure or engagement.

In subsequent reports these analyses will also be extended to address what is the crux of the matter: whether Campaign-induced changes in parent behavior affect their children’s drug use.

Detail Tables

Notes on tables: The Detail Tables corresponding to Chapters 2 through 9, each have a Wave 1 estimate, a Wave 2 estimate, the difference between the two, and the average of the two. Rows with significant change from Wave 1 to Wave 2 are flagged with an asterisk. Significant change was defined as having a 95 percent confidence interval that does not overlap a no-change value of zero. Confidence intervals are shown both for change between the halves of 2000 and for the annual average. The annual averages are based on a simple average of the two waves. The annual averages with their confidence intervals are particularly useful for analyzing stable subgroup diversity.

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Table 2-1. Sample sizes and population estimates for youth subpopulations

Characteristics	Sample size		Population estimate (thousands)				95% Confidence interval	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
All Youth aged 9 to 18	3,312	2,362	39,590	39,931	(39,421-39,759)	(39,764-40,098)		
9 to 11	1,088	923	12,515	12,600	(12,474-12,557)	(12,469-12,732)		
12 to 13	1,061	658	7,878	7,993	(7,828-7,928)	(7,955-8,032)		
14 to 15	552	394	8,546	8,928	(8,025-9,068)	(8,208-9,648)		
16 to 18	611	387	10,650	10,409	(10,138-11,162)	(9,698-11,121)		
14 to 18	1,163	781	19,196	19,338	(19,052-19,341)	(19,273-19,402)		
Youth aged 9 to 18								
Males	1,739	1,201	20,207	20,466	(20,118-20,295)	(20,350-20,583)		
Females	1,573	1,161	19,383	19,465	(19,242-19,525)	(19,344-19,587)		
White	2,206	1,561	26,293	26,105	(25,909-26,676)	(25,276-26,935)		
African American	482	371	6,135	6,295	(6,083-6,187)	(6,278-6,312)		
Hispanic	509	337	5,778	5,904	(5,764-5,792)	(5,832-5,976)		
Northeast	521	367	7,184	7,098	(7,024-7,344)	(7,049-7,148)		
South	1,225	832	14,026	13,951	(13,951-14,101)	(13,897-14,005)		
Midwest	764	534	9,261	9,576	(9,222-9,301)	(9,576-9,576)		
West	802	629	9,098	9,321	(9,049-9,147)	(9,202-9,439)		
Urban	1,114	757	13,327	12,965	(12,086-14,567)	(11,374-14,557)		
Suburban	789	622	9,664	9,841	(8,245-11,083)	(8,254-11,428)		
Town and Rural	1,409	983	16,599	17,125	(15,146-18,053)	(15,240-19,010)		
Sensation Seeking								
High	1,476	1,026	18,552	18,363	(17,704-19,401)	(17,358-19,368)		
Low	1,719	1,238	19,694	19,933	(18,808-20,579)	(18,885-20,982)		
Use of Marijuana								
Non-User	2,907	2,121	33,144	33,861	(32,421-33,867)	(33,034-34,687)		
Occasional User	190	108	2,974	2,602	(2,441-3,508)	(2,041-3,164)		

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 2-2. Sample sizes and population estimates for parent subpopulations

Characteristics	Population estimate (thousands)					
	Sample size		Wave 1		Wave 2	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
All Parents	2,293	1,632	43,281	42,348	(42,915-43,648)	(41,817-42,879)
Male	760	599	16,412	18,425	(15,563-17,262)	(17,149-19,701)
Female	1,533	1,033	26,869	23,923	(25,952-27,787)	(22,542-25,304)
White	1,542	1,106	30,050	28,826	(29,615-30,484)	(28,189-29,463)
African American	353	263	5,223	5,509	(4,946-5,500)	(5,180-5,839)
Hispanic	318	206	5,936	6,044	(5,592-6,280)	(5,607-6,480)
Less than High School	336	224	5,963	5,536	(5,162-6,763)	(4,692-6,379)
High School Graduate	817	517	14,745	13,398	(13,709-15,780)	(11,927-14,870)
Some College	557	481	10,784	12,403	(9,783-11,786)	(11,087-13,719)
College Graduate	544	403	11,067	10,789	(10,022-12,112)	(9,732-11,846)
Northeast	361	236	7,715	7,081	(7,379-8,052)	(6,547-7,614)
South	847	589	14,833	15,292	(14,227-15,440)	(14,471-16,113)
Midwest	536	372	10,253	9,888	(9,788-10,719)	(9,350-10,426)
West	549	435	10,490	10,084	(10,087-10,893)	(9,571-10,597)
Urban	772	541	13,587	12,607	(12,203-14,971)	(10,959-14,256)
Suburban	551	416	11,499	10,700	(9,896-13,102)	(8,910-12,490)
Town and Rural	970	675	18,196	19,041	(16,678-19,713)	(17,004-21,078)
One or more child(ren) ¹ aged						
9-11	1,037	875	18,165	18,762	(17,334-18,997)	(17,923-19,601)
12-13	1,006	619	12,535	12,886	(12,088-12,981)	(12,476-13,295)
14-18	1,081	726	24,360	23,310	(23,405-25,316)	(22,277-24,343)

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.

¹Parents with children in multiple rows have their responses averaged into each relevant row.

Table 2-3. Sample sizes and population estimates for dyads¹

Characteristics	Sample size		Population estimate (thousands)		95% Confidence interval	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
All Youth aged 9 to 18	3,120	2,210	39,631	39,500	(39,481-39,780)	(39,238-39,762)
9 to 11	1,026	864	12,425	12,438	(12,311-12,539)	(12,248-12,627)
12 to 13	1,003	614	7,942	7,989	(7,890-7,994)	(7,904-8,073)
14 to 15	523	372	8,723	8,919	(8,129-9,317)	(8,177-9,661)
16 to 18	568	360	10,540	10,155	(9,970-11,111)	(9,407-10,903)
14 to 18	1,091	732	19,263	19,074	(19,116-19,411)	(18,834-19,315)
Youth aged 9 to 18						
Males	1,640	1,129	20,299	20,418	(20,214-20,384)	(20,246-20,590)
Females	1,480	1,081	19,332	19,082	(19,195-19,469)	(18,801-19,364)
White	2,084	1,464	26,438	25,902	(26,063-26,812)	(25,095-26,709)
African American	469	355	6,114	6,307	(6,064-6,164)	(6,281-6,334)
Hispanic	102	75	1,322	1,453	(948-1,695)	(659-2,248)
Northeast	483	324	7,255	7,022	(7,145-7,366)	(6,828-7,215)
South	1,149	786	13,985	13,813	(13,892-14,079)	(13,700-13,926)
Midwest	726	507	9,297	9,505	(9,284-9,310)	(9,402-9,608)
West	762	593	9,086	9,182	(9,028-9,144)	(9,048-9,316)
Urban	1,043	716	13,357	12,876	(12,069-14,645)	(11,258-14,494)
Suburban	744	578	9,695	9,633	(8,255-11,136)	(8,044-11,221)
Town and Rural	1,333	916	16,579	16,992	(15,147-18,010)	(15,096-18,888)
Sensation Seeking						
High	1,388	965	18,469	18,190	(17,576-19,362)	(17,151-19,228)
Low	1,622	1,156	19,801	19,770	(18,871-20,731)	(18,604-20,935)
Use of Marijuana						
Non-User	2,747	1,987	33,358	33,691	(32,640-34,075)	(32,802-34,580)
Occasional User	176	103	2,991	2,529	(2,464-3,519)	(1,951-3,107)

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.

¹Youth weights rather than dyad weights were used for this table; therefore, dyad population estimates will be too low.

Table 3-1. Percent of youth recalling having seen youth-targeted Campaign TV ads at least once per week, by age, gender, race/ethnicity, region, urbanicity, region, urbanicity, and sensation seeking

Characteristics	Percent recalling having seen TV ads at least once per week					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	30.2	32.2	2.0	(-3.3, 7.3)	31.2	(28.6, 33.8)
12 to 13	39.6	42.9	3.3	(-2.7, 9.3)	41.3	(38.3, 44.2)
14 to 15	39.2	37.9	-1.3	(-8.9, 6.3)	38.6	(34.7, 42.4)
16 to 18	29.2	35.6	6.4	(-0.4, 13.2)	32.4	(29.0, 35.8)
14 to 18	33.7	36.6	2.9	(-2.3, 8.1)	35.2	(32.6, 37.7)
Youth aged 9 to 18						
Males	32.4	35.8	3.4	(-1.2, 8.0)	34.1	(31.8, 36.4)
Females	35.1	37.3	2.2	(-2.4, 6.8)	36.2	(33.9, 38.5)
White	30.6	33.3	2.7	(-1.4, 6.8)	32.0	(29.9, 34.0)
African American	45.1	45.2	0.1	(-9.0, 9.2)	45.2	(40.6, 49.7)
Hispanic	38.4	42.2	3.8	(-5.6, 13.2)	40.3	(35.6, 45.0)
Northeast	37.5	43.2	5.7	(-2.8, 14.2)	40.4	(36.1, 44.6)
South	35.3	38.0	2.7	(-3.8, 9.2)	36.7	(33.4, 39.9)
Midwest	32.4	34.3	1.9	(-4.3, 8.1)	33.4	(30.2, 36.5)
West	30.4	32.3	1.9	(-5.1, 8.9)	31.4	(27.8, 34.9)
Urban	38.3	38.2	-0.1	(-6.1, 5.9)	38.3	(35.3, 41.2)
Suburban	31.3	34.2	2.9	(-3.2, 9.0)	32.8	(29.7, 35.8)
Town and Rural	31.5	36.5	5.0	(-0.3, 10.3)	34.0	(31.4, 36.6)
Sensation Seeking						
High	34.6	37.6	3.0	(-2.2, 8.2)	36.1	(33.5, 38.7)
Low	32.8	35.5	2.7	(-2.0, 7.4)	34.2	(31.8, 36.5)

Table 3-2. Summary of recall for all eligible campaign TV ads among youth

Total recall Number of ad viewings per month	Recall for all TV platform ads					
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2) % 95% CI	
Children aged 9 to 11						
0	23.8	18.6	-5.2	* (-9.4, -1.0)	21.2	(19.1, 23.3)
0.01 to .99	11.7	10.2	-1.5	(-4.4, 1.4)	11.0	(9.5, 12.4)
1 - 3.99	34.3	39.0	4.7	(-0.4, 9.8)	36.7	(34.1, 39.2)
4 - 11.99	23.7	26.1	2.4	(-2.6, 7.4)	24.9	(22.4, 27.4)
12 or more	6.4	6.1	-0.3	(-2.6, 2.0)	6.3	(5.1, 7.4)
Total	99.9	100.0	---	---	---	---
Mean	6.9	7.2	0.3	(-0.6, 1.2)	7.1	(6.59, 7.51)
Adolescents aged 12 to 13						
0	14.7	11.7	-3.0	(-6.6, 0.6)	13.2	(11.4, 15.0)
0.01 to .99	8.2	5.4	-2.8	* (-5.5, -0.1)	6.8	(5.5, 8.1)
1 - 3.99	37.5	39.9	2.4	(-2.9, 7.7)	38.7	(36.1, 41.3)
4 - 11.99	31.9	34.6	2.7	(-2.8, 8.2)	33.3	(30.5, 36.0)
12 or more	7.7	8.3	0.6	(-2.5, 3.7)	8.0	(6.5, 9.5)
Total	100.0	99.9	---	---	---	---
Mean	8.7	9.3	0.6	(-0.5, 1.7)	9.0	(8.46, 9.54)
Teens aged 14 to 18						
0	16.5	13.1	-3.4	(-7.4, 0.6)	14.8	(12.8, 16.8)
0.01 to .99	8.0	8.6	0.6	(-2.6, 3.8)	8.3	(6.7, 9.9)
1 - 3.99	41.9	41.7	-0.2	(-5.7, 5.3)	41.8	(39.0, 44.6)
4 - 11.99	28.9	30.1	1.2	(-4.1, 6.5)	29.5	(26.8, 32.2)
12 or more	4.7	6.6	1.9	(-0.7, 4.5)	5.7	(4.4, 6.9)
Total	100.0	100.1	---	---	---	---
Mean	7.3	8.2	0.9	* (0.0, 1.8)	7.8	(7.30, 8.20)

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		2000 (Average Wave 1 and Wave 2)	
	%	%	%	%	%	95% CI
Children aged 9 to 11						
0	45.6	35.6	-10.0	(-15.9, -4.1)	40.6	(37.6, 43.6)
0.01 to .99	13.0	10.1	-2.9	(-7.2, 1.4)	11.6	(9.4, 13.7)
1 - 3.99	28.1	34.4	6.3	*(0.4, 12.2)	31.3	(28.3, 34.2)
4 - 11.99	12.4	17.4	5.0	*(0.1, 9.9)	14.9	(12.4, 17.4)
12 or more	0.8	2.6	1.8	*(0.2, 3.4)	1.7	(0.9, 2.5)
Total	99.9	100.1	---	---	---	---
Mean	3.2	4.4	1.2	*(0.5, 1.9)	3.8	(3.44, 4.16)
Adolescents aged 12 to 13						
0	37.1	22.7	-14.4	(-21.5, -7.3)	29.9	(26.3, 33.5)
0.01 to .99	7.6	8.6	1.0	(-3.5, 5.5)	8.1	(5.8, 10.4)
1 - 3.99	40.0	39.9	-0.1	(-7.3, 7.1)	40.0	(36.4, 43.5)
4 - 11.99	14.6	25.7	11.1	*(5.3, 16.9)	20.2	(17.2, 23.1)
12 or more	0.8	3.1	2.3	(-0.1, 4.7)	2.0	(0.7, 3.2)
Total	100.1	100.0	---	---	---	---
Mean	4.0	6.1	2.1	*(1.1, 3.1)	5.1	(4.57, 5.53)
Teens aged 14 to 18						
0	38.9	21.6	-17.3	(-24.9, -9.7)	30.3	(26.5, 34.0)
0.01 to .99	11.8	10.5	-1.3	(-7.2, 4.6)	11.2	(8.2, 14.1)
1 - 3.99	41.8	48.4	6.6	(-1.2, 14.4)	45.1	(41.2, 49.0)
4 - 11.99	7.4	17.3	9.9	*(4.7, 15.1)	12.4	(9.8, 14.9)
12 or more	0.2	2.1	1.9	*(0.4, 3.4)	1.2	(0.4, 1.9)
Total	100.1	99.9	---	---	---	---
Mean	2.9	5.0	2.1	*(1.3, 2.9)	4.0	(3.55, 4.35)

Table 3-4. Summary of recall of TV ads among youth for the "Normative positive consequences" strategic platform ads

Total recall Number of ad viewings per month	Percent recalling "Normative positive consequences" TV ads				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	2000 (Average Wave 1 and Wave 2) %	95% CI
Children aged 9 to 11					
0	41.6	37.3	-4.3	39.5	(36.7, 42.2)
0.01 to .99	12.7	15.5	2.8	14.1	(12.3, 15.9)
1 - 3.99	30.6	35.8	5.2	33.2	(30.5, 35.9)
4 - 11.99	12.8	10.9	-1.9	11.9	(10.2, 13.5)
12 or more	2.3	0.6	-1.7	1.5	(0.9, 2.0)
Total	100.0	100.1	---	---	---
Mean	3.8	3.1	-0.7	3.5	(3.17, 3.73)
Adolescents aged 12 to 13					
0	27.5	26.4	-1.1	27.0	(24.2, 29.7)
0.01 to .99	11.8	13.6	1.8	12.7	(10.6, 14.8)
1 - 3.99	42.8	47.2	4.4	45.0	(42.3, 47.7)
4 - 11.99	16.0	11.5	-4.5	13.8	(11.6, 15.9)
12 or more	1.8	1.3	-0.5	1.6	(0.8, 2.3)
Total	99.9	100.0	---	---	---
Mean	4.8	3.9	-0.9	4.4	(3.96, 4.74)
Teens aged 14 to 18					
0	30.0	34.5	4.5	32.3	(29.6, 34.9)
0.01 to .99	9.1	16.4	7.3	12.8	(10.5, 15.0)
1 - 3.99	45.8	36.5	-9.3	41.2	(38.0, 44.3)
4 - 11.99	14.9	12.4	-2.5	13.7	(11.6, 15.7)
12 or more	0.1	0.3	0.2	0.2	(0.0, 0.4)
Total	99.9	100.1	---	---	---
Mean	4.1	3.5	-0.6	3.8	(3.52, 4.08)

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	Change Wave 1 to Wave 2		
	%	%	%	95% CI	2000 (Average Wave 1 and Wave 2) %
Children aged 9 to 11					
0	28.9	20.4	-8.5	(-15.3, -1.7)	24.7 (21.2, 28.1)
0.01 to .99	12.3	12.1	-0.2	(-5.9, 5.5)	12.2 (9.3, 15.1)
1 - 3.99	38.7	43.4	4.7	(-4.0, 13.4)	41.1 (36.7, 45.4)
4 - 11.99	15.8	21.7	5.9	(-1.3, 13.1)	18.8 (15.1, 22.4)
12 or more	4.2	2.3	-1.9	(-4.2, 1.1)	3.3 (1.7, 4.8)
Total	99.9	99.9	---	---	---
Mean	5.0	5.6	0.6	(-0.5, 1.7)	5.3 (4.76, 5.84)
Adolescents aged 12 to 13					
0	20.4	9.7	-10.7	(-16.8, -4.6)	17.6 (15.0-20.6)
0.01 to .99	8.3	3.8	-4.5	* (-8.0, -1.0)	7.1 (5.5-9.2)
1 - 3.99	46.7	58.5	11.8	* (3.2, 20.4)	49.7 (45.8-53.6)
4 - 11.99	21.8	27.3	5.5	(-1.8, 12.8)	23.2 (20.1-26.6)
12 or more	2.9	s			2.3 (1.4-3.9)
Total	100.1	99.3	---	---	---
Mean	5.8	6.7	0.9	(-0.1, 1.9)	6.3 (5.74, 6.76)
Teens aged 14 to 18					
0	25.8	12.7	-13.1	(-20.4, -5.8)	19.3 (15.6, 22.9)
0.01 to .99	9.3	7.8	-1.5	(-6.8, 3.8)	8.6 (5.9, 11.2)
1 - 3.99	45.0	43.9	-1.1	(-10.0, 7.8)	44.5 (40.0, 48.9)
4 - 11.99	17.7	35.1	17.4	* (7.3, 27.5)	26.4 (21.4, 31.4)
12 or more	2.2	0.5	-1.7	(-2.2, 0.0)	1.4 (0.5, 2.2)
Total	100.0	100.0	---	---	---
Mean	5.0	6.9	1.9	* (0.6, 3.2)	6.0 (5.31, 6.59)

Table 3-6. Percent of parents¹ recalling having seen parent-targeted Campaign TV ads at least once per week, by parent characteristics and age of child(ren)

Characteristics	Percent recalling having seen TV ads at least once per week					
	Wave 1		Wave 2		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Total	25.4	22.1	-3.3	* (-6.4, -0.2)	23.8	(22.2, 25.3)
Male	21.7	19.8	-1.9	(-7.0, 3.2)	20.8	(18.2, 23.3)
Female	27.7	23.8	-3.9	(-7.8, 0.0)	25.8	(23.8, 27.7)
White	20.9	19.0	-1.9	(-5.3, 1.5)	20.0	(18.2, 21.7)
African American	28.6	24.1	-4.5	(-12.5, 3.5)	26.4	(22.3, 30.4)
Hispanic	47.5	35.9	-11.6	(-22.1, -1.1)	41.7	(36.4, 47.0)
Less Than High School	35.1	33.1	-2.0	(-11.5, 7.5)	34.1	(29.3, 38.9)
High School Graduate	26.9	23.3	-3.6	(-9.0, 1.8)	25.1	(22.4, 27.8)
Some College	27.1	21.9	-5.2	(-11.3, 0.9)	24.5	(21.5, 27.5)
College Graduate	17.1	15.2	-1.9	(-7.1, 3.3)	16.2	(13.5, 18.8)
Northeast	24.4	21.5	-2.9	(-10.2, 4.4)	23.0	(19.3, 26.6)
South	25.7	24.6	-1.1	(-6.9, 4.7)	25.2	(22.2, 28.1)
Midwest	22.7	21.3	-1.4	(-8.4, 5.6)	22.0	(18.5, 25.5)
West	28.9	19.6	-9.3	(-16.0, -2.6)	24.3	(20.9, 27.6)
Urban	31.1	28.8	-2.3	(-7.9, 3.3)	30.0	(27.2, 32.7)
Suburban	18.9	14.7	-4.2	(-9.5, 1.1)	16.8	(14.2, 19.4)
Town and Rural	25.3	21.8	-3.5	(-9.0, 2.0)	23.6	(20.8, 26.3)
One or more children ³ aged						
9 to 11	26.8	19.0	-7.8	(-12.1, -3.5)	22.9	(20.7, 25.1)
12 to 13	24.6	20.2	-4.4	(-8.8, 0.0)	22.4	(20.2, 24.6)
14 to 18	26.1	24.1	-2.0	(-6.6, 2.6)	25.1	(22.8, 27.4)

¹All parents and caregivers of youth aged 9 to 18 who live with their children. Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-7. Summary of recall for all eligible campaign TV ads among parents

Total recall	Recall for all platforms TV ads					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Number of ad viewings per month						
Parents with one or more children aged 9 to 18						
0	33.9	41.7	7.8	* (4.2, 11.4)	37.8	(36.0, 39.6)
0.01 to .99	7.9	7.0	-0.9	(-2.6, 0.8)	7.5	(6.6, 8.3)
1 - 3.99	32.8	29.2	-3.6	* (-6.8, -0.4)	31.0	(29.4, 32.6)
4 - 11.99	20.0	17.5	-2.5	(-5.3, 0.3)	18.8	(17.4, 20.1)
12 or more	5.4	4.6	-0.8	(-2.5, 0.9)	5.0	(4.2, 5.8)
Total	100.0	100.0	---	---	---	---
Mean	6.1	5.4	-0.7	* (-1.4, 0.0)	5.8	(5.42, 6.08)

Table 3-8. Summary of recall of TV ads among parents for the "Parenting skills/personal efficacy" strategic platform ads

Total recall	Percent recalling "Parenting skills/personal efficacy" TV ads				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) %
Number of ad viewings per month					95% CI
Parents with one or more children aged 9 to 18					
0	56.5	51.5	-5.0	* (-9.3, -0.7)	54.0 (51.8, 56.2)
0.01 to .99	7.8	6.9	-0.9	(-2.6, 0.8)	7.4 (6.5, 8.2)
1 - 3.99	27.3	28.9	1.6	(-1.9, 5.1)	28.1 (26.3, 29.9)
4 - 11.99	7.7	10.6	2.9	* (0.5, 5.3)	9.2 (8.0, 10.3)
12 or more	0.7	2.2	1.5	* (0.5, 2.5)	1.5 (0.9, 2.0)
Total	100.0	100.1	---	---	---
Mean	2.4	3.5	1.1	* (0.6, 1.6)	3.0 (2.72, 3.18)

Table 3-9. Summary of recall of TV ads among parents for the "Your child at risk" strategic platform ads

Total recall	Percent recalling "Your child at risk" TV ads					
	Wave 1		Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
Number of ad viewings per month						
Parents with one or more children aged 9 to 18						
0	29.2	20.8	-8.4	(-15.1, -1.7)	25.0	(21.6, 28.4)
0.01 to .99	6.9	6.7	-0.2	(-3.6, 3.2)	6.8	(5.1, 8.5)
1 - 3.99	35.1	36.2	1.1	(-7.8, 10.0)	35.7	(31.2, 40.1)
4 - 11.99	24.4	30.1	5.7	(-1.6, 13.0)	27.3	(23.6, 30.9)
12 or more	4.4	6.3	1.9	(-2.3, 6.1)	5.4	(3.3, 7.4)
Total	100.0	100.1	---	---	---	---
Mean	6.3	7.7	1.4	(0.0, 2.8)	7.0	(6.30, 7.70)

Table 3-10. Summary of recall of TV ads among parents for the "Perceptions of harm/marijuana" strategic platform ads

Total recall	Percent recalling "Perceptions of harm/marijuana" TV ads					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) %	95% CI
Number of ad viewings per month						
Parents with one or more children aged 9 to 18						
0	71.7	70.6	-1.1	(-7.7, 5.5)	71.2	(67.9, 74.4)
0.01 to .99	6.9	5.3	-1.6	(-5.2, 2.0)	6.1	(4.3, 7.9)
1 - 3.99	17.7	21.6	3.9	(-1.9, 9.7)	19.7	(16.8, 22.5)
4 - 11.99	3.3	2.1	-1.2	(-3.2, 0.8)	2.7	(1.7, 3.7)
12 or more	0.3	0.4	0.1	(-0.3, 1.0)	0.4	(0.0, 0.8)
Total	99.9	100.0	---	---	---	---
Mean	1.3	1.4	0.1	(-0.3, 0.5)	1.4	(1.13, 1.57)

Table 3-11. Overall evaluation of TV ads by youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Mean TV ad evaluation scale score ¹ (-2 = most negative response, 2 = most positive response)				
	Wave 1 Mean	Wave 2 Mean	Change Wave 1 to Wave 2		
			Estimate	95% CI	Estimate (Average Wave 1 and Wave 2) 95% CI
All Youth aged 9 to 18					
9 to 11	0.9	1.0	0.03	(-0.1, 0.2)	0.95 (0.88, 1.01)
12 to 13	1.0	1.1	0.10	* (0.0, 0.2)	1.00 (0.95, 1.05)
14 to 15	0.7	0.8	0.10	(0.0, 0.2)	0.79 (0.73, 0.85)
16 to 18	0.6	0.5	-0.07	(-0.2, 0.1)	0.55 (0.48, 0.61)
14 to 18	0.7	0.7	0.01	(-0.1, 0.1)	0.67 (0.62, 0.71)
Youth aged 9 to 18					
Males	0.7	0.7	-0.04	(-0.2, 0.1)	0.71 (0.65, 0.77)
Females	0.9	1.0	0.12	* (0.0, 0.2)	0.92 (0.88, 0.96)
White	0.8	0.8	0.04	(-0.1, 0.1)	0.80 (0.75, 0.85)
African American	0.9	0.9	-0.03	(-0.2, 0.1)	0.88 (0.80, 0.95)
Hispanic	0.8	0.9	0.12	(-0.1, 0.3)	0.81 (0.72, 0.90)
Northeast	0.7	0.8	0.13	(0.0, 0.3)	0.77 (0.69, 0.84)
South	0.8	0.9	0.02	(-0.1, 0.2)	0.85 (0.78, 0.92)
Midwest	0.8	0.8	-0.06	(-0.2, 0.1)	0.79 (0.72, 0.86)
West	0.8	0.8	0.08	(0.0, 0.2)	0.80 (0.74, 0.86)
Urban	0.8	0.8	0.04	(-0.1, 0.2)	0.79 (0.73, 0.85)
Suburban	0.8	0.9	0.10	(0.0, 0.2)	0.80 (0.74, 0.86)
Town and Rural	0.8	0.8	-0.01	(-0.1, 0.1)	0.84 (0.78, 0.89)
Sensation Seeking					
High	0.6	0.7	0.02	(-0.1, 0.1)	0.64 (0.59, 0.69)
Low	1.0	1.0	0.03	(-0.1, 0.1)	0.98 (0.93, 1.02)
Use of Marijuana					
Non-User	0.9	0.9	0.03	(0.0, 0.1)	0.90 (0.86, 0.93)
Occasional User	0.3	0.4	0.10	(-0.1, 0.3)	0.38 (0.26, 0.50)

¹Means among 9- to 11-year-old respondents represent the average response to a two-item evaluation scale (i.e., statements regarding whether the ad was attention-getting and personally relevant). Means among other respondents 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 3-12. Overall evaluation of TV ads by youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Agreement that TV ads exaggerate the problem ¹ (-2 = strongly agree, 2 = strongly disagree)				
	Wave 1		Wave 2		2000
	Mean	Wave 2 Mean	Estimate	95% CI	(Average Wave 1 and Wave 2) Estimate 95% CI
Youth aged 12 to 18					
12 to 13	0.81	0.86	0.05	(-0.1, 0.2)	0.84 (0.77, 0.90)
14 to 15	0.79	0.69	-0.10	(-0.3, 0.1)	0.74 (0.66, 0.82)
16 to 18	0.62	0.67	0.05	(-0.1, 0.2)	0.65 (0.56, 0.73)
14 to 18	0.70	0.68	-0.02	(-0.1, 0.1)	0.69 (0.63, 0.75)
Youth aged 12 to 18					
Males	0.66	0.65	-0.01	(-0.2, 0.1)	0.66 (0.58, 0.73)
Females	0.81	0.82	0.01	(-0.1, 0.1)	0.82 (0.76, 0.87)
White	0.72	0.74	0.02	(-0.1, 0.1)	0.73 (0.68, 0.78)
African American	0.80	0.75	-0.05	(-0.3, 0.2)	0.78 (0.66, 0.89)
Hispanic	0.72	0.72	0.00	(-0.2, 0.2)	0.72 (0.62, 0.82)
Northeast	0.67	0.74	0.07	(-0.1, 0.2)	0.71 (0.62, 0.79)
South	0.76	0.78	0.02	(-0.2, 0.2)	0.77 (0.68, 0.86)
Midwest	0.79	0.78	-0.01	(-0.2, 0.2)	0.79 (0.70, 0.87)
West	0.65	0.63	-0.02	(-0.2, 0.2)	0.64 (0.53, 0.75)
Urban	0.72	0.68	-0.04	(-0.2, 0.1)	0.70 (0.62, 0.78)
Suburban	0.70	0.84	0.14	(0.0, 0.3)	0.77 (0.69, 0.85)
Town and Rural	0.76	0.71	-0.05	(-0.2, 0.1)	0.74 (0.66, 0.81)
Sensation Seeking					
High	0.57	0.64	0.07	(-0.1, 0.2)	0.61 (0.54, 0.67)
Low	0.95	0.84	-0.11	(-0.3, 0.0)	0.90 (0.82, 0.97)
Use of Marijuana					
Non-User	0.83	0.82	-0.01	(-0.1, 0.1)	0.83 (0.78, 0.87)
Occasional User	0.36	0.53	0.17	(-0.1, 0.4)	0.45 (0.33, 0.56)

¹Mean reported represents average disagreement with statement that an ad "exaggerates the problem."

Table 3-13. Overall evaluation of TV ads by parents¹ by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Mean TV ad evaluation scale score ²				
	(-2 = most negative response, 2 = most positive response)				
	Wave 1 Mean	Wave 2 Mean	Change Wave 1 to Wave 2 Estimate	95% CI	2000 (Average Wave 1 and Wave 2) Estimate
Overall	1.08	1.07	-0.01	(-0.1, 0.1)	1.08 (1.04, 1.11)
Male	0.97	0.99	0.02	(-0.1, 0.1)	0.98 (0.92, 1.04)
Female	1.14	1.12	-0.02	(-0.1, 0.1)	1.13 (1.09, 1.17)
White	1.00	1.03	0.03	(-0.1, 0.1)	1.02 (0.97, 1.06)
African American	1.09	1.20	0.11	(-0.1, 0.3)	1.15 (1.06, 1.23)
Hispanic	1.36	1.19	-0.17	* (-0.3, 0.0)	1.28 (1.20, 1.35)
Less Than High School	1.19	1.26	0.07	(-0.1, 0.2)	1.23 (1.15, 1.30)
High School Graduate	1.06	1.08	0.02	(-0.1, 0.1)	1.07 (1.01, 1.13)
Some College	1.10	1.00	-0.10	(-0.2, 0.0)	1.05 (0.98, 1.12)
College Graduate	0.99	1.00	0.01	(-0.1, 0.2)	1.00 (0.92, 1.07)
Northeast	1.13	1.06	-0.07	(-0.2, 0.1)	1.10 (1.02, 1.17)
South	1.11	1.06	-0.05	(-0.2, 0.1)	1.09 (1.02, 1.15)
Midwest	0.93	1.05	0.12	(0.0, 0.3)	0.99 (0.92, 1.06)
West	1.12	1.10	-0.02	(-0.1, 0.1)	1.11 (1.05, 1.17)
Urban	1.08	1.16	0.08	(0.0, 0.2)	1.12 (1.06, 1.18)
Suburban	1.14	1.13	-0.01	(-0.1, 0.1)	1.14 (1.07, 1.20)
Town and Rural	1.04	0.98	-0.06	(-0.2, 0.0)	1.01 (0.96, 1.06)
One or more children ³ aged					
9 to 11	1.13	1.12	-0.01	(-0.1, 0.1)	1.13 (1.08, 1.17)
12 to 13	1.09	1.13	0.04	(-0.1, 0.1)	1.11 (1.06, 1.16)
14 to 18	1.07	1.02	-0.05	(-0.1, 0.0)	1.05 (1.00, 1.09)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Means 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).

³Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-14. Overall evaluation of TV ads by parents¹ by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Agreement that TV ads exaggerate the problem ² (-2 = strongly agree, 2 = strongly disagree)				
	Wave 1 Mean	Wave 2 Mean	2000		
			Wave 2 Estimate	95% CI	(Average Wave 1 and Wave 2) Estimate
Overall	0.93	1.05	0.12	* (0.0, 0.2)	0.99 (0.95, 1.03)
Male	0.85	1.03	0.18	* (0.0, 0.3)	0.94 (0.86, 1.02)
Female	0.98	1.07	0.09	(0.0, 0.2)	1.03 (0.97, 1.08)
White	0.98	1.08	0.10	(0.0, 0.2)	1.03 (0.97, 1.09)
African American	0.86	1.10	0.24	* (0.0, 0.5)	0.98 (0.87, 1.09)
Hispanic	0.89	0.96	0.07	(-0.2, 0.3)	0.93 (0.79, 1.06)
Less Than High School	0.81	0.80	-0.01	(-0.3, 0.2)	0.81 (0.68, 0.93)
High School Graduate	0.87	1.05	0.18	* (0.0, 0.3)	0.96 (0.88, 1.04)
Some College	1.09	1.13	0.04	(-0.1, 0.2)	1.11 (1.02, 1.20)
College Graduate	0.95	1.12	0.17	* (0.0, 0.3)	1.04 (0.95, 1.12)
Northeast	0.84	0.98	0.14	(-0.1, 0.4)	0.91 (0.80, 1.02)
South	0.99	1.07	0.08	(-0.1, 0.2)	1.03 (0.95, 1.11)
Midwest	0.90	1.14	0.24	* (0.0, 0.5)	1.02 (0.90, 1.14)
West	0.94	1.00	0.06	(-0.1, 0.2)	0.97 (0.89, 1.05)
Urban	0.85	0.92	0.07	(-0.1, 0.2)	0.89 (0.80, 0.97)
Suburban	1.01	1.14	0.13	(-0.1, 0.3)	1.08 (0.98, 1.17)
Town and Rural	0.96	1.10	0.14	(0.0, 0.3)	1.03 (0.96, 1.10)
One or more children ³ aged					
9 to 11	0.94	0.98	0.04	(-0.1, 0.2)	0.96 (0.90, 1.02)
12 to 13	0.97	1.06	0.09	(0.0, 0.2)	1.02 (0.95, 1.08)
14 to 18	0.88	1.07	0.19	* (0.0, 0.3)	0.98 (0.90, 1.05)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Mean reported represents average disagreement with statement that an ad "exaggerates the problem."

³Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-15. Percent of parents¹ recalling having heard parent-targeted Campaign radio ads at least once per week, averaged² over aired ads, by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent recalling having heard radio ads at least once per week					
	Wave 1		Wave 2		2000	
	Average %	Wave 2 Average %	Change Wave 1 to Wave 2 %	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Overall	9.8	10.2	0.4	10.0	(-2.0, 2.8)	(8.8, 11.2)
Male	11.4	14.1	2.7	12.8	(-1.2, 6.6)	(10.8, 14.7)
Female	8.8	7.2	-1.6	8.0	(-4.3, 1.1)	(6.6, 9.4)
White	8.5	11.7	3.2	10.1	*(0.3, 6.1)	(8.6, 11.6)
African American	11.1	9.1	-2.0	10.1	(-9.1, 5.1)	(6.6, 13.6)
Hispanic	15.9	6.5	-9.4	11.2	(-15.6, -3.2)	(8.1, 14.3)
Less Than High School	17.9	11.3	-6.6	14.6	(-13.9, 0.7)	(11.0, 18.2)
High School Graduate	10.1	10.0	-0.1	10.1	(-4.5, 4.3)	(7.8, 12.3)
Some College	10.1	11.0	0.9	10.6	(-3.6, 5.4)	(8.3, 12.8)
College Graduate	5.0	9.2	4.2	7.1	*(0.1, 8.3)	(5.0, 9.2)
Northeast	10.5	4.9	-5.6	7.7	*(-9.6, -1.6)	(5.7, 9.7)
South	9.5	10.2	0.7	9.9	(-3.7, 5.1)	(7.7, 12.0)
Midwest	11.1	14.5	3.4	12.8	(-2.5, 9.3)	(9.8, 15.8)
West	8.4	9.8	1.4	9.1	(-3.1, 5.9)	(6.8, 11.4)
Urban	9.2	8.8	-0.4	9.0	(-5.1, 4.3)	(6.7, 11.3)
Suburban	7.9	8.1	0.2	8.0	(-4.4, 4.8)	(5.7, 10.3)
Town and Rural	11.4	12.4	1.0	11.9	(-3.1, 5.1)	(9.9, 13.9)
One or more children ³ aged						
9 to 11	9.6	9.2	-0.4	9.4	(-3.2, 2.4)	(8.0, 10.8)
12 to 13	10.8	10.3	-0.5	10.6	(-4.1, 3.1)	(8.8, 12.3)
14 to 18	9.9	10.9	1.0	10.4	(-2.6, 4.6)	(8.6, 12.2)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Each ad was heard by a certain percentage of parents. These ad-specific percentages were averaged for this table. The average was a simple average with each ad receiving equal weight regardless of the length of time the ad was aired or the popularity of the shows in which it was placed.

³Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-16. Summary of recall of radio ads among parents overall for all strategic platforms

Total recall	Recall for all radio platform ads					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2		2000 (Average Wave 1 and Wave 2)	
			%	95% CI	%	95% CI
Parents with one or more children aged 9 to 18						
0	51.7	54.7	3.0	(-1.1, 7.1)	53.2	(51.2, 55.2)
0.01 to .99	9.2	6.0	-3.2	* (-5.0, -1.4)	7.6	(6.7, 8.5)
1 - 3.99	29.4	29.1	-0.3	(-3.7, 3.1)	29.3	(27.6, 30.9)
4 - 11.99	8.4	9.8	1.4	(-0.9, 3.7)	9.1	(7.9, 10.3)
12 or more	1.4	0.5	-0.9	* (-1.4, -0.4)	1.0	(0.7, 1.2)
Total	100.1	100.1	---	---	---	---
Mean	2.9	2.8	-0.1	(-0.5, 0.3)	2.9	(2.66, 3.04)

Table 3-17. Summary of recall of radio ads among parents for the "Parenting skills/personal efficacy" strategic platform ads

Total recall	Percent recalling "Parenting skills/personal efficacy" radio ads					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2		2000 (Average Wave 1 and Wave 2) %	
			%	95% CI	%	95% CI
Parents with one or more children aged 9 to 18						
0	66.7	54.7	-12.0	(-16.3, -7.7)	60.7	(58.6, 62.8)
0.01 to .99	7.5	6.0	-1.5	(-3.4, 0.4)	6.8	(5.8, 7.7)
1 - 3.99	21.6	29.1	7.5	*(4.0, 11.0)	25.4	(23.6, 27.1)
4 - 11.99	4.0	9.8	5.8	*(3.6, 8.0)	6.9	(5.8, 8.0)
12 or more	0.2	0.5	0.3	(-0.1, 0.7)	0.4	(0.2, 0.5)
Total	100.0	100.1	---	---	---	---
Mean	1.6	2.8	1.2	*(0.9, 1.5)	2.2	(2.03, 2.37)

Table 3-18. Summary of recall of radio ads among parents for the "Your child at risk" strategic platform ads

Total recall	Percent recalling "Your child at risk" radio ads					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	Wave 1 to Wave 2 %	95% CI	(Average of Wave 1 and Wave 2) %	95% CI
Parents with one or more children aged 9 to 18						
0	57.1	N/A ¹	N/A	N/A	57.1	(53.2,60.9)
0.01 to .99	7.9	N/A	N/A	N/A	7.9	(6.1,10.1)
1 - 3.99	26.6	N/A	N/A	N/A	26.6	(24.0,29.5)
4 - 11.99	7.6	N/A	N/A	N/A	7.6	(5.7,10.0)
12 or more	0.8	N/A	N/A	N/A	0.8	(0.3,1.9)
Total	100.0	N/A	---	---	100.0	
Mean	2.4	N/A	N/A	N/A	2.4	

¹Radio ads for the "Your child at risk" strategic platform were not aired during Wave 2.

²Because interviews included no ads in this platform, these estimates reflect a small sample size (from Wave 1 only).

Table 3-19. Summary of recall of radio ads among parents for the "Perceptions of harm/marijuana" strategic platform ads

	Percent recalling "Perceptions of harm/marijuana" radio ads				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	2000 (Average2 Wave 1 and Wave 2) %	95% CI
Total recall					
Parents with one or more children aged 9 to 18					
0	69.0	N/A ¹	N/A	69.9	(63.3,75.7)
0.01 to .99	9.5	N/A	N/A	11.6	(8.0,16.5)
1 - 3.99	19.1	N/A	N/A	16.2	(12.3,21.0)
4 - 11.99	2.3	N/A	N/A	2.4	(0.9,6.3)
12 or more	0.0	N/A	N/A		
Total	99.9	N/A	---	---	---
Mean	1.1	N/A	N/A	1.1	N/A

¹Radio ads for the "Perceptions of harm/marijuana" strategic platform were not aired during Wave 2.

²Because interviews included no ads in this platform, these estimates reflect a small sample size (from Wave 1 only).

Table 3-19A. Percent of youth¹ recalling having heard all radio ads at least once per week, averaged² over aired ads, by gender, race/ethnicity, region and urbanicity

Characteristics	Percent recalling having heard all radio ads at least once per week ³			
	Wave 1 Average %	Wave 2 Average %	Change Wave 1 to Wave 2 %	2000 (Average Wave 1 and Wave 2) % 95% CI
Youth aged 12 to 18				
12 to 13	N/A	4.0	N/A	N/A
14 to 15	N/A	5.0	N/A	N/A
16 to 18	N/A	2.5	N/A	N/A
14 to 18	N/A	3.6	N/A	N/A
Youth aged 12 to 18				
Males	N/A	2.2	N/A	N/A
Females	N/A	5.3	N/A	N/A
White	N/A	3.4	N/A	N/A
African American	N/A	5.4	N/A	N/A
Hispanic	N/A	4.6	N/A	N/A
Northeast	N/A	4.1	N/A	N/A
South	N/A	5.2	N/A	N/A
Midwest	N/A	2.3	N/A	N/A
West	N/A	3.0	N/A	N/A
Urban	N/A	4.1	N/A	N/A
Suburban	N/A	3.1	N/A	N/A
Town and Rural	N/A	3.8	N/A	N/A
Sensation Seeking				
High	N/A	2.7	N/A	N/A
Low	N/A	4.8	N/A	N/A
Use of Marijuana				
Non-User	N/A	4.7	N/A	N/A
Occasional User	N/A	s	N/A	N/A

¹Children aged 9-11 were not asked about radio

²Each ad was heard by a certain percentage of parents. These ad-specific percentages were averaged for this table. The average was a simple average with each ad receiving equal weight regardless of the length of time the ad was aired or the popularity of the shows in which it was placed.

³Wave 1 interviews asked respondents only about ads that had aired exclusively on the radio and did not ask about radio ads that essentially were the soundtracks for television ads. Wave 2 data are unaffected by this decision since there were no such radio ads and future waves will not have this restriction.

Table 3-19B. Summary of recall of radio ads among youth¹ overall for all strategic platforms

Total recall (viewings per month)	Recall for all radio platform ads					
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Youth aged 12 to 18						
0	N/A	64.2	N/A	N/A	N/A	N/A
0.01 to .99	N/A	11.2	N/A	N/A	N/A	N/A
1 - 3.99	N/A	20.9	N/A	N/A	N/A	N/A
4 - 11.99	N/A	3.5	N/A	N/A	N/A	N/A
12 or more	N/A	0.2	N/A	N/A	N/A	N/A
Total	N/A	100.0	N/A	N/A	N/A	N/A
Mean	N/A	1.4	N/A	N/A	N/A	N/A

¹Children aged 9-11 were not asked about radio

Table 3-19C. Summary of recall of radio ads among youth for the "Negative consequences" strategic platform ads

Total recall (viewings per month)	Percent recalling "Negative consequences" radio ads				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) %
Youth aged 12 to 18					
0	N/A	74.3	N/A	N/A	N/A
0.01 to .99	N/A	10.4	N/A	N/A	N/A
1 - 3.99	N/A	13.0	N/A	N/A	N/A
4 - 11.99	N/A	2.1	N/A	N/A	N/A
12 or more	N/A	0.1	N/A	N/A	N/A
Total	N/A	99.9	N/A	N/A	N/A
Mean	N/A	0.9	N/A	N/A	N/A

¹Children aged 9-11 were not asked about radio

Table 3-19D. Summary of recall of radio ads among youth¹ for the "Normative positive consequences" strategic platform ads

Total recall (viewings per month)	Percent recalling "Normative positive consequences" radio ads				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	2000 (Average Wave 1 and Wave 2) %	95% CI
Youth aged 12 to 18					
0	N/A	s	N/A	N/A	N/A
0.01 to .99	N/A	11.6	N/A	N/A	N/A
1 - 3.99	N/A	30.7	N/A	N/A	N/A
4 - 11.99	N/A	s	N/A	N/A	N/A
12 or more	N/A	0.0	N/A	N/A	N/A
Total	N/A	42.3	N/A	N/A	N/A
Mean	N/A	1.5	N/A	N/A	N/A

¹Children aged 9-11 were not asked about radio

Table 3-19E. Summary of recall of radio ads among youth¹ for the "Resistance skills" strategic platform ads

Total recall (viewings per month)	Percent recalling "Resistance skills" radio ads					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Youth aged 12 to 13						
0	N/A	47.7	N/A	N/A	N/A	N/A
0.01 to .99	N/A	16.5	N/A	N/A	N/A	N/A
1 - 3.99	N/A	33.8	N/A	N/A	N/A	N/A
4 - 11.99	N/A	2.0	N/A	N/A	N/A	N/A
12 or more	N/A	0.0	N/A	N/A	N/A	N/A
Total	N/A	100.0	N/A	N/A	N/A	N/A
Mean	N/A	1.8	N/A	N/A	N/A	N/A
Youth aged 14 to 18						
0	N/A	51.0	N/A	N/A	N/A	N/A
0.01 to .99	N/A	13.5	N/A	N/A	N/A	N/A
1 - 3.99	N/A	29.1	N/A	N/A	N/A	N/A
4 - 11.99	N/A	6.5	N/A	N/A	N/A	N/A
12 or more	N/A	0.0	N/A	N/A	N/A	N/A
Total	N/A	100.1	N/A	N/A	N/A	N/A
Mean	N/A	2.0	N/A	N/A	N/A	N/A

¹Children aged 9-11 were not asked about radio

Table 3-20. Recall of general anti-drug advertising among youth

Total recall Number of ad viewing per month	Percent recalling general anti-drug advertising					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	Wave 1 to Wave 2 95% CI	(Average Wave 1 and Wave 2) %	2000 95% CI
Children aged 9 to 11						
0 to .99	19.6	20.6	1.0	(-3.3, 5.3)	20.1	(18.0, 22.2)
1 - 3.99	20.4	22.1	1.7	(-2.6, 6.0)	21.3	(19.1, 23.4)
4 - 11.99	21.2	19.7	-1.5	(-5.7, 2.7)	20.5	(18.4, 22.5)
12 or more	38.8	37.7	-1.1	(-7.3, 5.1)	38.3	(35.1, 41.4)
Total	100.0	100.1	---	---	---	---
Mean	27.0	24.4	-2.6	(-6.2, 1.0)	25.7	(23.89, 27.51)
Adolescents aged 12 to 13						
0 to .99	10.6	8.1	-2.5	(-6.7, 1.7)	9.4	(7.2, 11.5)
1 - 3.99	17.5	16.2	-1.3	(-6.0, 3.4)	16.9	(14.5, 19.2)
4 - 11.99	26.1	28.6	2.5	(-1.9, 6.9)	27.4	(25.1, 29.6)
12 or more	45.8	47.1	1.3	(-2.6, 5.2)	46.5	(44.5, 48.4)
Total	100.0	100.0	---	---	---	---
Mean	28.3	32.2	3.9	(-0.3, 8.1)	30.3	(28.13, 32.37)
Teens aged 14 to 18						
0 to .99	6.3	5.6	-0.7	(-3.5, 2.1)	6.0	(4.6, 7.3)
1 - 3.99	18.8	17.1	-1.7	(-6.4, 3.0)	18.0	(15.6, 20.3)
4 - 11.99	28.1	24.4	-3.7	(-9.2, 1.8)	26.3	(23.5, 29.0)
12 or more	46.9	52.8	5.9	(-0.1, 11.9)	49.9	(46.8, 52.9)
Total	100.1	99.9	---	---	---	---
Mean	26.6	32.8	6.2	*(2.3, 10.1)	29.7	(27.75, 31.65)

Table 3-20. Recall of general anti-drug advertising among youth (continued)

Characteristics	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Youths aged 9 to 18						
Males						
0 to .99	11.4	11.0	-0.4	(-2.9, 2.1)	11.2	(10.0, 12.4)
1 - 3.99	18.6	18.5	-0.1	(-3.8, 3.6)	18.6	(16.7, 20.4)
4 - 11.99	25.1	24.2	-0.9	(-5.2, 3.4)	24.7	(22.5, 26.8)
12 or more	44.9	46.4	1.5	(-3.1, 6.1)	45.7	(43.4, 47.9)
Total	100.0	100.1	---	---	---	---
Mean	28.8	31.2	2.4	(-0.8, 5.6)	30.0	(28.42, 31.58)
Females						
0 to .99	11.0	10.8	-0.2	(-3.2, 2.8)	10.9	(9.4, 12.4)
1 - 3.99	19.5	18.5	-1.0	(-4.7, 2.7)	19.0	(17.2, 20.8)
4 - 11.99	26.1	23.3	-2.8	(-7.1, 1.5)	24.7	(22.5, 26.9)
12 or more	43.4	47.4	4.0	(-1.6, 9.6)	45.4	(42.6, 48.2)
Total	100.0	100.0	---	---	---	---
Mean	25.3	28.9	3.6	* (0.2, 7.0)	27.1	(25.39, 28.81)
White						
0 to .99	9.7	10.0	0.3	(-1.9, 2.5)	9.9	(8.8, 10.9)
1 - 3.99	19.6	18.6	-1.0	(-4.7, 2.7)	19.1	(17.3, 20.9)
4 - 11.99	27.4	25.1	-2.3	(-6.3, 1.7)	26.3	(24.3, 28.2)
12 or more	43.2	46.3	3.1	(-1.6, 7.8)	44.8	(42.4, 47.1)
Total	99.9	100.0	---	---	---	---
Mean	24.9	26.9	2.0	(-1.0, 5.0)	25.9	(24.40, 27.40)

Table 3-20. Recall of general anti-drug advertising among youth (continued)

Characteristics	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Change Wave 1 to Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
African American						
0 to .99	13.5	12.3	-1.2	(-7.1, 4.7)	12.9	(10.0, 15.8)
1 - 3.99	16.6	19.4	2.8	(-3.9, 9.5)	18.0	(14.6, 21.4)
4 - 11.99	20.3	21.4	1.1	(-6.2, 8.4)	20.9	(17.2, 24.5)
12 or more	49.6	46.9	-2.7	(-13.1, 7.7)	48.3	(43.0, 53.5)
Total	100.0	100.0	---	---	100.0	---
Mean	34.9	41.0	6.1	(-1.5, 13.7)	38.0	(34.16, 41.74)
Hispanic						
0 to .99	14.9	13.6	-1.3	(-7.6, 5.0)	14.3	(11.1, 17.4)
1 - 3.99	19.7	18.3	-1.4	(-8.7, 5.9)	19.0	(15.4, 22.6)
4 - 11.99	22.7	16.1	-6.6	(-13.4, 0.2)	19.4	(16.0, 22.8)
12 or more	42.6	52.0	9.4	*(0.1, 18.7)	47.3	(42.7, 51.9)
Total	99.9	100.0	---	---	---	---
Mean	28.4	33.2	4.8	(-0.9, 10.5)	30.8	(27.94, 33.66)
Northeast						
0 to .99	10.4	8.0	-2.4	(-5.9, 1.1)	9.2	(7.4, 11.0)
1 - 3.99	20.4	17.1	-3.3	(-10.7, 4.1)	18.8	(15.1, 22.4)
4 - 11.99	27.1	27.2	0.1	(-7.9, 8.1)	27.2	(23.1, 31.2)
12 or more	42.1	47.7	5.6	(-2.4, 13.6)	44.9	(40.9, 48.9)
Total	100.0	100.0	---	---	---	---
Mean	27.3	34.1	6.8	*(1.0, 12.6)	30.7	(27.82, 33.58)
South						
0 to .99	13.5	8.9	-4.6	*(-8.6, -0.6)	11.2	(9.2, 13.2)
1 - 3.99	17.9	20.0	2.1	(-2.6, 6.8)	19.0	(16.6, 21.3)
4 - 11.99	22.8	22.3	-0.5	(-5.2, 4.2)	22.6	(20.2, 24.9)
12 or more	45.7	48.8	3.1	(-4.5, 10.7)	47.3	(43.5, 51.0)
Total	99.9	100.0	---	---	---	---
Mean	27.2	29.7	2.5	(-2.2, 7.2)	28.5	(26.11, 30.79)

Table 3-20. Recall of general anti-drug advertising among youth (continued)

Characteristics	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Midwest						
0 to .99	9.8	14.0	4.2	(-0.1, 8.5)	11.9	(9.7, 14.1)
1 - 3.99	19.5	18.4	-1.1	(-7.2, 5.0)	19.0	(15.9, 22.0)
4 - 11.99	25.3	22.6	-2.7	(-8.9, 3.5)	24.0	(20.8, 27.1)
12 or more	45.4	44.9	-0.5	(-7.7, 6.7)	45.2	(41.6, 48.7)
Total	100.0	99.9	---	---	---	---
Mean	28.0	28.0	0.0	(-5.3, 5.3)	28.0	(25.36, 30.64)
West						
0 to .99	9.5	12.5	3.0	(-0.3, 6.3)	11.0	(9.3, 12.7)
1 - 3.99	20.0	17.9	-2.1	(-7.5, 3.3)	19.0	(16.3, 21.6)
4 - 11.99	29.5	24.7	-4.8	(-10.6, 1.0)	27.1	(24.2, 30.0)
12 or more	41.0	44.8	3.8	(-3.2, 10.8)	42.9	(39.4, 46.4)
Total	100.0	99.9	---	---	---	---
Mean	25.6	29.5	3.9	(-0.6, 8.4)	27.6	(25.32, 29.78)
Urban						
0 to .99	9.6	10.8	1.2	(-2.5, 4.9)	10.2	(8.4, 12.0)
1 - 3.99	19.4	18.4	-1.0	(-6.2, 4.2)	18.9	(16.3, 21.5)
4 - 11.99	24.2	23.5	-0.7	(-6.0, 4.6)	23.9	(21.2, 26.5)
12 or more	46.8	47.4	0.6	(-6.5, 7.7)	47.1	(43.5, 50.7)
Total	100.0	100.1	---	---	---	---
Mean	31.4	35.1	3.7	(-0.8, 8.2)	33.3	(30.99, 35.51)
Suburban						
0 to .99	9.7	10.1	0.4	(-3.3, 4.1)	9.9	(8.0, 11.8)
1 - 3.99	18.7	16.1	-2.6	(-7.6, 2.4)	17.4	(14.9, 19.9)
4 - 11.99	27.9	23.6	-4.3	(-9.4, 0.8)	25.8	(23.2, 28.3)
12 or more	43.7	50.1	6.4	(-0.4, 13.2)	46.9	(43.5, 50.3)
Total	100.0	99.9	---	---	---	---
Mean	25.3	30.1	4.8	(-0.1, 9.7)	27.7	(25.25, 30.15)

Table 3-20. Recall of general anti-drug advertising among youth (continued)

Characteristics	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Town and Rural						
0 to .99	13.3	11.4	-1.9	(-5.1, 1.3)	12.4	(10.8, 13.9)
1 - 3.99	18.9	19.9	1.0	(-3.2, 5.2)	19.4	(17.3, 21.5)
4 - 11.99	25.3	24.0	-1.3	(-5.9, 3.3)	24.7	(22.4, 26.9)
12 or more	42.4	44.7	2.3	(-3.6, 8.2)	43.6	(40.6, 46.5)
Total	99.9	100.0	---	---	---	---
Mean	24.7	26.4	1.7	(-2.5, 5.9)	25.6	(23.45, 27.65)
Sensation Seeking						
High						
0 to .99	7.3	5.7	-1.6	(-3.8, 0.6)	6.5	(5.4, 7.6)
1 - 3.99	18.1	15.8	-2.3	(-5.8, 1.2)	17.0	(15.2, 18.7)
4 - 11.99	27.0	26.3	-0.7	(-5.2, 3.8)	26.7	(24.4, 28.9)
12 or more	47.6	52.3	4.7	*(0.1, 9.3)	50.0	(47.6, 52.3)
Total	100.0	100.1	---	---	---	---
Mean	28.4	34.3	5.9	*(2.0, 9.8)	31.4	(29.40, 33.30)
Low						
0 to .99	14.0	15.0	1.0	(-2.4, 4.4)	14.5	(12.8, 16.2)
1 - 3.99	20.0	21.0	1.0	(-3.2, 5.2)	20.5	(18.4, 22.6)
4 - 11.99	24.7	21.8	-2.9	(-6.5, 0.7)	23.3	(21.5, 25.0)
12 or more	41.3	42.2	0.9	(-4.8, 6.6)	41.8	(38.9, 44.6)
Total	100.0	100.0	---	---	---	---
Mean	26.2	26.0	-0.2	(-3.6, 3.2)	26.1	(24.42, 27.78)

Table 3-21. Recall of general TV and radio advertising by youth by age, gender, race/ethnicity, region, urbanicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth reporting having seen or heard ad at least weekly						
	Wave 1		Wave 2		2000		
	%	95% CI	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI	
All Youth aged 9 to 18							
9 to 11	44.4		40.3	-4.1	(-9.5, 1.3)	42.4	(39.6, 45.1)
12 to 13	52.7		53.3	0.6	(-6.0, 7.2)	53.0	(49.7, 56.3)
14 to 15	58.0		61.0	3.0	(-4.8, 10.8)	59.5	(55.6, 63.4)
16 to 18	53.0		62.4	9.4	*(2.0, 16.8)	57.7	(54.0, 61.4)
14 to 18	55.2		61.8	6.6	*(0.8, 12.4)	58.5	(55.6, 61.4)
Youth aged 9 to 18							
Males	51.2		54.6	3.4	(-1.6, 8.4)	52.9	(50.4, 55.4)
Females	51.4		52.0	0.6	(-4.8, 6.0)	51.7	(49.0, 54.4)
White	52.6		53.5	0.9	(-3.6, 5.4)	53.1	(50.8, 55.3)
African American	51.8		53.9	2.1	(-8.4, 12.6)	52.9	(47.6, 58.1)
Hispanic	42.7		52.7	10.0	*(2.9, 17.1)	47.7	(44.2, 51.2)
Northeast	49.5		56.5	7.0	(-1.4, 15.4)	53.0	(48.8, 57.2)
South	50.8		53.9	3.1	(-5.7, 11.9)	52.4	(47.9, 56.8)
Midwest	53.7		52.7	-1.0	(-7.4, 5.4)	53.2	(50.0, 56.4)
West	50.5		50.9	0.4	(-5.3, 6.1)	50.7	(47.8, 53.6)
Urban	52.5		53.0	0.5	(-6.2, 7.2)	52.8	(49.4, 56.1)
Suburban	49.4		57.9	8.5	*(2.2, 14.8)	53.7	(50.5, 56.8)
Town and Rural	51.4		50.9	-0.5	(-6.7, 5.7)	51.2	(48.1, 54.2)
Sensation Seeking							
High	55.5		61.4	5.9	*(0.9, 10.9)	58.5	(55.9, 61.0)
Low	47.7		47.1	-0.6	(-6.5, 5.3)	47.4	(44.5, 50.3)

Table 3-22. Recall of newspaper and magazine advertising by youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth reporting having seen newspaper and magazine ad at least weekly					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	18.8	19.1	0.3	(-3.6, 4.2)	19.0	(17.0, 20.9)
12 to 13	25.3	30.0	4.7	(-0.3, 9.7)	27.7	(25.1, 30.2)
14 to 15	27.6	32.0	4.4	(-3.1, 11.9)	29.8	(26.0, 33.6)
16 to 18	21.9	30.1	8.2	*(1.8, 14.6)	26.0	(22.8, 29.2)
14 to 18	24.4	31.0	6.6	*(1.8, 11.4)	27.7	(25.3, 30.1)
Youth aged 9 to 18						
Males	23.9	26.8	2.9	(-1.1, 6.9)	25.4	(23.4, 27.3)
Females	21.6	27.3	5.7	*(1.6, 9.8)	24.5	(22.4, 26.5)
White	20.8	25.1	4.3	*(0.6, 8.0)	23.0	(21.1, 24.8)
African American	28.8	32.9	4.1	(-3.0, 11.2)	30.9	(27.3, 34.4)
Hispanic	26.0	30.0	4.0	(-3.2, 11.2)	28.0	(24.4, 31.6)
Northeast	21.9	30.1	8.2	*(2.4, 14.0)	26.0	(23.1, 28.9)
South	24.5	26.6	2.1	(-3.8, 8.0)	25.6	(22.6, 28.5)
Midwest	23.7	25.7	2.0	(-3.5, 7.5)	24.7	(21.9, 27.5)
West	19.7	26.3	6.6	*(1.4, 11.8)	23.0	(20.4, 25.6)
Urban	25.1	31.4	6.3	*(1.5, 11.1)	28.3	(25.9, 30.6)
Suburban	22.5	25.1	2.6	(-2.7, 7.9)	23.8	(21.1, 26.5)
Town and Rural	21.1	24.9	3.8	(-1.2, 8.8)	23.0	(20.5, 25.5)
Sensation Seeking						
High	24.6	32.1	7.5	*(2.5, 12.5)	28.4	(25.9, 30.8)
Low	21.8	22.9	1.1	(-2.7, 4.9)	22.4	(20.4, 24.3)

Table 3-23. Recall of movie theatre and video rental advertising by youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth reporting having seen movie theatre and video rental ad at least weekly					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	95% CI	%	95% CI	%	95% CI
All Youth aged 9 to 18						
9 to 11	9.2	(8.0, 11.0)	9.8	(8.0, 11.0)	0.6	(-2.4, 3.6)
12 to 13	7.8	(6.4, 9.4)	8.0	(6.4, 9.4)	0.2	(-2.8, 3.2)
14 to 15	6.2	(4.7, 8.3)	6.8	(4.7, 8.3)	0.6	(-2.9, 4.1)
16 to 18	6.4	(5.7, 9.9)	9.2	(5.7, 9.9)	2.8	(-1.4, 7.0)
14 to 18	6.3	(5.9, 8.5)	8.1	(5.9, 8.5)	1.8	(-0.8, 4.4)
Youth aged 9 to 18						
Males	8.9	(7.5, 10.1)	8.7	(7.5, 10.1)	-0.2	(-2.7, 2.3)
Females	6.0	(6.0, 8.6)	8.6	(6.0, 8.6)	2.6	*(0.1, 5.1)
White	5.8	(5.1, 7.3)	6.6	(5.1, 7.3)	0.8	(-1.5, 3.1)
African American	12.4	(11.9, 17.2)	16.7	(11.9, 17.2)	4.3	(-0.9, 9.5)
Hispanic	10.5	(8.0, 12.4)	9.9	(8.0, 12.4)	-0.6	(-4.9, 3.7)
Northeast	5.4	(5.9, 10.7)	11.2	(5.9, 10.7)	5.8	*(1.1, 10.5)
South	8.0	(6.1, 9.6)	7.7	(6.1, 9.6)	-0.3	(-3.8, 3.2)
Midwest	7.8	(6.0, 9.9)	8.1	(6.0, 9.9)	0.3	(-3.7, 4.3)
West	7.9	(6.4, 9.8)	8.3	(6.4, 9.8)	0.4	(-2.9, 3.7)
Urban	10.1	(9.0, 12.4)	11.3	(9.0, 12.4)	1.2	(-2.1, 4.5)
Suburban	5.5	(5.1, 8.6)	8.2	(5.1, 8.6)	2.7	(-0.8, 6.2)
Town and Rural	6.6	(5.3, 8.1)	6.8	(5.3, 8.1)	0.2	(-2.6, 3.0)
Sensation Seeking						
High	7.1	(6.8, 9.5)	9.2	(6.8, 9.5)	2.1	(-0.5, 4.7)
Low	8.2	(6.4, 9.3)	7.5	(6.4, 9.3)	-0.7	(-3.5, 2.1)

Table 3-24. Recall of billboard and other public posting advertising by youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth reporting having seen billboard and other public posting ad at least weekly					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	23.7	23.2	-0.5	(-5.3, 4.3)	23.5	(21.0, 25.9)
12 to 13	26.8	30.0	3.2	(-1.6, 8.0)	28.4	(26.0, 30.8)
14 to 15	31.1	23.5	-7.6	(-15.4, 0.2)	27.3	(23.4, 31.2)
16 to 18	25.9	25.6	-0.3	(-6.9, 6.3)	25.8	(22.5, 29.0)
14 to 18	28.3	24.6	-3.7	(-8.6, 1.2)	26.5	(24.0, 28.9)
Youth aged 9 to 18						
Males	27.9	26.2	-1.7	(-5.8, 2.4)	27.1	(25.0, 29.1)
Females	25.1	24.3	-0.8	(-5.4, 3.8)	24.7	(22.4, 27.0)
White	24.3	23.4	-0.9	(-5.0, 3.2)	23.9	(21.8, 25.9)
African American	35.0	30.9	-4.1	(-12.2, 4.0)	33.0	(28.9, 37.0)
Hispanic	28.4	28.5	0.1	(-6.7, 6.9)	28.5	(25.1, 31.8)
Northeast	31.2	29.7	-1.5	(-9.6, 6.6)	30.5	(26.4, 34.5)
South	26.2	22.7	-3.5	(-8.0, 1.0)	24.5	(22.2, 26.7)
Midwest	26.0	24.6	-1.4	(-9.3, 6.5)	25.3	(21.4, 29.2)
West	24.5	25.9	1.4	(-5.0, 7.8)	25.2	(22.0, 28.4)
Urban	30.3	29.5	-0.8	(-6.4, 4.8)	29.9	(27.1, 32.7)
Suburban	29.0	25.1	-3.9	(-10.1, 2.3)	27.1	(23.9, 30.2)
Town and Rural	22.1	22.1	0.0	(-5.2, 5.2)	22.1	(19.5, 24.7)
Sensation Seeking						
High	28.9	27.4	-1.5	(-5.8, 2.8)	28.2	(26.0, 30.3)
Low	24.8	23.3	-1.5	(-6.3, 3.3)	24.1	(21.7, 26.4)

Table 3-25. Summary of recall of general anti-drug advertising among parents

Total recall Number of ad viewing per month	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000 (Average Wave 1 and Wave 2)	
	%	%	%	%	%	95% CI
Overall						
0 to .99	7.7	6.6	-1.1	(-3.1, 0.9)	7.2	(6.1, 8.2)
1 - 3.99	22.7	23.4	0.7	(-2.7, 4.1)	23.1	(21.3, 24.8)
4 - 11.99	29.1	29.5	0.4	(-3.1, 3.9)	29.3	(27.6, 31.0)
12 or more	40.5	40.5	0.0	(-4.3, 4.3)	40.5	(38.4, 42.6)
Total	100.0	100.0	---	---	---	---
Mean	21.8	20.3	-1.5	(-3.6, 0.6)	21.1	(20.02, 22.08)
Male						
0 to .99	6.3	5.2	-1.1	(-3.8, 1.6)	5.8	(4.4, 7.1)
1 - 3.99	23.2	25.5	2.3	(-3.9, 8.5)	24.4	(21.3, 27.4)
4 - 11.99	31.6	30.1	-1.5	(-7.4, 4.4)	30.9	(27.9, 33.8)
12 or more	38.8	39.2	0.4	(-6.3, 7.1)	39.0	(35.7, 42.3)
Total	99.9	100.0	---	---	---	---
Mean	21.3	18.5	-2.8	(-6.0, 0.4)	19.9	(18.30, 21.50)
Female						
0 to .99	8.6	7.6	-1.0	(-3.6, 1.6)	8.1	(6.8, 9.4)
1 - 3.99	22.4	21.8	-0.6	(-4.7, 3.5)	22.1	(20.1, 24.1)
4 - 11.99	27.6	29.0	1.4	(-3.0, 5.8)	28.3	(26.1, 30.5)
12 or more	41.4	41.6	0.2	(-4.7, 5.1)	41.5	(39.0, 44.0)
Total	100.0	100.0	---	---	---	---
Mean	22.1	21.7	-0.4	(-3.0, 2.2)	21.9	(20.61, 23.19)

Table 3-25. Summary of recall of general anti-drug advertising among parents (continued)

Total recall Number of ad viewing per month	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
White						
0 to .99	7.1	5.4	-1.7	(-4.0, 0.6)	6.3	(5.1, 7.4)
1 - 3.99	23.9	24.9	1.0	(-3.2, 5.2)	24.4	(22.3, 26.5)
4 - 11.99	31.3	31.6	0.3	(-4.0, 4.6)	31.5	(29.3, 33.6)
12 or more	37.7	38.1	0.4	(-4.6, 5.4)	37.9	(35.4, 40.4)
Total	100.0	100.0	---	---	---	---
Mean	18.0	16.7	-1.3	(-3.4, 0.8)	17.4	(16.28, 18.42)
African American						
0 to .99	5.8	9.7	3.9	(-1.5, 9.3)	7.8	(5.0, 10.5)
1 - 3.99	17.1	13.9	-3.2	(-9.6, 3.2)	15.5	(12.3, 18.7)
4 - 11.99	27.0	25.7	-1.3	(-9.0, 6.4)	26.4	(22.5, 30.2)
12 or more	50.1	50.8	0.7	(-8.2, 9.6)	50.5	(46.0, 54.9)
Total	100.0	100.1	---	---	---	---
Mean	33.4	31.6	-1.8	(-5.3, 1.7)	32.5	(30.76, 34.24)
Hispanic						
0 to .99	7.4	7.2	-0.2	(-5.2, 4.8)	7.3	(4.8, 9.8)
1 - 3.99	18.1	21.9	3.8	(-4.1, 11.7)	20.0	(16.1, 23.9)
4 - 11.99	23.4	22.3	-1.1	(-10.5, 8.3)	22.9	(18.1, 27.6)
12 or more	51.0	48.6	-2.4	(-14.0, 9.2)	49.8	(44.0, 55.6)
Total	99.9	100.0	---	---	---	---
Mean	30.7	29.6	-1.1	(-9.1, 6.9)	30.2	(26.15, 34.15)

Table 3-25. Summary of recall of general anti-drug advertising among parents (continued)

Total recall Number of ad viewing per month	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Less Than High School						
0 to .99	11.8	10.7	-1.1	(-7.6, 5.4)	11.3	(8.0, 14.5)
1 - 3.99	26.8	29.5	2.7	(-8.3, 13.7)	28.2	(22.6, 33.7)
4 - 11.99	18.5	21.0	2.5	(-5.3, 10.3)	19.8	(15.8, 23.7)
12 or more	42.8	38.8	-4.0	(-14.3, 6.3)	40.8	(35.7, 45.9)
Total	99.9	100.0	---	---	---	---
Mean	25.9	22.4	-3.5	(-9.4, 2.4)	24.2	(21.22, 27.08)
High School Graduate						
0 to .99	7.9	7.5	-0.4	(-4.0, 3.2)	7.7	(5.9, 9.5)
1 - 3.99	21.1	23.0	1.9	(-3.6, 7.4)	22.1	(19.3, 24.8)
4 - 11.99	27.6	26.5	-1.1	(-7.0, 4.8)	27.1	(24.1, 30.0)
12 or more	43.3	43.0	-0.3	(-7.2, 6.6)	43.2	(39.7, 46.6)
Total	99.9	100.0	---	---	---	---
Mean	24.3	23.0	-1.3	(-5.1, 2.5)	23.7	(21.73, 25.57)
Some College						
0 to .99	4.8	5.5	0.7	(-2.7, 4.1)	5.2	(3.5, 6.8)
1 - 3.99	21.1	17.7	-3.4	(-9.4, 2.6)	19.4	(16.4, 22.4)
4 - 11.99	30.4	32.8	2.4	(-4.7, 9.5)	31.6	(28.1, 35.1)
12 or more	43.6	44.1	0.5	(-7.5, 8.5)	43.9	(39.9, 47.8)
Total	99.9	100.1	---	---	---	---
Mean	21.2	20.3	-0.9	(-4.4, 2.6)	20.8	(18.99, 22.51)
College Graduate						
0 to .99	7.7	4.3	-3.4	* (-6.7, -0.1)	6.0	(4.3, 7.7)
1 - 3.99	24.8	27.7	2.9	(-4.8, 10.6)	26.3	(22.4, 30.1)
4 - 11.99	35.1	33.3	-1.8	(-9.0, 5.4)	34.2	(30.6, 37.8)
12 or more	32.5	34.7	2.2	(-5.6, 10.0)	33.6	(29.7, 37.5)
Total	100.1	100.0	---	---	---	---
Mean	17.0	15.5	-1.5	(-4.8, 1.8)	16.3	(14.59, 17.91)

Table 3-25. Summary of recall of general anti-drug advertising among parents (continued)

Total recall Number of ad viewing per month	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
Northeast						
0 to .99	9.7	3.1	-6.6	* (-9.7, -2.8)	6.4	(4.5, 8.3)
1 - 3.99	22.5	22.7	0.2	(-8.6, 9.0)	22.6	(18.2, 27.0)
4 - 11.99	23.9	26.2	2.3	(-6.9, 11.5)	25.1	(20.4, 29.7)
12 or more	43.9	47.9	4.0	(-5.9, 13.9)	45.9	(41.0, 50.8)
Total	100.0	99.9	---	---	---	---
Mean	22.9	26.2	3.3	(-3.1, 9.7)	24.6	(21.35, 27.75)
South						
0 to .99	7.6	7.7	0.1	(-3.3, 3.5)	7.7	(6.0, 9.3)
1 - 3.99	25.0	24.1	-0.9	(-6.0, 4.2)	24.6	(22.0, 27.1)
4 - 11.99	30.8	26.9	-3.9	(-9.3, 1.5)	28.9	(26.2, 31.5)
12 or more	36.6	41.2	4.6	(-3.1, 12.3)	38.9	(35.1, 42.7)
Total	100.0	99.9	---	---	---	---
Mean	21.6	19.3	-2.3	(-5.6, 1.0)	20.5	(18.78, 22.12)
Midwest						
0 to .99	7.7	7.8	0.1	(-5.0, 5.2)	7.8	(5.2, 10.3)
1 - 3.99	19.7	20.7	1.0	(-6.7, 8.7)	20.2	(16.4, 24.0)
4 - 11.99	30.4	33.9	3.5	(-4.2, 11.2)	32.2	(28.3, 36.0)
12 or more	42.2	37.6	-4.6	(-14.3, 5.1)	39.9	(35.0, 44.8)
Total	100.0	100.0	---	---	---	---
Mean	21.7	20.1	-1.6	(-5.8, 2.6)	20.9	(18.79, 23.01)
West						
0 to .99	6.4	6.1	-0.3	(-4.2, 3.6)	6.3	(4.3, 8.2)
1 - 3.99	22.9	24.9	2.0	(-5.4, 9.4)	23.9	(20.2, 27.6)
4 - 11.99	28.5	31.1	2.6	(-4.8, 10.0)	29.8	(26.1, 33.5)
12 or more	42.2	37.8	-4.4	(-11.7, 2.9)	40.0	(36.4, 43.6)
Total	100.0	99.9	---	---	---	---
Mean	21.7	18.1	-3.6	(-8.1, 0.9)	19.9	(17.65, 22.15)

Table 3-25. Summary of recall of general anti-drug advertising among parents (continued)

Total recall Number of ad viewing per month	Percent recalling general anti-drug advertising					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Urban						
0 to .99	9.2	7.3	-1.9	(-5.5, 1.7)	8.3	(6.4, 10.1)
1 - 3.99	20.0	19.5	-0.5	(-6.6, 5.6)	19.8	(16.7, 22.8)
4 - 11.99	24.2	27.0	2.8	(-3.5, 9.1)	25.6	(22.5, 28.7)
12 or more	46.7	46.1	-0.6	(-9.2, 8.0)	46.4	(42.1, 50.7)
Total	100.1	99.9	---	---	---	---
Mean	26.2	26.0	-0.2	(-5.3, 4.9)	26.1	(23.54, 28.66)
Suburban						
0 to .99	7.2	4.5	-2.7	(-6.1, 0.7)	5.9	(4.1, 7.6)
1 - 3.99	24.3	27.7	3.4	(-2.8, 9.6)	26.0	(22.9, 29.1)
4 - 11.99	31.7	31.3	-0.4	(-6.4, 5.6)	31.5	(28.5, 34.5)
12 or more	36.8	36.5	-0.3	(-7.1, 6.5)	36.7	(33.2, 40.1)
Total	100.0	100.0	---	---	---	---
Mean	18.4	18.5	0.1	(-3.8, 4.0)	18.5	(16.52, 20.38)
Town and Rural						
0 to .99	7.0	7.2	0.2	(-3.2, 3.6)	7.1	(5.4, 8.8)
1 - 3.99	23.7	23.6	-0.1	(-5.1, 4.9)	23.7	(21.1, 26.2)
4 - 11.99	31.0	30.0	-1.0	(-6.3, 4.3)	30.5	(27.8, 33.2)
12 or more	38.3	39.2	0.9	(-5.1, 6.9)	38.8	(35.7, 41.8)
Total	100.0	100.0	---	---	---	---
Mean	20.7	17.6	-3.1	* (-5.7, -0.5)	19.2	(17.83, 20.47)

Table 3-25. Summary of recall of general anti-drug advertising among parents (continued)

Total recall Number of ad viewing per month	Percent recalling general anti-drug advertising					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
One or more child² aged						
9 to 11						
0 to .99	7.6	6.7	-0.9	(-3.7, 1.9)	7.2	(5.8, 8.5)
1 - 3.99	23.8	22.2	-1.6	(-5.9, 2.7)	23.0	(20.8, 25.2)
4 - 11.99	27.0	29.5	2.5	(-2.3, 7.3)	28.3	(25.8, 30.7)
12 or more	41.7	41.6	-0.1	(-5.2, 5.0)	41.7	(39.1, 44.2)
Total	100.1	100.0	---	---	---	---
Mean	21.5	20.5	-1.0	(-3.5, 1.5)	21.0	(19.73, 22.27)
12 to 13						
0 to .99	6.9	7.9	1.0	(-2.5, 4.5)	7.4	(5.7, 9.1)
1 - 3.99	25.1	26.5	1.4	(-3.6, 6.4)	25.8	(23.3, 28.3)
4 - 11.99	30.4	27.6	-2.8	(-8.1, 2.5)	29.0	(26.3, 31.7)
12 or more	37.6	38.1	0.5	(-5.2, 6.2)	37.9	(35.0, 40.7)
Total	100.0	100.1	---	---	---	---
Mean	21.1	19.2	-1.9	(-5.1, 1.3)	20.2	(18.56, 21.74)
14 to 18						
0 to .99	7.8	6.2	-1.6	(-4.5, 1.3)	7.0	(5.5, 8.5)
1 - 3.99	21.0	23.3	2.3	(-2.6, 7.2)	22.2	(19.7, 24.6)
4 - 11.99	30.2	29.8	-0.4	(-5.1, 4.3)	30.0	(27.6, 32.4)
12 or more	40.9	40.7	-0.2	(-5.9, 5.5)	40.8	(38.0, 43.6)
Total	99.9	100.0	---	---	---	---
Mean	22.1	20.8	-1.3	(-4.2, 1.6)	21.5	(20.00, 22.90)

Table 3-26. Recall of general TV and radio advertising by parents¹ gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent of parents reporting having seen or heard TV and radio ad at least weekly					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Overall	51.1	48.7	-2.4	(-6.6, 1.8)	49.9	(47.8, 52.0)
Male	49.5	44.9	-4.6	(-10.9, 1.7)	47.2	(44.0, 50.4)
Female	52.1	51.6	-0.5	(-5.7, 4.7)	51.9	(49.3, 54.4)
White	50.4	46.7	-3.7	(-8.4, 1.0)	48.6	(46.2, 50.9)
African American	55.9	56.8	0.9	(-9.2, 11.0)	56.4	(51.3, 61.4)
Hispanic	56.2	56.4	0.2	(-10.9, 11.3)	56.3	(50.7, 61.9)
Less Than High School	46.9	41.3	-5.6	(-15.9, 4.7)	44.1	(39.0, 49.2)
High School Graduate	55.2	50.8	-4.4	(-10.9, 2.1)	53.0	(49.8, 56.2)
Some College	54.2	56.1	1.9	(-5.5, 9.3)	55.2	(51.4, 58.9)
College Graduate	45.0	41.5	-3.5	(-11.4, 4.4)	43.3	(39.3, 47.2)
Northeast	49.1	52.2	3.1	(-5.7, 11.9)	50.7	(46.3, 55.0)
South	50.3	49.2	-1.1	(-9.2, 7.0)	49.8	(45.7, 53.8)
Midwest	53.6	49.3	-4.3	(-12.1, 3.5)	51.5	(47.5, 55.4)
West	51.7	45.3	-6.4	(-14.2, 1.4)	48.5	(44.6, 52.4)
Urban	51.7	52.9	1.2	(-7.0, 9.4)	52.3	(48.2, 56.4)
Suburban	47.6	45.9	-1.7	(-8.7, 5.3)	46.8	(43.3, 50.2)
Town and Rural	52.9	47.5	-5.4	(-11.0, 0.2)	50.2	(47.4, 53.0)
One or more children ² aged						
9 to 11	49.8	47.9	-1.9	(-7.4, 3.6)	48.9	(46.1, 51.6)
12 to 13	47.3	46.9	-0.4	(-5.7, 4.9)	47.1	(44.4, 49.8)
14 to 18	52.9	49.1	-3.8	(-9.4, 1.8)	51.0	(48.2, 53.8)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-27. Recall of newspaper and magazine advertising by parents' gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent of parents reporting having seen newspaper and magazine ad at least weekly				
	Wave 1		Wave 2		2000
	%	Wave 2 %	%	95% CI	(Average Wave 1 and Wave 2) % 95% CI
Overall	21.5	20.5	-1.0	(-4.4, 2.4)	21.0 (19.3, 22.7)
Male	21.0	17.8	-3.2	(-7.9, 1.5)	19.4 (17.0, 21.8)
Female	21.8	22.7	0.9	(-3.4, 5.2)	22.3 (20.1, 24.4)
White	17.7	15.5	-2.2	(-6.0, 1.6)	16.6 (14.7, 18.5)
African American	34.1	36.5	2.4	(-8.7, 13.5)	35.3 (29.8, 40.8)
Hispanic	30.0	30.0	0.0	(-10.9, 10.9)	30.0 (24.5, 35.5)
Less Than High School	22.3	20.4	-1.9	(-10.0, 6.2)	21.4 (17.3, 25.4)
High School Graduate	25.0	24.4	-0.6	(-6.7, 5.5)	24.7 (21.7, 27.7)
Some College	22.0	20.7	-1.3	(-7.1, 4.5)	21.4 (18.5, 24.2)
College Graduate	16.2	15.6	-0.6	(-5.8, 4.6)	15.9 (13.3, 18.5)
Northeast	24.6	24.2	-0.4	(-8.5, 7.7)	24.4 (20.3, 28.5)
South	22.5	18.9	-3.6	(-9.0, 1.8)	20.7 (18.0, 23.4)
Midwest	20.7	21.4	0.7	(-6.8, 8.2)	21.1 (17.3, 24.8)
West	19.2	19.7	0.5	(-6.1, 7.1)	19.5 (16.2, 22.7)
Urban	24.2	27.2	3.0	(-3.6, 9.6)	25.7 (22.4, 29.0)
Suburban	17.6	17.7	0.1	(-6.1, 6.3)	17.7 (14.5, 20.8)
Town and Rural	21.9	17.7	-4.2	(-8.9, 0.5)	19.8 (17.5, 22.1)
One or more children ² aged					
9 to 11	20.2	20.5	0.3	(-3.9, 4.5)	20.4 (18.3, 22.4)
12 to 13	21.4	17.5	-3.9	(-8.3, 0.5)	19.5 (17.2, 21.7)
14 to 18	22.7	21.7	-1.0	(-5.7, 3.7)	22.2 (19.9, 24.5)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-28. Recall of movie theatre and video rental advertising by parents¹ gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent of parents reporting having seen movie theatre and video rental ad at least weekly					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	2000	%	2000	%	2000
				(Average Wave 1 and Wave 2)	95% CI	
Overall	3.1	2.6	-0.5	(-1.5, 0.5)	2.9	(2.3, 3.4)
Male	2.2	1.1	-1.1	(-2.2, 0.1)	1.7	(1.0, 2.3)
Female	3.6	3.9	0.3	(-1.3, 1.9)	3.8	(3.0, 4.5)
White	1.1	0.8	-0.3	(-1.1, 0.5)	1.0	(0.6, 1.3)
African American	7.2	6.9	-0.3	(-4.9, 4.3)	7.1	(4.7, 9.4)
Hispanic	7.5	5.9	-1.6	(-6.6, 3.4)	6.7	(4.2, 9.2)
Less Than High School	8.5	5.6	-2.9	(-7.6, 1.8)	7.1	(4.7, 9.4)
High School Graduate	3.3	3.3	0.0	(-2.4, 2.4)	3.3	(2.1, 4.5)
Some College	1.6	2.3	0.7	(-0.9, 2.3)	2.0	(1.2, 2.7)
College Graduate	1.4	0.8	-0.6	(-1.4, 0.5)	1.1	(0.6, 1.6)
Northeast	5.1	2.6	-2.5	(-5.1, 0.4)	3.9	(2.4, 5.3)
South	2.5	2.4	-0.1	(-1.9, 1.7)	2.5	(1.5, 3.4)
Midwest	2.4	3.3	0.9	(-1.3, 3.1)	2.9	(1.7, 4.0)
West	3.0	2.4	-0.6	(-2.9, 1.7)	2.7	(1.5, 3.9)
Urban	5.3	4.1	-1.2	(-3.4, 1.0)	4.7	(3.6, 5.8)
Suburban	1.7	0.9	-0.8	(-1.7, 0.5)	1.3	(0.6, 2.0)
Town and Rural	2.3	2.7	0.4	(-1.4, 2.2)	2.5	(1.6, 3.4)
One or more children ² aged						
9 to 11	3.1	3.5	0.4	(-1.6, 2.4)	3.3	(2.3, 4.3)
12 to 13	2.7	2.6	-0.1	(-1.9, 1.7)	2.7	(1.7, 3.6)
14 to 18	3.2	2.4	-0.8	(-2.2, 0.6)	2.8	(2.1, 3.5)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-29. Recall of billboard and other public posting advertising by parents' gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent of parents reporting having seen billboard and other public posting ad at least weekly					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
Overall	23.1	23.1	0.0	(-3.4, 3.4)	23.1	(21.4, 24.8)
Male	21.8	23.9	2.1	(-2.9, 7.1)	22.9	(20.3, 25.4)
Female	23.9	22.5	-1.4	(-5.6, 2.8)	23.2	(21.1, 25.3)
White	18.8	20.7	1.9	(-1.6, 5.4)	19.8	(18.0, 21.5)
African American	34.5	30.9	-3.6	(-12.3, 5.1)	32.7	(28.3, 37.1)
Hispanic	32.6	30.0	-2.6	(-13.7, 8.5)	31.3	(25.7, 36.9)
Less Than High School	26.5	24.1	-2.4	(-11.0, 6.2)	25.3	(21.0, 29.6)
High School Graduate	22.7	23.3	0.6	(-5.4, 6.6)	23.0	(20.0, 26.0)
Some College	25.5	22.7	-2.8	(-9.3, 3.7)	24.1	(20.8, 27.4)
College Graduate	20.4	22.8	2.4	(-3.8, 8.6)	21.6	(18.5, 24.7)
Northeast	28.4	28.9	0.5	(-8.2, 9.2)	28.7	(24.3, 33.0)
South	20.3	21.2	0.9	(-4.3, 6.1)	20.8	(18.1, 23.4)
Midwest	24.0	22.8	-1.2	(-8.5, 6.1)	23.4	(19.7, 27.1)
West	22.5	21.9	-0.6	(-7.4, 6.2)	22.2	(18.8, 25.6)
Urban	29.8	29.1	-0.7	(-7.8, 6.4)	29.5	(25.9, 33.0)
Suburban	21.3	22.5	1.2	(-5.4, 7.8)	21.9	(18.6, 25.2)
Town and Rural	19.3	19.6	0.3	(-4.5, 5.1)	19.5	(17.1, 21.8)
One or more children ² aged						
9 to 11	24.4	21.8	-2.6	(-7.1, 1.9)	23.1	(20.9, 25.3)
12 to 13	23.8	22.7	-1.1	(-6.0, 3.8)	23.3	(20.8, 25.7)
14 to 18	22.6	25.3	2.7	(-1.9, 7.3)	24.0	(21.7, 26.2)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-30. Percent of youth using the Internet by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent using Internet during previous 6 months					
	Wave 1		Wave 2		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Youth aged 12 to 18						
12 to 13	79.2	80.4	1.2	80.4	79.8	(77.5, 82.1)
14 to 15	86.5	87.3	0.8	87.3	86.9	(84.4, 89.4)
16 to 18	83.3	90.7	7.4	90.7	87.0	(84.5, 89.5)
14 to 18	84.7	89.1	4.4	89.1	86.9	(85.1, 88.7)
Youth aged 12 to 18						
Males	84.7	85.5	0.8	85.5	85.1	(83.1, 87.1)
Females	81.4	87.7	6.3	87.7	84.6	(82.8, 86.3)
White	89.0	90.9	1.9	90.9	90.0	(88.4, 91.5)
African American	70.6	79.4	8.8	79.4	75.0	(70.6, 79.4)
Hispanic	65.8	75.1	9.3	75.1	70.5	(65.3, 75.6)
Northeast	87.0	88.5	1.5	88.5	87.8	(84.1, 91.4)
South	80.3	87.5	7.2	87.5	83.9	(81.2, 86.6)
Midwest	87.2	88.9	1.7	88.9	88.1	(85.6, 90.5)
West	79.9	82.3	2.4	82.3	81.1	(77.8, 84.4)
Urban	74.7	83.7	9.0	83.7	79.2	(76.2, 82.2)
Suburban	88.9	86.4	-2.5	86.4	87.7	(84.7, 90.6)
Town and Rural	86.6	88.8	2.2	88.8	87.7	(85.7, 89.7)
Sensation Seeking						
High	86.4	90.2	3.8	90.2	88.3	(86.5, 90.1)
Low	78.8	82.6	3.8	82.6	80.7	(78.3, 83.1)

Table 3-31. Percent of youth visiting anti-drug Internet sites by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent visiting anti-drug Internet sites during previous 6 months					
	Wave 1		Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
Youth aged 12 to 18						
12 to 13	9.3	10.0	0.7	(-2.9, 4.3)	9.7	(7.9, 11.4)
14 to 15	9.4	9.6	0.2	(-4.6, 5.0)	9.5	(7.1, 11.9)
16 to 18	10.9	8.0	-2.9	(-7.1, 1.3)	9.5	(7.3, 11.6)
14 to 18	10.2	8.8	-1.4	(-4.6, 1.8)	9.5	(7.9, 11.1)
Youth aged 12 to 18						
Males	9.8	8.1	-1.7	(-5.2, 1.8)	9.0	(7.2, 10.7)
Females	10.1	10.2	0.1	(-3.7, 3.9)	10.2	(8.3, 12.0)
White	9.7	7.3	-2.4	(-5.1, 0.3)	8.5	(7.2, 9.8)
African American	11.8	11.4	-0.4	(-7.8, 7.0)	11.6	(7.9, 15.3)
Hispanic	8.1	15.2	7.1	(-0.3, 14.5)	11.7	(7.9, 15.4)
Northeast	10.7	12.8	2.1	(-4.8, 9.0)	11.8	(8.3, 15.2)
South	10.3	10.8	0.5	(-4.0, 5.0)	10.6	(8.3, 12.8)
Midwest	10.3	8.0	-2.3	(-7.4, 2.8)	9.2	(6.6, 11.7)
West	8.6	5.9	-2.7	(-6.8, 1.4)	7.3	(5.2, 9.3)
Urban	8.5	12.1	3.6	(-0.9, 8.1)	10.3	(8.0, 12.6)
Suburban	10.8	6.2	-4.6	* (-9.1, -0.1)	8.5	(6.3, 10.7)
Town and Rural	10.7	8.6	-2.1	(-6.0, 1.8)	9.7	(7.7, 11.6)
Sensation Seeking						
High	11.2	9.7	-1.5	(-5.1, 2.1)	10.5	(8.7, 12.2)
Low	8.6	7.1	-1.5	(-4.7, 1.7)	7.9	(6.2, 9.5)

Table 3-32. Percent of youth visiting pro-drug Internet sites by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent visiting pro-drug Internet sites during previous 6 months					
	Wave 1		Wave 2		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Youth aged 12 to 18						
12 to 13	3.3	2.4	-0.9	(-2.7, 0.9)	2.9	(1.9, 3.8)
14 to 15	6.2	3.8	-2.4	(-5.6, 0.8)	5.0	(3.4, 6.6)
16 to 18	8.7	5.1	-3.6	* (-7.1, -0.1)	6.9	(5.1, 8.7)
14 to 18	7.6	4.5	-3.1	* (-5.5, -0.7)	6.1	(4.9, 7.2)
Youth aged 12 to 18						
Males	8.3	4.3	-4.0	* (-6.8, -1.2)	6.3	(4.9, 7.7)
Females	4.3	3.5	-0.8	(-3.3, 1.7)	3.9	(2.6, 5.2)
White	6.7	3.7	-3.0	* (-5.3, -0.7)	5.2	(4.0, 6.4)
African American	3.1	5.1	2.0	(-2.0, 6.0)	4.1	(2.1, 6.1)
Hispanic	5.1	2.5	-2.6	(-5.1, 1.2)	3.8	(1.9, 5.7)
Northeast	7.6	3.3	-4.3	(-7.6, 0.1)	5.5	(3.3, 7.6)
South	5.3	4.3	-1.0	(-4.0, 2.0)	4.8	(3.3, 6.3)
Midwest	7.6	5.4	-2.2	(-6.9, 2.5)	6.5	(4.2, 8.8)
West	5.5	2.5	-3.0	(-5.5, 0.1)	4.0	(2.5, 5.5)
Urban	5.0	4.4	-0.6	(-3.8, 2.6)	4.7	(3.1, 6.3)
Suburban	8.8	2.1	-6.7	* (-8.8, -2.6)	5.5	(3.4, 7.5)
Town and Rural	6.0	4.6	-1.4	(-4.2, 1.4)	5.3	(3.9, 6.7)
Sensation Seeking						
High	9.4	5.2	-4.2	* (-7.1, -1.3)	7.3	(5.9, 8.7)
Low	2.7	1.9	-0.8	(-2.7, 1.4)	2.3	(1.2, 3.4)

Table 3-33. Percent of parents¹ using the Internet by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent using Internet during previous 6 months				
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000
	%	%	%	95% CI	(Average Wave 1 and Wave 2) % 95% CI
Overall	60.4	67.7	7.3	* (3.3, 11.3)	64.1 (62.0, 66.1)
Male	65.2	69.2	4.0	(-1.7, 9.7)	67.2 (64.4, 70.0)
Female	57.5	66.6	9.1	* (4.3, 13.9)	62.1 (59.6, 64.5)
White	68.3	74.4	6.1	* (1.9, 10.3)	71.4 (69.3, 73.4)
African American	44.2	54.0	9.8	(-0.8, 20.4)	49.1 (43.8, 54.4)
Hispanic	33.5	44.7	11.2	* (0.7, 21.7)	39.1 (33.9, 44.3)
Less Than High School	26.0	32.3	6.3	(-3.8, 16.4)	29.2 (24.1, 34.2)
High School Graduate	45.6	59.2	13.6	* (7.4, 19.8)	52.4 (49.3, 55.5)
Some College	73.4	74.1	0.7	(-6.3, 7.7)	73.8 (70.3, 77.2)
College Graduate	87.1	89.8	2.7	(-2.2, 7.6)	88.5 (86.0, 90.9)
Northeast	61.9	69.0	7.1	(-3.2, 17.4)	65.5 (60.3, 70.6)
South	60.2	64.1	3.9	(-3.3, 11.1)	62.2 (58.5, 65.8)
Midwest	59.0	70.1	11.1	* (4.1, 18.1)	64.6 (61.1, 68.0)
West	61.9	70.5	8.6	(0.0, 17.2)	66.2 (61.9, 70.5)
Urban	54.4	61.9	7.5	* (0.0, 15.0)	58.2 (54.4, 61.9)
Suburban	68.2	79.1	10.9	* (3.8, 18.0)	73.7 (70.1, 77.2)
Town and Rural	60.0	65.2	5.2	(-0.2, 10.6)	62.6 (59.9, 65.3)
One or more children ² aged					
9 to 11	60.6	69.9	9.3	* (4.5, 14.1)	65.3 (62.9, 67.6)
12 to 13	61.3	70.6	9.3	* (3.6, 15.0)	66.0 (63.1, 68.8)
14 to 18	60.8	65.8	5.0	(-0.4, 10.4)	63.3 (60.6, 66.0)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-34. Percent of parents¹ visiting anti-drug Internet sites by gender, race/ethnicity, education, region, urbanicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent using anti-drug Internet sites during previous 6 months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
Overall	5.5	7.3	1.8	(-0.1, 3.7)	6.4	(5.4, 7.4)
Male	4.8	6.3	1.5	(-1.5, 4.5)	5.6	(4.1, 7.0)
Female	5.9	8.1	2.2	(-0.1, 4.5)	7.0	(5.9, 8.1)
White	5.2	7.0	1.8	(-0.4, 4.0)	6.1	(5.0, 7.2)
African American	9.1	9.6	0.5	(-5.5, 6.5)	9.4	(6.4, 12.3)
Hispanic	3.5	7.4	3.9	(-2.3, 10.1)	5.5	(2.3, 8.6)
Less Than High School	2.5	3.2	0.7	(-2.5, 4.2)	2.9	(1.1, 4.6)
High School Graduate	4.1	4.6	0.5	(-2.2, 3.2)	4.4	(3.0, 5.7)
Some College	7.6	11.0	3.4	(-1.4, 8.2)	9.3	(6.9, 11.7)
College Graduate	7.1	8.8	1.7	(-1.8, 5.2)	8.0	(6.2, 9.7)
Northeast	5.7	8.2	2.5	(-3.0, 8.0)	7.0	(4.2, 9.7)
South	5.1	7.3	2.2	(-1.3, 5.7)	6.2	(4.4, 8.0)
Midwest	6.9	7.6	0.7	(-2.8, 4.2)	7.3	(5.5, 9.0)
West	4.6	6.9	2.3	(-0.7, 5.3)	5.8	(4.2, 7.3)
Urban	5.2	7.1	1.9	(-1.7, 5.5)	6.2	(4.3, 8.0)
Suburban	4.5	5.8	1.3	(-1.8, 4.4)	5.2	(3.6, 6.7)
Town and Rural	6.3	8.3	2.0	(-1.3, 5.3)	7.3	(5.7, 8.9)
One or more child ² aged						
9 to 11	4.9	7.0	2.1	(-0.3, 4.5)	6.0	(4.8, 7.1)
12 to 13	5.6	5.8	0.2	(-2.2, 2.6)	5.7	(4.5, 6.9)
14 to 18	5.7	8.4	2.7	(-0.3, 5.7)	7.1	(5.6, 8.5)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 3-35. Percent of parents¹ visiting parenting skill Internet sites by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent visiting parenting skill Internet sites during previous 6 months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
Overall	6.6	8.7	2.1	*(0.0, 4.2)	7.7	(6.6, 8.7)
Male	6.0	6.5	0.5	(-2.6, 3.6)	6.3	(4.7, 7.8)
Female	6.9	10.4	3.5	*(0.8, 6.2)	8.7	(7.3, 10.0)
White	6.4	8.3	1.9	(-0.4, 4.2)	7.4	(6.2, 8.5)
African American	9.7	11.0	1.3	(-5.1, 7.7)	10.4	(7.1, 13.6)
Hispanic	3.9	8.9	5.0	(-1.3, 11.3)	6.4	(3.3, 9.5)
Less Than High School	2.0	4.0	2.0	(-1.5, 5.5)	3.0	(1.2, 4.8)
High School Graduate	4.7	4.6	-0.1	(-2.8, 2.6)	4.7	(3.3, 6.0)
Some College	8.8	12.2	3.4	(-1.5, 8.3)	10.5	(8.1, 12.9)
College Graduate	9.5	12.3	2.8	(-1.6, 7.2)	10.9	(8.7, 13.1)
Northeast	5.5	11.8	6.3	(-0.6, 13.2)	8.7	(5.2, 12.1)
South	6.2	7.7	1.5	(-2.1, 5.1)	7.0	(5.1, 8.8)
Midwest	7.9	8.3	0.4	(-3.0, 3.8)	8.1	(6.4, 9.8)
West	6.9	8.5	1.6	(-2.3, 5.5)	7.7	(5.7, 9.7)
Urban	6.7	8.8	2.1	(-2.1, 6.3)	7.8	(5.6, 9.9)
Suburban	4.3	6.6	2.3	(-0.5, 5.1)	5.5	(4.0, 6.9)
Town and Rural	7.9	9.7	1.8	(-1.7, 5.3)	8.8	(7.1, 10.5)
One or more child ² aged						
9 to 11	6.3	8.7	2.4	(-0.2, 5.0)	7.5	(6.2, 8.8)
12 to 13	6.9	8.4	1.5	(-1.5, 4.5)	7.7	(6.1, 9.2)
14 to 18	6.5	8.7	2.2	(-0.9, 5.3)	7.6	(6.1, 9.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 4-1. Drug education experience of youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent ever attending drug education class or program in school					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	72.2	72.4	0.2	(-4.2, 4.6)	72.3	(70.1, 74.5)
12 to 13	83.9	83.2	-0.7	(-4.8, 3.4)	83.6	(81.5, 85.6)
14 to 15	75.7	84.1	8.4	*(2.3, 14.5)	79.9	(76.8, 83.0)
16 to 18	76.8	74.2	-2.6	(-9.4, 4.2)	75.5	(72.1, 78.9)
14 to 18	76.3	78.7	2.4	(-2.5, 7.3)	77.5	(75.0, 80.0)
Youth aged 9 to 18						
Males	73.5	76.0	2.5	(-1.4, 6.4)	74.8	(72.8, 76.7)
Females	79.7	79.3	-0.4	(-4.3, 3.5)	79.5	(77.6, 81.4)
White	76.9	78.2	1.3	(-2.1, 4.7)	77.6	(75.8, 79.3)
African American	78.4	76.3	-2.1	(-8.9, 4.7)	77.4	(73.9, 80.8)
Hispanic	75.9	77.5	1.6	(-6.4, 9.6)	76.7	(72.7, 80.7)
Northeast	76.3	79.2	2.9	(-3.9, 9.7)	77.8	(74.3, 81.2)
South	78.9	80.7	1.8	(-3.2, 6.8)	79.8	(77.3, 82.3)
Midwest	79.1	78.8	-0.3	(-5.6, 5.0)	79.0	(76.3, 81.6)
West	70.8	72.4	1.6	(-5.5, 8.7)	71.6	(68.0, 75.2)
Urban	74.0	74.0	0.0	(-5.2, 5.2)	74.0	(71.4, 76.6)
Suburban	77.9	75.1	-2.8	(-9.3, 3.7)	76.5	(73.3, 79.7)
Town and Rural	77.8	81.8	4.0	(-0.8, 8.8)	79.8	(77.4, 82.2)
Sensation Seeking						
High	76.7	78.9	2.2	(-2.2, 6.6)	77.8	(75.6, 80.0)
Low	76.2	76.8	0.6	(-3.8, 5.0)	76.5	(74.3, 78.7)

Table 4-2. Drug education experience of youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent ever attending drug education class or program outside school					
	Wave 1		Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	12.2	12.0	-0.2	(-3.6, 3.2)	12.1	(10.4, 13.8)
12 to 13	10.0	9.9	-0.1	(-3.7, 3.5)	10.0	(8.2, 11.7)
14 to 15	10.4	12.0	1.6	(-3.8, 7.0)	11.2	(8.5, 13.9)
16 to 18	15.9	10.7	-5.2	(-10.5, 0.1)	13.3	(10.6, 16.0)
14 to 18	13.4	11.3	-2.1	(-6.0, 1.8)	12.4	(10.4, 14.3)
Youth aged 9 to 18						
Males	13.5	12.5	-1.0	(-3.9, 1.9)	13.0	(11.6, 14.4)
Females	11.2	9.9	-1.3	(-4.4, 1.8)	10.6	(9.0, 12.1)
White	11.0	9.3	-1.7	(-4.3, 0.9)	10.2	(8.9, 11.4)
African American	18.1	19.4	1.3	(-5.3, 7.9)	18.8	(15.4, 22.1)
Hispanic	11.5	12.3	0.8	(-4.5, 6.1)	11.9	(9.2, 14.6)
Northeast	10.8	10.4	-0.4	(-5.4, 4.6)	10.6	(8.1, 13.1)
South	14.5	14.2	-0.3	(-4.7, 4.1)	14.4	(12.2, 16.5)
Midwest	10.3	10.4	0.1	(-3.8, 4.0)	10.4	(8.4, 12.3)
West	12.4	8.3	-4.1	(-8.3, 0.1)	10.4	(8.3, 12.4)
Urban	13.4	15.5	2.1	(-2.5, 6.7)	14.5	(12.2, 16.7)
Suburban	12.0	10.0	-2.0	(-6.1, 2.1)	11.0	(9.0, 13.0)
Town and Rural	11.7	8.7	-3.0	* (-6.0, 0.0)	10.2	(8.7, 11.7)
Sensation Seeking						
High	13.1	11.3	-1.8	(-4.8, 1.2)	12.2	(10.7, 13.7)
Low	12.0	10.9	-1.1	(-4.6, 2.4)	11.5	(9.7, 13.2)

Table 4-3. Drug education experience of youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent attending drug education class or program in school in the past 12 months					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	%	%	%	95% CI	95% CI
All Youth aged 9 to 18						
9 to 11	55.3	55.8	0.5	(-5.1, 6.1)	55.6	(52.8, 58.3)
12 to 13	75.9	74.9	-1.0	(-6.6, 4.6)	75.4	(72.6, 78.2)
14 to 15	64.8	72.5	7.7	(-1.2, 16.6)	68.7	(64.2, 73.1)
16 to 18	59.7	51.1	-8.6	(-18.0, 0.8)	55.4	(50.7, 60.1)
14 to 18	62.2	61.1	-1.1	(-8.2, 6.0)	61.7	(58.1, 65.2)
Youth aged 9 to 18						
Males	59.1	58.2	-0.9	(-6.0, 4.2)	58.7	(56.1, 61.2)
Females	66.1	65.6	-0.5	(-5.8, 4.8)	65.9	(63.2, 68.5)
White	63.9	63.8	-0.1	(-4.7, 4.5)	63.9	(61.6, 66.1)
African American	64.1	61.2	-2.9	(-11.5, 5.7)	62.7	(58.3, 67.0)
Hispanic	56.5	55.9	-0.6	(-11.5, 10.3)	56.2	(50.7, 61.7)
Northeast	62.5	65.5	3.0	(-4.6, 10.6)	64.0	(60.2, 67.8)
South	64.3	67.8	3.5	(-3.3, 10.3)	66.1	(62.7, 69.4)
Midwest	67.2	61.4	-5.8	(-12.8, 1.2)	64.3	(60.8, 67.8)
West	54.7	53.1	-1.6	(-10.9, 7.7)	53.9	(49.2, 58.6)
Urban	58.7	58.1	-0.6	(-7.1, 5.9)	58.4	(55.1, 61.7)
Suburban	65.6	60.1	-5.5	(-13.4, 2.4)	62.9	(58.9, 66.8)
Town and Rural	63.6	65.9	2.3	(-4.4, 9.0)	64.8	(61.4, 68.1)
Sensation Seeking						
High	64.2	64.6	0.4	(-5.8, 6.6)	64.4	(61.3, 67.5)
Low	61.2	59.6	-1.6	(-7.6, 4.4)	60.4	(57.4, 63.4)

Table 4-4. Drug education experience of youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent attending drug education class or program outside of school in the past 12 months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	8.3	7.9	-0.4	(-3.6, 2.8)	8.1	(6.5, 9.7)
12 to 13	6.3	7.3	1.0	(-1.8, 3.8)	6.8	(5.4, 8.2)
14 to 15	6.9	7.9	1.0	(-3.7, 5.7)	7.4	(5.0, 9.8)
16 to 18	9.8	5.3	-4.5	* (-8.2, -0.8)	7.6	(5.7, 9.4)
14 to 18	8.5	6.5	-2.0	(-5.0, 1.0)	7.5	(6.0, 9.0)
Youth aged 9 to 18						
Males	8.2	7.8	-0.4	(-2.7, 1.9)	8.0	(6.8, 9.2)
Females	7.8	6.4	-1.4	(-3.8, 1.0)	7.1	(5.9, 8.3)
White	7.0	5.8	-1.2	(-3.2, 0.8)	6.4	(5.4, 7.4)
African American	12.7	12.4	-0.3	(-5.6, 5.0)	12.6	(9.9, 15.2)
Hispanic	7.9	7.7	-0.2	(-4.1, 3.7)	7.8	(5.8, 9.8)
Northeast	7.0	8.1	1.1	(-2.7, 4.9)	7.6	(5.7, 9.4)
South	9.5	8.0	-1.5	(-4.8, 1.8)	8.8	(7.1, 10.4)
Midwest	7.3	6.5	-0.8	(-4.3, 2.7)	6.9	(5.2, 8.6)
West	6.9	5.8	-1.1	(-4.3, 2.1)	6.4	(4.8, 7.9)
Urban	8.7	10.5	1.8	(-1.1, 4.7)	9.6	(8.2, 11.0)
Suburban	7.8	6.1	-1.7	(-5.3, 1.9)	7.0	(5.2, 8.7)
Town and Rural	7.6	5.2	-2.4	(-4.8, 0.0)	6.4	(5.2, 7.6)
Sensation Seeking						
High	8.3	7.1	-1.2	(-3.8, 1.4)	7.7	(6.4, 9.0)
Low	8.0	6.8	-1.2	(-3.8, 1.4)	7.4	(6.1, 8.7)

Table 4-5. Young people's conversations with friends about drugs by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent who never had conversation with friends about drugs in the past 6 months					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18						
9 to 11	55.0	60.9	5.9	* (1.3, 10.5)	58.0	(55.6, 60.3)
12 to 13	36.6	37.3	0.7	(-4.8, 6.2)	37.0	(34.2, 39.7)
14 to 15	18.5	30.4	11.9	* (5.1, 18.7)	24.5	(21.0, 27.9)
16 to 18	18.6	18.4	-0.2	(-5.4, 5.0)	18.5	(15.9, 21.1)
14 to 18	18.5	24.0	5.5	* (1.1, 9.9)	21.3	(19.0, 23.5)
Youth aged 9 to 18						
Males	37.4	42.9	5.5	* (1.7, 9.3)	40.2	(38.3, 42.0)
Females	29.8	33.3	3.5	(-0.6, 7.6)	31.6	(29.5, 33.6)
White	32.2	38.1	5.9	* (2.6, 9.2)	35.2	(33.5, 36.8)
African American	38.7	41.3	2.6	(-4.4, 9.6)	40.0	(36.5, 43.5)
Hispanic	35.0	35.3	0.3	(-8.0, 8.6)	35.2	(31.0, 39.3)
Northeast	36.8	40.3	3.5	(-4.0, 11.0)	38.6	(34.8, 42.3)
South	35.6	35.2	-0.4	(-5.4, 4.6)	35.4	(32.9, 37.9)
Midwest	30.0	41.2	11.2	* (5.9, 16.5)	35.6	(33.0, 38.2)
West	31.6	38.1	6.5	* (1.4, 11.6)	34.9	(32.3, 37.4)
Urban	31.5	39.8	8.3	* (2.7, 13.9)	35.7	(32.9, 38.4)
Suburban	34.0	39.0	5.0	(-1.3, 11.3)	36.5	(33.4, 39.6)
Town and Rural	35.1	36.6	1.5	(-2.7, 5.7)	35.9	(33.7, 38.0)
Sensation Seeking						
High	21.2	25.7	4.5	* (1.0, 8.0)	23.5	(21.7, 25.2)
Low	44.8	48.1	3.3	(-1.3, 7.9)	46.5	(44.2, 48.7)

Table 4-6. Young people's conversations with friends about drugs by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent who had two or more conversations with friends about drugs in the past 6 months					
	Wave 1		Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	29.1	22.9	-6.2	* (-10.2, -2.2)	26.0	(24.0, 28.0)
12 to 13	44.6	43.8	-0.8	(-6.4, 4.8)	44.2	(41.4, 47.0)
14 to 15	69.5	51.9	-17.6	* (-25.0, -10.2)	60.7	(57.0, 64.4)
16 to 18	67.6	71.1	3.5	(-3.6, 10.6)	69.4	(65.8, 72.9)
14 to 18	68.4	62.2	-6.2	* (-11.7, -0.7)	65.3	(62.6, 68.0)
Youth aged 9 to 18						
Males	48.2	42.1	-6.1	* (-10.3, -1.9)	45.2	(43.1, 47.2)
Females	54.5	50.5	-4.0	(-8.6, 0.6)	52.5	(50.2, 54.8)
White	52.1	47.9	-4.2	* (-8.0, -0.4)	50.0	(48.1, 51.9)
African American	45.8	42.2	-3.6	(-10.8, 3.6)	44.0	(40.4, 47.6)
Hispanic	53.1	46.3	-6.8	(-15.2, 1.6)	49.7	(45.5, 53.9)
Northeast	49.3	39.0	-10.3	* (-17.2, -3.4)	44.2	(40.7, 47.6)
South	49.4	50.1	0.7	(-5.1, 6.5)	49.8	(46.8, 52.7)
Midwest	55.2	46.2	-9.0	* (-14.9, -3.1)	50.7	(47.8, 53.6)
West	52.1	46.2	-5.9	* (-11.1, -0.7)	49.2	(46.6, 51.7)
Urban	53.9	43.3	-10.6	* (-16.1, -5.1)	48.6	(45.9, 51.3)
Suburban	50.3	47.6	-2.7	(-9.4, 4.0)	49.0	(45.6, 52.3)
Town and Rural	49.8	47.6	-2.2	(-7.3, 2.9)	48.7	(46.2, 51.2)
Sensation Seeking						
High	65.3	61.1	-4.2	* (-8.2, -0.2)	63.2	(61.2, 65.2)
Low	38.9	33.8	-5.1	* (-9.6, -0.6)	36.4	(34.1, 38.6)

Table 4-7. Types of conversations among youth with friends about drugs by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent who had conversation with friend that "Marijuana use isn't so bad," in the past 6 months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 12 to 18						
12 to 13	10.3	9.7	-0.6	(-4.4, 3.2)	10.0	(8.1, 11.9)
14 to 15	23.4	16.1	-7.3	* (-14.1, -0.5)	19.8	(16.4, 23.1)
16 to 18	32.4	34.2	1.8	(-5.0, 8.6)	33.3	(29.9, 36.7)
14 to 18	28.4	25.9	-2.5	(-6.9, 1.9)	27.2	(25.0, 29.3)
Youth aged 12 to 18						
Males	25.1	24.2	-0.9	(-5.7, 3.9)	24.7	(22.2, 27.1)
Females	21.1	17.9	-3.2	(-7.7, 1.3)	19.5	(17.3, 21.7)
White	22.4	22.9	0.5	(-3.7, 4.7)	22.7	(20.5, 24.8)
African American	22.6	18.8	-3.8	(-13.1, 5.5)	20.7	(16.0, 25.4)
Hispanic	27.7	18.7	-9.0	* (-17.6, -0.4)	23.2	(18.9, 27.5)
Northeast	21.0	17.2	-3.8	(-12.1, 4.5)	19.1	(15.0, 23.2)
South	19.2	18.8	-0.4	(-5.5, 4.7)	19.0	(16.5, 21.5)
Midwest	24.1	20.0	-4.1	(-11.1, 2.9)	22.1	(18.6, 25.5)
West	30.5	27.2	-3.3	(-10.4, 3.8)	28.9	(25.3, 32.4)
Urban	25.5	20.2	-5.3	(-11.4, 0.8)	22.9	(19.8, 25.9)
Suburban	25.4	21.5	-3.9	(-11.0, 3.2)	23.5	(19.9, 27.0)
Town and Rural	20.0	21.6	1.6	(-3.7, 6.9)	20.8	(18.1, 23.5)
Sensation Seeking						
High	31.8	31.7	-0.1	(-4.9, 4.7)	31.8	(29.3, 34.2)
Low	12.2	9.3	-2.9	(-7.2, 1.4)	10.8	(8.6, 12.9)

Table 4-8. Types of conversations among youth with friends about drugs by age, gender, race/ethnicity, region, urbanicity, region, urbanicity, and sensation seeking

Characteristics	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		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 12 to 18						
12 to 13	33.3	32.2	-1.1	(-5.8, 3.6)	32.8	(30.4, 35.1)
14 to 15	31.1	29.6	-1.5	(-8.6, 5.6)	30.4	(26.8, 33.9)
16 to 18	28.5	25.8	-2.7	(-9.3, 3.9)	27.2	(23.8, 30.5)
14 to 18	29.7	27.6	-2.1	(-6.8, 2.6)	28.7	(26.3, 31.0)
Youth aged 12 to 18						
Males	28.4	26.7	-1.7	(-6.5, 3.1)	27.6	(25.2, 29.9)
Females	33.1	31.3	-1.8	(-7.2, 3.6)	32.2	(29.5, 34.9)
White	27.0	25.8	-1.2	(-5.3, 2.9)	26.4	(24.4, 28.4)
African American	37.2	33.6	-3.6	(-13.2, 6.0)	35.4	(30.6, 40.2)
Hispanic	41.6	38.9	-2.7	(-12.8, 7.4)	40.3	(35.2, 45.3)
Northeast	24.7	26.1	1.4	(-5.8, 8.6)	25.4	(21.8, 29.0)
South	32.2	32.9	0.7	(-5.8, 7.2)	32.6	(29.3, 35.8)
Midwest	31.5	25.5	-6.0	(-12.6, 0.6)	28.5	(25.2, 31.8)
West	32.9	28.4	-4.5	(-12.0, 3.0)	30.7	(26.9, 34.4)
Urban	37.6	32.2	-5.4	(-12.3, 1.5)	34.9	(31.5, 38.3)
Suburban	24.1	23.7	-0.4	(-6.8, 6.0)	23.9	(20.7, 27.1)
Town and Rural	28.9	29.4	0.5	(-5.1, 6.1)	29.2	(26.4, 31.9)
Sensation Seeking						
High	29.1	28.2	-0.9	(-5.8, 4.0)	28.7	(26.2, 31.1)
Low	33.5	29.7	-3.8	(-9.3, 1.7)	31.6	(28.9, 34.3)

Table 4-9. Types of conversations among youth with friends about drugs by age, gender, race/ethnicity, region, urbanicity, region, urbanicity, and sensation seeking

Characteristics	Percent who had conversation with friend about "Bad things that happen if you use drugs," in the past 6 months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 12 to 18						
12 to 13	46.2	46.2	0.0	(-5.0, 5.0)	46.2	(43.7, 48.7)
14 to 15	55.1	47.6	-7.5	(-15.5, 0.5)	51.4	(47.3, 55.4)
16 to 18	54.1	54.9	0.8	(-6.8, 8.4)	54.5	(50.7, 58.3)
14 to 18	54.5	51.5	-3.0	(-8.6, 2.6)	53.0	(50.2, 55.8)
Youth aged 12 to 18						
Males	47.0	44.4	-2.6	(-8.4, 3.2)	45.7	(42.8, 48.6)
Females	57.3	55.9	-1.4	(-7.1, 4.3)	56.6	(53.7, 59.5)
White	50.6	48.7	-1.9	(-7.4, 3.6)	49.7	(46.9, 52.4)
African American	51.2	48.3	-2.9	(-13.6, 7.8)	49.8	(44.4, 55.1)
Hispanic	56.3	56.2	-0.1	(-10.0, 9.8)	56.3	(51.3, 61.2)
Northeast	50.8	46.8	-4.0	(-14.8, 6.8)	48.8	(43.4, 54.2)
South	50.4	51.1	0.7	(-7.1, 8.5)	50.8	(46.8, 54.7)
Midwest	54.2	48.1	-6.1	(-14.4, 2.2)	51.2	(47.0, 55.3)
West	54.5	51.7	-2.8	(-11.2, 5.6)	53.1	(48.9, 57.3)
Urban	57.1	53.8	-3.3	(-11.3, 4.7)	55.5	(51.4, 59.5)
Suburban	52.1	47.0	-5.1	(-13.5, 3.3)	49.6	(45.4, 53.7)
Town and Rural	48.1	49.0	0.9	(-5.8, 7.6)	48.6	(45.2, 51.9)
Sensation Seeking						
High	54.7	54.2	-0.5	(-6.9, 5.9)	54.5	(51.2, 57.7)
Low	49.0	46.0	-3.0	(-9.5, 3.5)	47.5	(44.2, 50.8)

Table 4-10. Young people's conversations with parents about drugs by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent who never had conversation with parents about drugs in the past 6 months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	19.9	23.2	3.3	(-1.0, 7.6)	21.6	(19.4, 23.7)
12 to 13	21.9	22.9	1.0	(-3.8, 5.8)	22.4	(20.0, 24.8)
14 to 15	21.2	27.0	5.8	(-0.8, 12.4)	24.1	(20.8, 27.4)
16 to 18	29.9	25.7	-4.2	(-9.9, 1.5)	27.8	(24.9, 30.7)
14 to 18	26.1	26.3	0.2	(-4.1, 4.5)	26.2	(24.0, 28.4)
Youth aged 9 to 18						
Males	25.8	26.1	0.3	(-3.2, 3.8)	26.0	(24.2, 27.7)
Females	20.7	23.1	2.4	(-1.6, 6.4)	21.9	(19.9, 23.9)
White	24.1	25.4	1.3	(-2.0, 4.6)	24.8	(23.1, 26.4)
African American	22.0	24.5	2.5	(-4.3, 9.3)	23.3	(19.8, 26.7)
Hispanic	19.2	21.6	2.4	(-5.1, 9.9)	20.4	(16.7, 24.1)
Northeast	24.1	23.9	-0.2	(-6.9, 6.5)	24.0	(20.6, 27.4)
South	25.6	24.0	-1.6	(-7.4, 4.2)	24.8	(21.9, 27.7)
Midwest	23.3	27.5	4.2	(-0.6, 9.0)	25.4	(23.0, 27.8)
West	18.9	22.9	4.0	(-0.7, 8.7)	20.9	(18.6, 23.2)
Urban	20.1	24.5	4.4	*(0.4, 8.4)	22.3	(20.3, 24.3)
Suburban	25.1	25.4	0.3	(-5.4, 6.0)	25.3	(22.4, 28.1)
Town and Rural	24.9	24.3	-0.6	(-4.9, 3.7)	24.6	(22.4, 26.8)
Sensation Seeking						
High	25.7	24.6	-1.1	(-4.8, 2.6)	25.2	(23.3, 27.0)
Low	20.9	24.7	3.8	(-0.4, 8.0)	22.8	(20.7, 24.9)

Table 4-11. Young people's conversations with parents about drugs by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent who had two or more conversations with parents about drugs in the past 6 months					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	%	%	%	%	95% CI
All Youth aged 9 to 18						
9 to 11	62.7	57.4	-5.3	*	(-10.3, -0.3)	(57.6, 62.5)
12 to 13	59.2	56.2	-3.0		(-9.0, 3.0)	(54.7, 60.7)
14 to 15	58.6	52.1	-6.5		(-14.7, 1.7)	(51.2, 59.5)
16 to 18	48.4	51.7	3.3		(-4.0, 10.6)	(46.4, 53.7)
14 to 18	52.9	51.9	-1.0		(-6.5, 4.5)	(49.6, 55.2)
Youth aged 9 to 18						
Males	55.9	53.2	-2.7		(-6.9, 1.5)	(52.5, 56.6)
Females	58.6	55.9	-2.7		(-7.7, 2.3)	(54.8, 59.7)
White	56.0	53.2	-2.8		(-6.8, 1.2)	(52.6, 56.6)
African American	63.9	55.5	-8.4		(-17.5, 0.7)	(55.2, 64.2)
Hispanic	59.2	59.0	-0.2		(-8.3, 7.9)	(55.0, 63.2)
Northeast	58.3	49.3	-9.0	*	(-15.5, -2.5)	(50.6, 57.0)
South	56.7	58.4	1.7		(-4.9, 8.3)	(54.3, 60.8)
Midwest	56.3	53.4	-2.9		(-9.5, 3.7)	(51.5, 58.2)
West	58.7	53.9	-4.8		(-11.0, 1.4)	(53.2, 59.4)
Urban	61.1	54.5	-6.6	*	(-12.6, -0.6)	(54.8, 60.8)
Suburban	54.7	51.2	-3.5		(-9.8, 2.8)	(49.8, 56.1)
Town and Rural	55.5	56.3	0.8		(-5.1, 6.7)	(53.0, 58.8)
Sensation Seeking						
High	52.6	52.5	-0.1		(-4.7, 4.5)	(50.2, 54.9)
Low	61.6	55.7	-5.9	*	(-10.9, -0.9)	(56.2, 61.1)

Table 4-12. Young people's conversations with parents or friends about drugs by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent who had four or more conversations with parents or friends about drugs in the past 6 months					
	Wave 1		Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	40.8	34.9	-5.9	* (-10.8, -1.0)	37.9	(35.4, 40.3)
12 to 13	42.7	41.7	-1.0	(-6.7, 4.7)	42.2	(39.3, 45.1)
14 to 15	54.8	40.4	-14.4	* (-22.0, -6.8)	47.6	(43.8, 51.4)
16 to 18	53.4	56.8	3.4	(-3.6, 10.4)	55.1	(51.6, 58.6)
14 to 18	54.0	49.3	-4.7	(-10.2, 0.8)	51.7	(48.9, 54.4)
Youth aged 9 to 18						
Males	45.4	41.5	-3.9	(-8.6, 0.8)	43.5	(41.1, 45.8)
Females	49.9	45.1	-4.8	* (-9.6, 0.0)	47.5	(45.1, 49.9)
White	47.5	42.8	-4.7	* (-8.8, -0.6)	45.2	(43.1, 47.2)
African American	47.1	43.3	-3.8	(-12.2, 4.6)	45.2	(41.0, 49.4)
Hispanic	51.0	46.0	-5.0	(-14.3, 4.3)	48.5	(43.8, 53.2)
Northeast	46.6	37.1	-9.5	* (-16.5, -2.5)	41.9	(38.4, 45.3)
South	45.0	45.9	0.9	(-5.2, 7.0)	45.5	(42.4, 48.5)
Midwest	50.5	44.6	-5.9	(-12.9, 1.1)	47.6	(44.0, 51.1)
West	50.0	42.9	-7.1	* (-12.2, -2.0)	46.5	(43.9, 49.0)
Urban	49.1	43.7	-5.4	* (-10.7, -0.1)	46.4	(43.8, 49.0)
Suburban	48.4	41.5	-6.9	* (-12.9, -0.9)	45.0	(41.9, 48.0)
Town and Rural	46.0	44.0	-2.0	(-7.6, 3.6)	45.0	(42.2, 47.8)
Sensation Seeking						
High	54.7	50.9	-3.8	(-8.8, 1.2)	52.8	(50.3, 55.3)
Low	41.1	35.9	-5.2	* (-9.5, -0.9)	38.5	(36.4, 40.6)

Table 4-13. Young people's conversations about anti-drug ads by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent who talked with parents/caregivers about anti-drug ads in recent months					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	%	%	%	%	95% CI
All Youth aged 9 to 18						
9 to 11	49.6	46.2	-3.4	(-8.1, 1.3)	47.9	(45.5, 50.3)
12 to 13	40.1	37.4	-2.7	(-8.0, 2.6)	38.8	(36.1, 41.4)
14 to 15	31.0	30.0	-1.0	(-8.1, 6.1)	30.5	(26.9, 34.1)
16 to 18	21.1	16.3	-4.8	(-11.1, 1.5)	18.7	(15.5, 21.9)
14 to 18	25.6	22.6	-3.0	(-7.4, 1.4)	24.1	(21.9, 26.3)
Youth aged 9 to 18						
Males	34.4	30.2	-4.2	(-8.4, 0.0)	32.3	(30.2, 34.4)
Females	36.4	34.4	-2.0	(-6.1, 2.1)	35.4	(33.3, 37.5)
White	32.3	29.3	-3.0	(-6.8, 0.8)	30.8	(28.9, 32.7)
African American	44.4	37.8	-6.6	(-14.4, 1.2)	41.1	(37.2, 45.0)
Hispanic	43.6	41.5	-2.1	(-9.8, 5.6)	42.6	(38.7, 46.4)
Northeast	33.0	31.5	-1.5	(-7.7, 4.7)	32.3	(29.1, 35.4)
South	33.2	32.5	-0.7	(-4.9, 3.5)	32.9	(30.7, 35.0)
Midwest	37.8	31.3	-6.5	(-14.8, 1.8)	34.6	(30.4, 38.7)
West	38.6	33.9	-4.7	(-10.8, 1.4)	36.3	(33.2, 39.3)
Urban	39.2	37.0	-2.2	(-8.3, 3.9)	38.1	(35.0, 41.2)
Suburban	33.1	26.1	-7.0	* (-12.8, -1.2)	29.6	(26.7, 32.5)
Town and Rural	33.6	32.3	-1.3	(-6.1, 3.5)	33.0	(30.6, 35.3)
Sensation Seeking						
High	26.6	24.3	-2.3	(-6.1, 1.5)	25.5	(23.6, 27.3)
Low	43.9	39.6	-4.3	(-9.0, 0.4)	41.8	(39.4, 44.1)

Table 4-14. Young people's conversations about anti-drug ads by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent who talked with others (friends, other adults, etc.) about anti-drug ads in recent months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	N/A	N/A	N/A	N/A	N/A	N/A
12 to 13	40.0	44.5	4.5	(-1.4, 10.4)	42.3	(39.3, 45.2)
14 to 15	45.0	39.9	-5.1	(-12.5, 2.3)	42.5	(38.8, 46.1)
16 to 18	45.5	34.5	-11.0	* (-18.9, -3.1)	40.0	(36.0, 44.0)
14 to 18	45.3	37.0	-8.3	* (-13.9, -2.7)	41.2	(38.4, 43.9)
Youth aged 12 to 18						
Males	40.4	34.5	-5.9	* (-11.4, -0.4)	37.5	(34.7, 40.2)
Females	47.3	43.8	-3.5	(-9.2, 2.2)	45.6	(42.7, 48.4)
White	42.7	38.6	-4.1	(-9.5, 1.3)	40.7	(37.9, 43.4)
African American	48.8	40.9	-7.9	(-17.5, 1.7)	44.9	(40.1, 49.6)
Hispanic	42.9	41.3	-1.6	(-11.9, 8.7)	42.1	(36.9, 47.3)
Northeast	40.0	38.0	-2.0	(-11.0, 7.0)	39.0	(34.5, 43.5)
South	42.3	41.0	-1.3	(-8.8, 6.2)	41.7	(37.9, 45.4)
Midwest	46.5	39.6	-6.9	(-16.7, 2.9)	43.1	(38.2, 47.9)
West	46.0	37.5	-8.5	* (-16.3, -0.7)	41.8	(37.9, 45.6)
Urban	45.8	42.8	-3.0	(-10.6, 4.6)	44.3	(40.5, 48.1)
Suburban	43.6	39.1	-4.5	(-12.6, 3.6)	41.4	(37.3, 45.4)
Town and Rural	42.3	36.6	-5.7	(-12.6, 1.2)	39.5	(36.0, 42.9)
Sensation Seeking						
High	43.8	41.6	-2.2	(-7.6, 3.2)	42.7	(40.0, 45.4)
Low	44.4	35.1	-9.3	* (-15.9, -2.7)	39.8	(36.4, 43.1)

Table 4-15. Recall of stories on TV news or radio news about drugs among youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent recalling stories on TV or radio news at least once a week in recent months					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	95% CI	%	95% CI	%	95% CI
All Youth aged 12 to 18						
12 to 13	30.6	(28.8, 34.5)	32.7	(-3.6, 7.8)	2.1	(-3.6, 7.8)
14 to 15	32.1	(28.0, 35.6)	31.5	(-8.2, 7.0)	-0.6	(-8.2, 7.0)
16 to 18	32.1	(29.0, 36.3)	33.2	(-6.2, 8.4)	1.1	(-6.2, 8.4)
14 to 18	32.1	(29.7, 34.9)	32.5	(-4.9, 5.7)	0.4	(-4.9, 5.7)
Youth aged 12 to 18						
Males	31.8	(28.5, 34.5)	31.2	(-6.5, 5.3)	-0.6	(-6.5, 5.3)
Females	31.6	(30.0, 35.5)	33.9	(-3.2, 7.8)	2.3	(-3.2, 7.8)
White	30.8	(29.1, 34.4)	32.7	(-3.4, 7.2)	1.9	(-3.4, 7.2)
African American	36.2	(29.9, 40.3)	34.0	(-12.6, 8.2)	-2.2	(-12.6, 8.2)
Hispanic	31.4	(27.1, 37.5)	33.2	(-8.6, 12.2)	1.8	(-8.6, 12.2)
Northeast	30.5	(26.8, 35.7)	32.0	(-7.3, 10.3)	1.5	(-7.3, 10.3)
South	30.8	(27.7, 36.8)	33.7	(-6.1, 11.9)	2.9	(-6.1, 11.9)
Midwest	34.4	(31.2, 40.3)	37.1	(-6.3, 11.7)	2.7	(-6.3, 11.7)
West	31.8	(26.3, 33.1)	27.6	(-11.0, 2.6)	-4.2	(-11.0, 2.6)
Urban	31.6	(27.6, 34.6)	30.6	(-8.1, 6.1)	-1.0	(-8.1, 6.1)
Suburban	33.1	(29.4, 37.7)	34.0	(-7.3, 9.1)	0.9	(-7.3, 9.1)
Town and Rural	31.0	(28.6, 35.5)	33.1	(-4.9, 9.1)	2.1	(-4.9, 9.1)
Sensation Seeking						
High	32.9	(31.7, 37.7)	36.5	(-2.4, 9.6)	3.6	(-2.4, 9.6)
Low	30.6	(25.6, 32.3)	27.3	(-10.0, 3.4)	-3.3	(-10.0, 3.4)

Table 4-16. Recall of stories in TV movies, sitcoms, or dramas about drugs among youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent recalling stories in TV movies, sitcoms, or dramas at least once a week in recent months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 12 to 18						
12 to 13	17.9	20.2	2.3	(-2.2, 6.8)	19.1	(16.8, 21.3)
14 to 15	26.7	22.8	-3.9	(-10.5, 2.7)	24.8	(21.4, 28.1)
16 to 18	25.2	24.9	-0.3	(-6.9, 6.3)	25.1	(21.7, 28.4)
14 to 18	25.9	23.9	-2.0	(-6.3, 2.3)	24.9	(22.8, 27.0)
Youth aged 12 to 18						
Males	23.4	20.4	-3.0	(-7.9, 1.9)	21.9	(19.5, 24.3)
Females	23.8	25.4	1.6	(-3.4, 6.6)	24.6	(22.1, 27.1)
White	22.2	22.1	-0.1	(-4.6, 4.4)	22.2	(19.9, 24.4)
African American	31.4	24.7	-6.7	(-16.2, 2.8)	28.1	(23.3, 32.8)
Hispanic	22.9	24.0	1.1	(-7.3, 9.5)	23.5	(19.2, 27.7)
Northeast	23.7	21.6	-2.1	(-10.7, 6.5)	22.7	(18.4, 26.9)
South	22.2	24.6	2.4	(-4.8, 9.6)	23.4	(19.8, 27.0)
Midwest	27.3	23.4	-3.9	(-11.1, 3.3)	25.4	(21.8, 28.9)
West	21.8	20.8	-1.0	(-6.0, 4.0)	21.3	(18.8, 23.8)
Urban	25.9	20.4	-5.5	(-11.9, 0.9)	23.2	(19.9, 26.4)
Suburban	23.3	23.1	-0.2	(-7.2, 6.8)	23.2	(19.7, 26.7)
Town and Rural	21.9	24.4	2.5	(-2.9, 7.9)	23.2	(20.5, 25.8)
Sensation Seeking						
High	26.0	23.7	-2.3	(-7.3, 2.7)	24.9	(22.4, 27.3)
Low	20.7	21.7	1.0	(-4.6, 6.6)	21.2	(18.4, 24.0)

Table 4-17. Recall of stories on TV talk shows about drugs among youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent recalling stories on TV talk shows at least once a week in recent months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 12 to 18						
12 to 13	16.8	15.8	-1.0	(-4.9, 2.9)	16.3	(14.3, 18.3)
14 to 15	20.2	25.4	5.2	(-1.1, 11.5)	22.8	(19.7, 25.9)
16 to 18	26.3	24.1	-2.2	(-8.9, 4.5)	25.2	(21.9, 28.5)
14 to 18	23.6	24.7	1.1	(-3.4, 5.6)	24.2	(21.9, 26.4)
Youth aged 12 to 18						
Males	17.4	19.2	1.8	(-3.1, 6.7)	18.3	(15.9, 20.7)
Females	26.1	25.2	-0.9	(-5.8, 4.0)	25.7	(23.2, 28.1)
White	19.9	19.9	0.0	(-4.3, 4.3)	19.9	(17.7, 22.1)
African American	28.7	30.7	2.0	(-7.9, 11.9)	29.7	(24.8, 34.6)
Hispanic	24.2	25.5	1.3	(-8.5, 11.1)	24.9	(20.0, 29.7)
Northeast	22.6	26.3	3.7	(-3.9, 11.3)	24.5	(20.7, 28.2)
South	20.5	24.6	4.1	(-2.5, 10.7)	22.6	(19.3, 25.8)
Midwest	24.5	20.1	-4.4	(-12.0, 3.2)	22.3	(18.5, 26.1)
West	19.6	18.4	-1.2	(-7.5, 5.1)	19.0	(15.9, 22.1)
Urban	23.0	20.6	-2.4	(-8.4, 3.6)	21.8	(18.8, 24.8)
Suburban	22.7	23.3	0.6	(-5.8, 7.0)	23.0	(19.8, 26.2)
Town and Rural	20.0	22.6	2.6	(-2.9, 8.1)	21.3	(18.6, 24.0)
Sensation Seeking						
High	23.4	24.1	0.7	(-4.5, 5.9)	23.8	(21.1, 26.4)
Low	20.0	19.4	-0.6	(-5.5, 4.3)	19.7	(17.2, 22.2)

Table 4-18. Recall of stories in movies (theater/rental) about drugs among youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent recalling stories in movies (theater/rental) at least once a week in recent months					
	Wave 1		Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 12 to 18						
12 to 13	11.6	13.2	1.6	(-2.0, 5.2)	12.4	(10.6, 14.2)
14 to 15	15.6	18.9	3.3	(-2.3, 8.9)	17.3	(14.5, 20.0)
16 to 18	22.0	23.2	1.2	(-5.2, 7.6)	22.6	(19.4, 25.8)
14 to 18	19.2	21.3	2.1	(-2.3, 6.5)	20.3	(18.1, 22.4)
Youth aged 12 to 18						
Males						
Females	18.8	21.3	2.5	(-1.7, 6.7)	20.1	(17.9, 22.2)
	15.2	16.4	1.2	(-3.2, 5.6)	15.8	(13.6, 18.0)
White						
African American	15.4	17.0	1.6	(-1.9, 5.1)	16.2	(14.4, 18.0)
Hispanic	22.9	22.8	-0.1	(-8.9, 8.7)	22.9	(18.5, 27.2)
	19.4	22.3	2.9	(-5.1, 10.9)	20.9	(16.8, 24.9)
Northeast						
South	17.5	19.1	1.6	(-4.2, 7.4)	18.3	(15.4, 21.2)
Midwest	16.7	17.3	0.6	(-4.9, 6.1)	17.0	(14.3, 19.7)
West	18.6	20.4	1.8	(-5.6, 9.2)	19.5	(15.8, 23.2)
	15.4	20.0	4.6	(-0.7, 9.9)	17.7	(15.0, 20.4)
Urban						
Suburban	17.5	20.9	3.4	(-2.1, 8.9)	19.2	(16.4, 22.0)
Town and Rural	22.2	16.1	-6.1	(-12.3, 0.1)	19.2	(16.0, 22.3)
	13.7	19.1	5.4	*(0.8, 10.0)	16.4	(14.1, 18.7)
Sensation Seeking						
High	20.2	22.5	2.3	(-2.5, 7.1)	21.4	(18.9, 23.8)
Low	13.3	13.6	0.3	(-4.0, 4.6)	13.5	(11.3, 15.6)

Table 4-19. Recall of stories in magazines about drugs among youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent recalling stories in magazines at least once a week in recent months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 12 to 18						
12 to 13	10.2	10.1	-0.1	(-3.2, 3.0)	10.2	(8.6, 11.7)
14 to 15	12.0	14.0	2.0	(-3.2, 7.2)	13.0	(10.4, 15.6)
16 to 18	11.0	14.2	3.2	(-1.9, 8.3)	12.6	(10.1, 15.1)
14 to 18	11.4	14.1	2.7	(-1.1, 6.5)	12.8	(10.9, 14.6)
Youth aged 12 to 18						
Males	8.3	11.6	3.3	(-0.3, 6.9)	10.0	(8.2, 11.7)
Females	14.0	14.3	0.3	(-4.1, 4.7)	14.2	(12.0, 16.3)
White	10.9	11.9	1.0	(-2.5, 4.5)	11.4	(9.7, 13.1)
African American	14.3	14.8	0.5	(-8.0, 9.0)	14.6	(10.3, 18.8)
Hispanic	7.1	15.4	8.3	*(2.3, 14.3)	11.3	(8.2, 14.3)
Northeast	11.6	10.9	-0.7	(-7.5, 6.1)	11.3	(7.8, 14.7)
South	10.0	12.7	2.7	(-2.4, 7.8)	11.4	(8.8, 13.9)
Midwest	12.7	15.3	2.6	(-3.1, 8.3)	14.0	(11.1, 16.9)
West	10.8	12.5	1.7	(-4.2, 7.6)	11.7	(8.7, 14.6)
Urban	11.6	12.8	1.2	(-3.8, 6.2)	12.2	(9.7, 14.7)
Suburban	10.0	9.6	-0.4	(-5.3, 4.5)	9.8	(7.3, 12.3)
Town and Rural	11.3	14.8	3.5	(-1.0, 8.0)	13.1	(10.8, 15.3)
Sensation Seeking						
High	11.5	13.8	2.3	(-1.6, 6.2)	12.7	(10.7, 14.6)
Low	11.0	11.4	0.4	(-3.6, 4.4)	11.2	(9.2, 13.2)

Table 4-20. Recall of stories about drugs in at least one venue among youth by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent recalling stories at least once a month in recent months in at least one venue					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 14 to 18						
14 to 15	96.5	95.5	-1.0	(-4.1, 2.1)	96.0	(94.5, 97.5)
16 to 18	97.4	97.1	-0.3	(-2.6, 2.0)	97.3	(96.1, 98.4)
14 to 18	97.0	96.4	-0.6	(-2.8, 1.6)	96.7	(95.6, 97.8)
Teens aged 14 to 18						
Males	96.0	94.7	-1.3	(-5.1, 2.5)	95.4	(93.4, 97.3)
Females	98.0	98.1	0.1	(-1.8, 2.0)	98.1	(97.1, 99.0)
White	96.8	95.8	-1.0	(-3.5, 1.5)	96.3	(95.0, 97.6)
African American	94.7	97.4	2.7	(-2.7, 5.3)	96.1	(93.3, 98.8)
Hispanic	99.8	96.6	-3.2	(-8.3, 0.2)	98.2	(95.6, 100.0)
Northeast	96.4	97.9	1.5	(-3.0, 3.6)	97.2	(94.9, 99.4)
South	95.6	96.6	1.0	(-2.9, 4.4)	96.1	(94.1, 98.1)
Midwest	98.5	95.6	-2.9	(-7.1, 1.3)	97.1	(95.0, 99.1)
West	98.1	95.8	-2.3	(-6.5, 1.9)	97.0	(94.8, 99.1)
Urban	96.9	96.7	-0.2	(-4.4, 3.1)	96.8	(94.7, 98.9)
Suburban	99.0	95.4	-3.6	(-7.8, 0.6)	97.2	(95.1, 99.3)
Town and Rural	96.1	96.6	0.5	(-2.9, 3.9)	96.4	(94.6, 98.1)
Sensation Seeking						
High	97.3	97.3	0.0	(-2.2, 2.2)	97.3	(96.2, 98.4)
Low	96.4	96.0	-0.4	(-3.6, 2.8)	96.2	(94.6, 97.8)

Table 5-1. Parents¹ recall of TV or radio news programs with drug themes in recent months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent reporting having noticed stories on TV or radio news programs dealing with drug use among young people at least weekly					
	Wave 1		Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
Overall	51.0	49.1	-1.9	(-5.8, 2.0)	50.1	(48.1, 52.0)
Males	50.0	49.1	-0.9	(-7.2, 5.4)	49.6	(46.4, 52.7)
Females	51.6	49.1	-2.5	(-7.5, 2.5)	50.4	(47.9, 52.8)
White	50.1	47.4	-2.7	(-7.4, 2.0)	48.8	(46.4, 51.1)
African American	53.5	60.0	6.5	(-3.2, 16.2)	56.8	(51.9, 61.6)
Hispanic	54.5	52.2	-2.3	(-13.2, 8.6)	53.4	(47.9, 58.8)
Less Than High School	50.0	60.5	10.5	*(1.2, 19.8)	55.3	(50.6, 59.9)
High School Graduate	51.3	47.8	-3.5	(-10.3, 3.3)	49.6	(46.1, 53.0)
Some College	54.9	46.6	-8.3	*(-16.0, -0.6)	50.8	(46.9, 54.6)
College Graduate	46.6	48.1	1.5	(-5.9, 8.9)	47.4	(43.6, 51.1)
Northeast	51.4	58.0	6.6	(-2.3, 15.5)	54.7	(50.2, 59.2)
South	51.4	50.6	-0.8	(-6.5, 4.9)	51.0	(48.2, 53.8)
Midwest	52.4	46.7	-5.7	(-14.0, 2.6)	49.6	(45.4, 53.7)
West	48.9	42.8	-6.1	(-14.4, 2.2)	45.9	(41.7, 50.0)
Urban	52.9	54.2	1.3	(-5.0, 7.6)	53.6	(50.4, 56.7)
Suburban	46.2	47.5	1.3	(-6.8, 9.4)	46.9	(42.8, 50.9)
Town and Rural	52.7	46.7	-6.0	*(-11.7, -0.3)	49.7	(46.8, 52.6)
One or more children aged ² :						
9-11	48.2	50.7	2.5	(-3.3, 8.3)	49.5	(46.6, 52.3)
12-13	50.1	46.2	-3.9	(-9.9, 2.1)	48.2	(45.1, 51.2)
14-18	52.8	49.9	-2.9	(-8.2, 2.4)	51.4	(48.7, 54.0)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-2. Parents¹ recall of TV movies, sitcoms, or dramas with drug themes in recent months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent reporting having noticed stories in TV movies, sitcoms, or dramas dealing with drug use among young people at least weekly					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Overall	30.4	27.2	-3.2	(-6.7, 0.3)	28.8	(27.0, 30.6)
Males	29.7	26.3	-3.4	(-9.1, 2.3)	28.0	(25.1, 30.9)
Females	30.9	27.8	-3.1	(-7.5, 1.3)	29.4	(27.1, 31.6)
White	28.0	26.8	-1.2	(-5.3, 2.9)	27.4	(25.4, 29.4)
African American	39.5	32.1	-7.4	(-18.8, 4.0)	35.8	(30.1, 41.5)
Hispanic	36.4	28.0	-8.4	(-18.4, 1.6)	32.2	(27.2, 37.2)
Less Than High School	30.5	32.7	2.2	(-7.6, 12.0)	31.6	(26.7, 36.5)
High School Graduate	33.1	27.8	-5.3	(-11.0, 0.4)	30.5	(27.6, 33.3)
Some College	33.1	26.0	-7.1	* (-13.3, -0.9)	29.6	(26.5, 32.6)
College Graduate	24.8	24.9	0.1	(-6.2, 6.4)	24.9	(21.7, 28.0)
Northeast	29.1	31.7	2.6	(-5.7, 10.9)	30.4	(26.3, 34.5)
South	31.7	26.0	-5.7	(-11.6, 0.2)	28.9	(25.9, 31.8)
Midwest	30.0	26.9	-3.1	(-10.6, 4.4)	28.5	(24.7, 32.2)
West	30.4	26.1	-4.3	(-11.3, 2.7)	28.3	(24.7, 31.8)
Urban	32.2	32.2	0.0	(-6.6, 6.6)	32.2	(28.9, 35.5)
Suburban	26.8	25.0	-1.8	(-7.8, 4.2)	25.9	(22.9, 28.9)
Town and Rural	31.4	25.1	-6.3	* (-11.0, -1.6)	28.3	(25.9, 30.6)
One or more children aged ² :						
9-11	29.9	29.4	-0.5	(-5.2, 4.2)	29.7	(27.3, 32.0)
12-13	30.9	25.1	-5.8	* (-10.5, -1.1)	28.0	(25.6, 30.4)
14-18	30.5	26.7	-3.8	(-8.8, 1.2)	28.6	(26.1, 31.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-3. Parents¹ recall of TV talk shows or TV news magazine programs with drug themes in recent months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent reporting having noticed stories on TV talk shows or TV news magazine programs dealing with drug use among young people at least weekly					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Overall	23.8	21.1	-2.7	(-5.7, 0.3)	22.5	(21.0, 23.9)
Males	20.3	19.5	-0.8	(-5.3, 3.7)	19.9	(17.6, 22.2)
Females	26.0	22.3	-3.7	(-7.9, 0.5)	24.2	(22.1, 26.2)
White	20.8	17.8	-3.0	(-6.2, 0.2)	19.3	(17.7, 20.9)
African American	32.2	33.1	0.9	(-9.4, 11.2)	32.7	(27.5, 37.8)
Hispanic	33.3	25.4	-7.9	(-18.1, 2.3)	29.4	(24.2, 34.5)
Less Than High School	28.2	27.1	-1.1	(-9.9, 7.7)	27.7	(23.2, 32.1)
High School Graduate	26.2	24.2	-2.0	(-8.1, 4.1)	25.2	(22.1, 28.3)
Some College	25.0	19.4	-5.6	(-11.2, 0.0)	22.2	(19.4, 25.0)
College Graduate	17.2	16.2	-1.0	(-6.1, 4.1)	16.7	(14.2, 19.2)
Northeast	25.1	24.0	-1.1	(-8.0, 5.8)	24.6	(21.1, 28.0)
South	23.8	20.8	-3.0	(-8.4, 2.4)	22.3	(19.6, 25.0)
Midwest	23.7	19.6	-4.1	(-9.1, 0.9)	21.7	(19.1, 24.2)
West	23.9	20.9	-3.0	(-8.5, 2.5)	22.4	(19.6, 25.2)
Urban	26.3	23.3	-3.0	(-8.6, 2.6)	24.8	(22.0, 27.6)
Suburban	21.1	23.1	2.0	(-4.2, 8.2)	22.1	(19.0, 25.2)
Town and Rural	23.7	18.5	-5.2	* (-9.8, -0.6)	21.1	(18.8, 23.4)
One or more children aged ² :						
9-11	23.0	20.7	-2.3	(-6.6, 2.0)	21.9	(19.7, 24.0)
12-13	22.9	20.0	-2.9	(-7.7, 1.9)	21.5	(19.0, 23.9)
14-18	25.4	21.4	-4.0	(-8.1, 0.1)	23.4	(21.4, 25.4)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-4. Parents¹ recall of non-news radio programs with drug themes in recent months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent reporting having noticed stories on non-news radio programs dealing with drug use among young people at least weekly					
	Wave 1		Wave 2		2000	
	Wave 1 %	Wave 2 %	Wave 2 %	Wave 2 95% CI	(Average Wave 1 and Wave 2) %	95% CI
Overall	13.7	12.5	-1.2	(-3.8, 1.4)	13.1	(11.8, 14.4)
Males	16.4	10.7	-5.7	* (-9.7, -1.7)	13.6	(11.6, 15.5)
Females	12.1	13.9	1.8	(-1.3, 4.9)	13.0	(11.5, 14.5)
White	11.0	9.3	-1.7	(-4.7, 1.3)	10.2	(8.7, 11.6)
African American	23.5	22.2	-1.3	(-10.7, 8.1)	22.9	(18.2, 27.5)
Hispanic	21.0	19.9	-1.1	(-10.0, 7.8)	20.5	(16.0, 24.9)
Less Than High School	17.4	17.2	-0.2	(-6.9, 6.5)	17.3	(14.0, 20.6)
High School Graduate	15.1	13.3	-1.8	(-6.5, 2.9)	14.2	(11.8, 16.6)
Some College	13.8	12.0	-1.8	(-6.3, 2.7)	12.9	(10.6, 15.2)
College Graduate	10.0	9.5	-0.5	(-4.4, 3.4)	9.8	(7.8, 11.7)
Northeast	11.8	14.8	3.0	(-2.8, 8.8)	13.3	(10.4, 16.2)
South	14.7	13.1	-1.6	(-6.6, 3.4)	13.9	(11.4, 16.4)
Midwest	14.3	12.2	-2.1	(-7.1, 2.9)	13.3	(10.8, 15.7)
West	13.4	10.3	-3.1	(-8.3, 2.1)	11.9	(9.3, 14.4)
Urban	15.6	16.2	0.6	(-4.1, 5.3)	15.9	(13.6, 18.2)
Suburban	11.8	10.9	-0.9	(-5.8, 4.0)	11.4	(8.9, 13.8)
Town and Rural	13.5	10.9	-2.6	(-6.7, 1.5)	12.2	(10.1, 14.3)
One or more children aged ² :						
9-11	13.7	13.7	0.0	(-3.4, 3.4)	13.7	(12.0, 15.4)
12-13	12.3	12.6	0.3	(-3.4, 4.0)	12.5	(10.6, 14.3)
14-18	14.4	11.9	-2.5	(-6.2, 1.2)	13.2	(11.3, 15.0)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-5. Parents¹ recall of movies seen in theaters or rental videos with drug themes in recent months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent reporting having noticed stories in movies (theaters or rental videos) dealing with drug use among young people at least weekly					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
Overall	9.6	8.5	-1.1	(-3.2, 1.0)	9.1	(8.0, 10.1)
Males	10.8	7.7	-3.1	(-6.7, 0.5)	9.3	(7.4, 11.1)
Females	8.9	9.1	0.2	(-2.5, 2.9)	9.0	(7.7, 10.3)
White	7.4	6.0	-1.4	(-3.6, 0.8)	6.7	(5.6, 7.8)
African American	16.2	15.6	-0.6	(-7.8, 6.6)	15.9	(12.3, 19.5)
Hispanic	14.8	14.0	-0.8	(-8.1, 6.5)	14.4	(10.8, 18.0)
Less Than High School	13.8	12.2	-1.6	(-8.3, 5.1)	13.0	(9.7, 16.3)
High School Graduate	10.2	7.9	-2.3	(-6.1, 1.5)	9.1	(7.2, 10.9)
Some College	8.8	9.9	1.1	(-3.0, 5.2)	9.4	(7.3, 11.4)
College Graduate	7.4	5.5	-1.9	(-5.4, 1.6)	6.5	(4.7, 8.2)
Northeast	12.1	8.2	-3.9	(-9.2, 1.4)	10.2	(7.5, 12.8)
South	10.9	10.1	-0.8	(-5.1, 3.5)	10.5	(8.4, 12.6)
Midwest	9.3	8.2	-1.1	(-5.6, 3.4)	8.8	(6.5, 11.0)
West	6.1	6.3	0.2	(-3.4, 3.8)	6.2	(4.4, 8.0)
Urban	10.6	10.2	-0.4	(-4.1, 3.3)	10.4	(8.5, 12.3)
Suburban	10.2	8.9	-1.3	(-5.2, 2.6)	9.6	(7.6, 11.5)
Town and Rural	8.6	7.1	-1.5	(-4.7, 1.7)	7.9	(6.2, 9.5)
One or more children aged ² :						
9-11	8.6	8.5	-0.1	(-2.8, 2.6)	8.6	(7.2, 9.9)
12-13	9.7	7.7	-2.0	(-5.0, 1.0)	8.7	(7.2, 10.2)
14-18	10.7	9.0	-1.7	(-4.9, 1.5)	9.9	(8.3, 11.4)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-6. Parents¹ recall of magazine articles with drug themes in recent months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent reporting having noticed stories in magazine articles dealing with drug use among young people at least weekly					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
Overall	8.2	8.1	-0.1	(-2.6, 2.4)	8.2	(6.9, 9.4)
Males	8.3	7.5	-0.8	(-4.2, 2.6)	7.9	(6.2, 9.6)
Females	8.2	8.5	0.3	(-3.1, 3.7)	8.4	(6.7, 10.0)
White	6.3	5.7	-0.6	(-3.0, 1.8)	6.0	(4.8, 7.2)
African American	16.2	10.7	-5.5	(-12.1, 1.1)	13.5	(10.2, 16.7)
Hispanic	10.6	15.6	5.0	(-4.7, 14.7)	13.1	(8.3, 17.9)
Less Than High School	10.8	9.1	-1.7	(-8.9, 5.5)	10.0	(6.4, 13.5)
High School Graduate	8.5	6.7	-1.8	(-5.6, 2.0)	7.6	(5.7, 9.5)
Some College	7.1	8.3	1.2	(-2.7, 5.1)	7.7	(5.8, 9.6)
College Graduate	7.0	8.7	1.7	(-2.9, 6.3)	7.9	(5.6, 10.1)
Northeast	9.9	10.9	1.0	(-5.4, 7.4)	10.4	(7.2, 13.6)
South	9.2	6.5	-2.7	(-6.5, 1.1)	7.9	(5.9, 9.8)
Midwest	7.6	8.8	1.2	(-3.8, 6.2)	8.2	(5.7, 10.7)
West	6.3	7.5	1.2	(-3.6, 6.0)	6.9	(4.5, 9.3)
Urban	8.9	13.4	4.5	(-0.8, 9.8)	11.2	(8.5, 13.8)
Suburban	7.8	6.3	-1.5	(-5.7, 2.7)	7.1	(5.0, 9.1)
Town and Rural	7.9	5.5	-2.4	(-5.7, 0.9)	6.7	(5.0, 8.4)
One or more children aged ² :						
9-11	8.7	6.8	-1.9	(-4.8, 1.0)	7.8	(6.3, 9.2)
12-13	7.0	7.1	0.1	(-2.5, 2.7)	7.1	(5.7, 8.4)
14-18	8.3	8.6	0.3	(-3.3, 3.9)	8.5	(6.7, 10.2)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-7. Parents¹ recall of newspaper articles with drug themes in recent months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent reporting having noticed stories in newspaper articles dealing with drug use among young people at least weekly					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Overall	33.1	31.3	-1.8	(-6.0, 2.4)	32.2	(30.1, 34.3)
Males	34.9	31.4	-3.5	(-9.9, 2.9)	33.2	(30.0, 36.3)
Females	32.0	31.3	-0.7	(-5.5, 4.1)	31.7	(29.3, 34.0)
White	32.9	30.4	-2.5	(-7.4, 2.4)	31.7	(29.2, 34.1)
African American	37.6	40.2	2.6	(-8.8, 14.0)	38.9	(33.2, 44.6)
Hispanic	29.6	29.0	-0.6	(-10.5, 9.3)	29.3	(24.4, 34.2)
Less Than High School	25.9	26.3	0.4	(-7.7, 8.5)	26.1	(22.0, 30.2)
High School Graduate	32.2	27.5	-4.7	(-9.7, 0.3)	29.9	(27.4, 32.3)
Some College	35.8	33.8	-2.0	(-10.4, 6.4)	34.8	(30.6, 39.0)
College Graduate	35.5	36.2	0.7	(-6.4, 7.8)	35.9	(32.3, 39.4)
Northeast	34.6	43.6	9.0	(-0.2, 18.2)	39.1	(34.5, 43.7)
South	33.1	28.4	-4.7	(-11.3, 1.9)	30.8	(27.4, 34.1)
Midwest	33.4	34.4	1.0	(-9.2, 11.2)	33.9	(28.8, 39.0)
West	32.0	24.6	-7.4	* (-14.4, -0.4)	28.3	(24.8, 31.8)
Urban	34.2	36.4	2.2	(-4.6, 9.0)	35.3	(31.9, 38.7)
Suburban	32.0	29.4	-2.6	(-10.0, 4.8)	30.7	(27.0, 34.4)
Town and Rural	33.0	29.1	-3.9	(-10.2, 2.4)	31.1	(27.9, 34.2)
One or more children aged ² :						
9-11	28.9	32.6	3.7	(-1.0, 8.4)	30.8	(28.4, 33.1)
12-13	32.7	31.1	-1.6	(-6.8, 3.6)	31.9	(29.3, 34.5)
14-18	35.1	31.1	-4.0	(-9.7, 1.7)	33.1	(30.3, 35.9)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-8. Parents' recall of weekly stories in at least one medium in the past 12 months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they heard a weekly story in at least one medium in the past 12 months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
Overall	85.3	83.4	-1.9	* (-3.7, -0.1)	84.4	(83.4, 85.3)
Males	83.8	84.2	0.4	(-2.1, 2.9)	84.0	(82.7, 85.3)
Females	86.2	82.8	-3.4	* (-5.7, -1.1)	84.5	(83.4, 85.6)
White	84.6	82.7	-1.9	(-4.1, 0.3)	83.7	(82.5, 84.8)
African American	90.3	89.4	-0.9	(-4.6, 2.8)	89.9	(88.0, 91.7)
Hispanic	86.9	84.4	-2.5	(-6.2, 1.2)	85.7	(83.8, 87.5)
Less Than High School	80.7	86.9	6.2	* (0.6, 11.8)	83.8	(81.0, 86.6)
High School Graduate	84.3	81.7	-2.6	(-5.4, 0.2)	83.0	(81.6, 84.4)
Some College	90.5	84.0	-6.5	* (-9.1, -3.9)	87.3	(86.0, 88.5)
College Graduate	84.4	83.0	-1.4	(-4.9, 2.1)	83.7	(81.9, 85.5)
Northeast	88.6	85.8	-2.8	(-7.0, 1.4)	87.2	(85.1, 89.3)
South	84.1	84.3	0.2	(-2.9, 3.3)	84.2	(82.7, 85.7)
Midwest	84.8	85.0	0.2	(-3.4, 3.8)	84.9	(83.1, 86.7)
West	85.4	78.9	-6.5	* (-9.7, -3.3)	82.2	(80.5, 83.8)
Urban	86.3	86.7	0.4	(-2.8, 3.6)	86.5	(84.9, 88.1)
Suburban	83.5	82.6	-0.9	(-5.0, 3.2)	83.1	(81.0, 85.1)
Town and Rural	85.7	81.8	-3.9	* (-6.8, -1.0)	83.8	(82.3, 85.2)
One or more children aged ² :						
9-11	83.9	82.8	-1.1	(-4.3, 2.1)	83.4	(81.7, 85.0)
12-13	86.0	82.8	-3.2	* (-5.8, -0.6)	84.4	(83.1, 85.7)
14-18	86.8	84.6	-2.2	* (-4.3, -0.1)	85.7	(84.7, 86.7)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.

² Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-9. Parents¹ awareness of drug activities/controversies in community in the past 12 months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they heard a lot about anti-drug programs in schools or community centers in their community in the past 12 months					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Overall	32.0	36.0	4.0	* (1.6, 6.4)	34.0	(32.8, 35.2)
Males	28.8	31.3	2.5	(-1.2, 6.2)	30.1	(28.2, 31.9)
Females	33.9	39.7	5.8	* (2.9, 8.7)	36.8	(35.3, 38.3)
White	32.5	36.4	3.9	* (0.6, 7.2)	34.5	(32.8, 36.1)
African American	28.7	36.5	7.8	* (1.8, 13.8)	32.6	(29.6, 35.6)
Hispanic	33.7	32.4	-1.3	(-7.3, 4.7)	33.1	(30.0, 36.1)
Less Than High School	29.2	27.0	-2.2	(-7.3, 2.9)	28.1	(25.5, 30.7)
High School Graduate	26.7	31.8	5.1	* (2.0, 8.2)	29.3	(27.7, 30.8)
Some College	31.7	37.3	5.6	* (0.8, 10.4)	34.5	(32.1, 36.9)
College Graduate	39.6	45.1	5.5	* (0.6, 10.4)	42.4	(39.9, 44.8)
Northeast	28.9	40.1	11.2	* (6.3, 16.1)	34.5	(32.0, 37.0)
South	32.0	36.1	4.1	* (0.7, 7.5)	34.1	(32.4, 35.7)
Midwest	34.2	39.2	5.0	* (0.9, 9.1)	36.7	(34.7, 38.7)
West	31.3	31.5	0.2	(-6.8, 7.2)	31.4	(27.9, 34.9)
Urban	29.9	37.6	7.7	* (3.1, 12.3)	33.8	(31.5, 36.0)
Suburban	31.7	37.7	6.0	* (1.9, 10.1)	34.7	(32.7, 36.7)
Town and Rural	33.7	34.1	0.4	(-2.9, 3.7)	33.9	(32.2, 35.6)
One or more children aged ² :						
9-11	34.1	36.5	2.4	(-0.7, 5.5)	35.3	(33.8, 36.8)
12-13	35.9	41.6	5.7	* (2.2, 9.2)	38.8	(37.0, 40.5)
14-18	29.4	36.0	6.6	* (3.0, 10.2)	32.7	(30.9, 34.5)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.

² Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-10. Parents¹ awareness of drug activities/controversies in community in the past 12 months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they heard a lot about speeches about drugs by public officials in their community in the past 12 months					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
Overall	15.0	15.3	0.3	(-1.8, 2.4)	15.2	(13.6-16.9)
Males	16.2	15.3	-0.9	(-4.1, 2.3)	15.7	(13.1-18.8)
Females	14.3	15.3	1.0	(-1.4, 3.4)	14.8	(13.3-16.4)
White	11.4	13.5	2.1	*(0.2, 4.0)	12.4	(11.0-14.1)
African American	24.2	22.1	-2.1	(-7.3, 3.1)	23.1	(18.8-28.1)
Hispanic	24.0	17.3	-6.7	(-14.0, 0.6)	20.6	(16.4-25.6)
Less Than High School	21.6	12.9	-8.7	*(-14.8, -2.6)	17.4	(13.7-21.9)
High School Graduate	11.7	13.2	1.5	(-1.2, 4.2)	12.4	(10.3-14.9)
Some College	13.9	15.6	1.7	(-2.0, 5.4)	14.8	(12.3-17.7)
College Graduate	16.2	18.7	2.5	(-1.0, 6.0)	17.4	(14.7-20.5)
Northeast	10.9	15.0	4.1	*(0.2, 8.0)	12.9	(9.6-17.0)
South	16.4	16.2	-0.2	(-3.4, 3.0)	16.3	(13.8-19.1)
Midwest	13.0	15.0	2.0	(-1.7, 5.7)	14.0	(11.4-17.0)
West	18.2	14.2	-4.0	(-9.1, 1.1)	16.3	(13.3-19.8)
Urban	19.8	16.7	-3.1	(-6.9, 0.7)	18.3	(15.5-21.5)
Suburban	13.6	17.8	4.2	*(1.2, 7.2)	15.6	(13.0-18.6)
Town and Rural	12.4	13.0	0.6	(-2.3, 3.5)	12.7	(10.6-15.2)
One or more children aged ² :						
9-11	15.2	14.7	-0.5	(-2.8, 1.8)	15.0	(13.5-16.5)
12-13	13.6	15.3	1.7	(-0.8, 4.2)	14.5	(12.3-17.1)
14-18	15.0	16.3	1.3	(-1.8, 4.4)	15.6	(13.3-18.3)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.

² Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-11. Parents' awareness of drug activities/controversies in community in the past 12 months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they heard a lot about drug-related laws proposed by state or local governments in their community in the past 12 months					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Overall	15.7	19.3	3.6	* (1.8, 5.4)	17.5	(16.6, 18.4)
Males	19.6	18.1	-1.5	(-4.8, 1.8)	18.9	(17.2, 20.5)
Females	13.4	20.2	6.8	* (5.2, 8.4)	16.8	(16.0, 17.6)
White	12.6	15.9	3.3	* (1.1, 5.5)	14.3	(13.2, 15.3)
African American	27.2	32.4	5.2	(-0.9, 11.3)	29.8	(26.7, 32.9)
Hispanic	20.8	22.8	2.0	(-3.0, 7.0)	21.8	(19.3, 24.3)
Less Than High School	20.7	16.8	-3.9	(-9.2, 1.4)	18.8	(16.1, 21.4)
High School Graduate	13.7	17.3	3.6	* (1.1, 6.1)	15.5	(14.2, 16.8)
Some College	14.5	21.2	6.7	* (3.9, 9.5)	17.9	(16.4, 19.3)
College Graduate	16.2	20.8	4.6	* (0.9, 8.3)	18.5	(16.6, 20.4)
Northeast	14.3	22.4	8.1	* (3.3, 12.9)	18.4	(16.0, 20.7)
South	15.4	18.8	3.4	* (0.6, 6.2)	17.1	(15.7, 18.5)
Midwest	17.9	17.1	-0.8	(-4.8, 3.2)	17.5	(15.5, 19.5)
West	14.9	19.6	4.7	* (1.1, 8.3)	17.3	(15.4, 19.1)
Urban	19.5	23.0	3.5	(-0.1, 7.1)	21.3	(19.4, 23.1)
Suburban	14.6	17.0	2.4	(-0.8, 5.6)	15.8	(14.2, 17.4)
Town and Rural	13.6	18.1	4.5	* (1.9, 7.1)	15.9	(14.5, 17.2)
One or more children aged ² :						
9-11	15.5	19.1	3.6	* (1.3, 5.9)	17.3	(16.2, 18.4)
12-13	15.2	16.0	0.8	(-2.0, 3.6)	15.6	(14.2, 17.0)
14-18	15.1	21.5	6.4	* (4.0, 8.8)	18.3	(17.1, 19.5)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.

² Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-12. Parents¹ awareness of drug activities/controversies in community in the past 12 months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	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		2000	
	%	95% CI	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Overall	44.2	(-2.7, 4.1)	44.9	(-2.7, 4.1)	44.6	(42.8, 46.3)
Males	46.2	(-4.8, 5.2)	46.4	(-4.8, 5.2)	46.3	(43.8, 48.8)
Females	42.9	(-2.5, 4.5)	43.9	(-2.5, 4.5)	43.4	(41.6, 45.2)
White	44.6	(-6.8, 1.8)	42.1	(-6.8, 1.8)	43.4	(41.2, 45.5)
African American	54.8	(-2.2, 13.4)	60.4	(-2.2, 13.4)	57.6	(53.7, 61.5)
Hispanic	37.9	*(0.8, 15.6)	46.1	*(0.8, 15.6)	42.0	(38.3, 45.7)
Less Than High School	45.4	(-7.4, 5.4)	44.4	(-7.4, 5.4)	44.9	(41.7, 48.1)
High School Graduate	42.1	(-0.6, 8.4)	46.0	(-0.6, 8.4)	44.1	(41.8, 46.3)
Some College	44.6	(-3.3, 7.1)	46.5	(-3.3, 7.1)	45.6	(43.0, 48.1)
College Graduate	45.8	(-9.5, 2.9)	42.5	(-9.5, 2.9)	44.2	(41.1, 47.2)
Northeast	38.0	(-1.2, 7.4)	41.1	(-1.2, 7.4)	39.6	(37.4, 41.7)
South	46.8	(-3.2, 8.2)	49.3	(-3.2, 8.2)	48.1	(45.2, 50.9)
Midwest	46.6	(-14.7, 0.7)	39.6	(-14.7, 0.7)	43.1	(39.2, 47.0)
West	41.7	(-4.3, 11.9)	45.5	(-4.3, 11.9)	43.6	(39.6, 47.6)
Urban	46.6	(-1.1, 8.5)	50.3	(-1.1, 8.5)	48.5	(46.0, 50.9)
Suburban	39.0	(-3.5, 7.3)	40.9	(-3.5, 7.3)	40.0	(37.3, 42.6)
Town and Rural	45.6	(-7.4, 3.6)	43.7	(-7.4, 3.6)	44.7	(41.9, 47.4)
One or more children aged ² :						
9-11	40.0	*(0.6, 8.4)	44.5	*(0.6, 8.4)	42.3	(40.3, 44.2)
12-13	43.4	(-6.2, 3.2)	41.9	(-6.2, 3.2)	42.7	(40.3, 45.0)
14-18	46.2	(-3.7, 5.7)	47.2	(-3.7, 5.7)	46.7	(44.3, 49.1)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.

² Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-13. Parents¹ awareness of drug activities/controversies in community in the past 12 months by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they heard a lot about drug-related propositions/referenda on ballot for public voting in their community in the past 12 months					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Overall	6.2	9.3	3.1	* (2.1, 4.1)	7.8	(7.2, 8.3)
Males	7.6	8.0	0.4	(-1.4, 2.2)	7.8	(6.9, 8.7)
Females	5.4	10.2	4.8	* (3.6, 6.0)	7.8	(7.2, 8.4)
White	4.3	6.3	2.0	* (0.9, 3.1)	5.3	(4.7, 5.9)
African American	10.8	15.9	5.1	* (1.6, 8.6)	13.4	(11.6, 15.1)
Hispanic	11.0	12.8	1.8	(-2.1, 5.7)	11.9	(10.0, 13.8)
Less Than High School	12.6	15.3	2.7	(-0.9, 6.3)	14.0	(12.1, 15.8)
High School Graduate	4.8	8.4	3.6	* (2.3, 4.9)	6.6	(6.0, 7.2)
Some College	4.2	9.4	5.2	* (3.3, 7.1)	6.8	(5.8, 7.8)
College Graduate	7.0	6.9	-0.1	(-2.3, 2.1)	7.0	(5.8, 8.1)
Northeast	4.8	7.2	2.4	* (0.5, 4.3)	6.0	(5.1, 6.9)
South	5.6	6.6	1.0	(-0.9, 2.9)	6.1	(5.1, 7.1)
Midwest	4.1	7.1	3.0	* (1.3, 4.7)	5.6	(4.7, 6.5)
West	10.2	15.8	5.6	* (2.8, 8.4)	13.0	(11.6, 14.4)
Urban	9.2	14.4	5.2	* (3.2, 7.2)	11.8	(10.8, 12.8)
Suburban	5.5	6.8	1.3	(-0.6, 3.2)	6.2	(5.2, 7.1)
Town and Rural	4.4	7.2	2.8	* (1.3, 4.3)	5.8	(5.1, 6.5)
One or more children aged ² :						
9-11	7.4	8.4	1.0	(-0.8, 2.8)	7.9	(7.0, 8.8)
12-13	6.2	6.8	0.6	(-1.0, 2.2)	6.5	(5.7, 7.3)
14-18	5.4	11.3	5.9	* (4.5, 7.3)	8.4	(7.6, 9.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 5-14. Parental¹ attendance at drug abuse prevention programs² by age, gender, race/ethnicity, region, and urbanicity of child(ren)

Characteristics	Percent attending a drug abuse prevention program					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18						
9 to 11	29.1	33.4	4.3	(-0.9, 9.5)	31.3	(28.7, 33.8)
12 to 13	30.9	35.2	4.3	(-1.6, 10.2)	33.1	(30.1, 36.0)
14 to 15	29.3	35.0	5.7	(-2.8, 14.2)	32.2	(27.9, 36.4)
16 to 18	27.0	26.5	-0.5	(-6.9, 5.9)	26.8	(23.5, 30.0)
14 to 18	28.1	30.5	2.4	(-2.7, 7.5)	29.3	(26.8, 31.8)
Youth aged 9 to 18						
Males	29.1	32.2	3.1	(-2.4, 8.6)	30.7	(27.9, 33.4)
Females	28.8	32.5	3.7	(-1.3, 8.7)	30.7	(28.1, 33.2)
White	27.9	32.3	4.4	(-0.4, 9.2)	30.1	(27.7, 32.5)
African American	34.2	37.2	3.0	(-6.5, 12.5)	35.7	(30.9, 40.5)
Hispanic	28.9	31.1	2.2	(-6.7, 11.1)	30.0	(25.5, 34.5)
Northeast	27.0	31.9	4.9	(-2.9, 12.7)	29.5	(25.6, 33.3)
South	28.8	32.5	3.7	(-2.2, 9.6)	30.7	(27.7, 33.6)
Midwest	32.0	38.2	6.2	(-1.9, 14.3)	35.1	(31.0, 39.2)
West	26.8	27.7	0.9	(-7.2, 9.0)	27.3	(23.2, 31.3)
Urban	25.5	33.3	7.8	*(0.8, 14.8)	29.4	(25.9, 32.9)
Suburban	29.8	36.8	7.0	(-0.6, 14.6)	33.3	(29.5, 37.1)
Town and Rural	31.2	29.2	-2.0	(-7.8, 3.8)	30.2	(27.3, 33.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 5-15. Parental¹ attendance at parent effectiveness programs² by age, gender, race/ethnicity, region, and urbanicity of child(ren)

Characteristics	Percent attending parent effectiveness programs					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18						
9 to 11	32.8	32.3	-0.5	(-5.5, 4.5)	32.6	(30.0, 35.1)
12 to 13	29.1	30.0	0.9	(-4.9, 6.7)	29.6	(26.7, 32.4)
14 to 15	29.0	30.4	1.4	(-6.5, 9.3)	29.7	(25.7, 33.7)
16 to 18	25.2	30.1	4.9	(-2.3, 12.1)	27.7	(24.0, 31.3)
14 to 18	27.0	30.2	3.2	(-2.0, 8.4)	28.6	(26.0, 31.2)
Youth aged 9 to 18						
Males	28.3	31.8	3.5	(-1.7, 8.7)	30.1	(27.5, 32.6)
Females	30.1	29.8	-0.3	(-4.7, 4.1)	30.0	(27.7, 32.2)
White	29.4	30.2	0.8	(-3.4, 5.0)	29.8	(27.7, 31.9)
African American	31.1	37.7	6.6	(-3.5, 16.7)	34.4	(29.4, 39.4)
Hispanic	26.2	27.4	1.2	(-8.3, 10.7)	26.8	(22.0, 31.6)
Northeast	26.8	32.6	5.8	(-2.4, 14.0)	29.7	(25.6, 33.8)
South	26.0	29.6	3.6	(-2.5, 9.7)	27.8	(24.7, 30.9)
Midwest	32.8	27.2	-5.6	(-12.1, 0.9)	30.0	(26.7, 33.3)
West	32.7	35.0	2.3	(-5.8, 10.4)	33.9	(29.8, 37.9)
Urban	28.9	34.5	5.6	(-1.1, 12.3)	31.7	(28.3, 35.1)
Suburban	32.6	32.9	0.3	(-7.6, 8.2)	32.8	(28.8, 36.7)
Town and Rural	27.5	26.9	-0.6	(-5.8, 4.6)	27.2	(24.6, 29.8)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²These parent questions were repeated separately for each sample child.

Table 6-1. Youth reporting ever having used marijuana by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent reporting marijuana use ever					
	Wave 1		Wave 2		2000	
	%	95% CI	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18						
9 to 11	1.0	(0.3, 1.1)	0.4	(-1.0, 0.2)	0.7	(0.3, 1.1)
12 to 13	5.1	(3.6, 6.2)	4.7	(-3.1, 2.3)	4.9	(3.6, 6.2)
14 to 15	16.8	(12.1, 18.5)	13.8	(-9.3, 3.3)	15.3	(12.1, 18.5)
16 to 18	40.0	(36.3, 44.4)	40.7	(-7.5, 8.9)	40.4	(36.3, 44.4)
14 to 18	29.6	(26.4, 31.4)	28.2	(-6.5, 3.7)	28.9	(26.4, 31.4)
Adolescents aged 12 to 13						
Males	6.1	(3.8, 7.3)	5.0	(-4.5, 2.3)	5.6	(3.8, 7.3)
Females	4.1	(2.5, 6.0)	4.4	(-3.2, 3.8)	4.3	(2.5, 6.0)
White	4.5	(2.6, 5.7)	3.8	(-3.7, 2.3)	4.2	(2.6, 5.7)
African American	3.2	(1.9, 8.9)	7.6	(-2.7, 11.5)	5.4	(1.9, 8.9)
Hispanic	7.5	(3.2, 10.5)	6.2	(-7.5, 6.0)	6.9	(3.2, 10.5)
Northeast	1.7	(0.0, 3.3)	1.5	(-1.7, 3.2)	1.6	(0.0, 3.3)
South	4.1	(0.8, 5.4)	2.1	(-4.1, 2.7)	3.1	(0.8, 5.4)
Midwest	7.8	(1.9, 8.5)	2.6	(-7.8, 1.4)	5.2	(1.9, 8.5)
West	6.6	(2.0, 6.2)	1.6	* (-6.6, -0.7)	4.1	(2.0, 6.2)
Urban	5.6	(2.3, 6.4)	3.1	(-5.6, 1.6)	4.4	(2.3, 6.4)
Suburban	4.8	(2.7, 7.3)	5.2	(-4.2, 5.0)	5.0	(2.7, 7.3)
Town and Rural	4.9	(3.1, 7.4)	5.6	(-3.5, 4.9)	5.3	(3.1, 7.4)
Sensation Seeking						
High	8.7	(6.7, 12.1)	10.1	(-4.1, 6.9)	9.4	(6.7, 12.1)
Low	2.4	(0.7, 2.4)	0.7	(-2.4, 0.0)	1.6	(0.7, 2.4)

Table 6-1. Youth reporting ever having used marijuana by age, gender, race/ethnicity, region, urbanicity, and sensation seeking (continued)

Characteristics	Percent reporting marijuana use ever					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Teens aged 14 to 18						
Males	30.5	30.9	0.4	(-7.4, 8.2)	30.7	(26.8, 34.6)
Females	28.8	25.3	-3.5	(-10.2, 3.2)	27.1	(23.7, 30.4)
White	29.9	29.9	0.0	(-6.5, 6.5)	29.9	(26.7, 33.1)
African American	25.5	25.8	0.3	(-10.8, 11.4)	25.7	(20.1, 31.2)
Hispanic	31.6	25.3	-6.3	(-18.6, 6.0)	28.5	(22.3, 34.6)
Northeast	30.0	19.2	-10.8	* (-20.0, -1.6)	24.6	(20.0, 29.2)
South	27.0	28.3	1.3	(-6.4, 9.0)	27.7	(23.8, 31.5)
Midwest	29.3	23.9	-5.4	(-16.3, 5.5)	26.6	(21.1, 32.1)
West	34.6	36.9	2.3	(-7.6, 12.2)	35.8	(30.8, 40.7)
Urban	31.2	26.0	-5.2	(-13.3, 2.9)	28.6	(24.6, 32.6)
Suburban	34.5	32.2	-2.3	(-12.0, 7.4)	33.4	(28.5, 38.2)
Town and Rural	25.9	27.7	1.8	(-6.4, 10.0)	26.8	(22.7, 30.9)
Sensation Seeking						
High	38.4	39.3	0.9	(-6.1, 7.9)	38.9	(35.3, 42.4)
Low	15.5	13.8	-1.7	(-8.3, 4.9)	14.7	(11.4, 17.9)

Table 6-2. Youth reporting using marijuana in the past year by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent reporting marijuana use in the past year					
	Wave 1		Change Wave 1 to Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	0.8	0.0	-0.8	* (-0.8, -0.2)	0.4	(0.0, 1.0)
12 to 13	3.3	3.2	-0.1	(-2.2, 2.0)	3.3	(2.2, 4.3)
14 to 15	11.2	11.5	0.3	(-5.6, 6.2)	11.4	(8.4, 14.3)
16 to 18	29.0	29.3	0.3	(-6.6, 7.2)	29.2	(25.7, 32.6)
14 to 18	21.0	21.0	0.0	(-4.4, 4.4)	21.0	(18.8, 23.2)
Adolescents aged 12 to 13						
Males	3.5	3.4	-0.1	(-2.7, 2.5)	3.5	(2.2, 4.7)
Females	3.1	3.0	-0.1	(-3.0, 2.8)	3.1	(1.6, 4.5)
White	2.6	2.1	-0.5	(-2.6, 1.6)	2.4	(1.3, 3.4)
African American	1.9	6.6	4.7	(-1.7, 11.1)	4.3	(1.0, 7.5)
Hispanic	5.4	4.7	-0.7	(-5.4, 5.6)	5.1	(1.9, 8.2)
Northeast	1.7	2.1	0.4	(-1.7, 8.3)	1.9	(0.0, 5.9)
South	1.6	3.4	1.8	(-1.6, 6.9)	2.5	(0.0, 5.1)
Midwest	6.9	4.4	-2.5	(-6.9, 3.7)	5.7	(2.6, 8.7)
West	3.8	2.4	-1.4	(-3.8, 4.8)	3.1	(0.0, 6.2)
Urban	4.2	2.5	-1.7	(-4.2, 1.6)	3.4	(1.7, 5.0)
Suburban	2.2	3.4	1.2	(-2.2, 5.0)	2.8	(0.9, 4.7)
Town and Rural	3.2	3.6	0.4	(-2.7, 3.5)	3.4	(1.8, 5.0)
Sensation Seeking						
High	5.2	7.6	2.4	(-1.9, 6.7)	6.4	(4.2, 8.6)
Low	1.8	0.0	-1.8	* (-1.8, -0.7)	0.9	(0.1, 1.7)

Table 6-2. Youth reporting using marijuana in the past year by age, gender, race/ethnicity, region, urbanicity, and sensation seeking (continued)

Characteristics	Percent reporting marijuana use in the past year				
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000
	%	%	%	95% CI	(Average Wave 1 and Wave 2) % 95% CI
Teens aged 14 to 18					
Males	23.0	24.0	1.0	(-6.6, 8.6)	23.5 (19.7, 27.3)
Females	19.0	17.8	-1.2	(-7.3, 4.9)	18.4 (15.4, 21.4)
White	21.9	23.5	1.6	(-4.7, 7.9)	22.7 (19.6, 25.8)
African American	15.8	19.8	4.0	(-6.6, 14.6)	17.8 (12.5, 23.1)
Hispanic	20.9	12.9	-8.0	(-18.9, 2.9)	16.9 (11.5, 22.3)
Northeast	22.8	13.1	-9.7	* (-14.4, -5.0)	18.0 (15.6, 20.3)
South	18.9	18.4	-0.5	(-5.0, 4.0)	18.7 (16.4, 20.9)
Midwest	19.2	21.0	1.8	(-5.7, 9.3)	20.1 (16.3, 23.9)
West	24.8	28.7	3.9	(-4.7, 12.5)	26.8 (22.5, 31.0)
Urban	23.3	21.1	-2.2	(-9.5, 5.1)	22.2 (18.6, 25.8)
Suburban	21.4	23.7	2.3	(-6.5, 11.1)	22.6 (18.2, 26.9)
Town and Rural	19.1	19.5	0.4	(-7.3, 8.1)	19.3 (15.5, 23.1)
Sensation Seeking					
High	29.5	30.6	1.1	(-5.4, 7.6)	30.1 (26.8, 33.3)
Low	7.4	8.3	0.9	(-4.8, 6.6)	7.9 (5.0, 10.7)

Table 6-3. Youth reporting using marijuana in the past month by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent reporting marijuana use in the past month					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	0.4	0.0	-0.4	(-0.4, 0.1)	0.2	(0.0, 0.7)
12 to 13	1.8	1.0	-0.8	(-1.8, 0.4)	1.4	(0.8, 2.0)
14 to 15	3.1	4.0	0.9	(-2.1, 3.9)	3.6	(2.1, 5.0)
16 to 18	13.3	16.0	2.7	(-2.3, 7.7)	14.7	(12.2, 17.1)
14 to 18	8.7	10.4	1.7	(-1.5, 4.9)	9.6	(8.0, 11.1)
Adolescents aged 12 to 13						
Males	1.9	1.9	0.0	(-1.9, 2.1)	1.9	(0.8, 3.0)
Females	1.6	0.0	-1.6	* (-1.6, -0.4)	0.8	(0.0, 1.6)
White	1.5	0.8	-0.7	(-1.5, 0.6)	1.2	(0.5, 1.8)
African American	1.6	s			s	(s)
Hispanic	2.2	s			s	(s)
Northeast	1.4	s			s	(s)
South	0.5	0.8	0.3	(-0.5, 2.0)	0.7	(0.0, 1.5)
Midwest	4.4	1.4	-3.0	(-4.4, 0.5)	2.9	(1.1, 4.7)
West	1.5	1.5	0.0	(-1.5, 2.6)	1.5	(0.2, 2.8)
Urban	2.7	0.7	-2.0	(-2.7, 0.2)	1.7	(0.6, 2.8)
Suburban	1.5	1.5	0.0	(-1.5, 2.9)	1.5	(0.0, 3.0)
Town and Rural	1.1	0.8	-0.3	(-1.1, 1.3)	1.0	(0.2, 1.7)
Sensation Seeking						
High	2.5	2.3	-0.2	(-2.5, 2.3)	2.4	(1.1, 3.7)
Low	1.1	0.0	-1.1	* (-1.1, -0.2)	0.6	(0.0, 1.3)

Table 6-3. Youth reporting using marijuana in the past month by age, gender, race/ethnicity, region, urbanicity, and sensation seeking (continued)

Characteristics	Percent reporting marijuana use in the past month					
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Teens aged 14 to 18						
Males	10.7	12.4	1.7	(-3.9, 7.3)	11.6	(8.8, 14.3)
Females	6.7	8.4	1.7	(-2.4, 5.8)	7.6	(5.5, 9.6)
White	8.2	11.2	3.0	(-0.8, 6.8)	9.7	(7.8, 11.6)
African American	7.0	9.9	2.9	(-5.2, 11.0)	8.5	(4.4, 12.5)
Hispanic	12.4	7.7	-4.7	(-12.4, 3.8)	10.1	(5.8, 14.3)
Northeast	9.1	5.7	-3.4	(-9.1, 2.4)	7.4	(4.5, 10.3)
South	8.4	6.7	-1.7	(-6.5, 3.1)	7.6	(5.2, 9.9)
Midwest	5.7	13.1	7.4	*(0.6, 14.2)	9.4	(6.0, 12.8)
West	12.8	15.2	2.4	(-4.1, 8.9)	14.0	(10.8, 17.2)
Urban	9.7	11.6	1.9	(-3.8, 7.6)	10.7	(7.8, 13.5)
Suburban	8.5	14.2	5.7	(-1.1, 12.5)	14.2	(9.4-21.1)
Town and Rural	8.2	7.6	-0.6	(-5.1, 3.9)	7.9	(5.6, 10.2)
Sensation Seeking						
High	13.1	15.5	2.4	(-3.0, 7.8)	14.3	(11.6, 17.0)
Low	1.9	3.3	1.4	(-1.5, 4.3)	2.6	(1.2, 4.0)

Table 6-4. Youth regular drug use¹ by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent reporting regular marijuana use				
	Wave 1	Wave 2	Change Wave 1 to		2000
	%	%	%	Wave 2 95% CI	(Average Wave 1 and Wave 2) % 95% CI
All Youth aged 9 to 18					
9 to 11	0.1	0.0	-0.1	* (-0.1, 0.0)	0.1 (0.0, 0.3)
12 to 13	0.6	0.5	-0.1	(-0.6, 0.7)	0.6 (0.1, 1.0)
14 to 15	2.1	2.2	0.1	(-2.0, 2.2)	2.2 (1.1, 3.2)
16 to 18	10.9	14.0	3.1	(-1.7, 7.9)	12.5 (10.1, 14.8)
14 to 18	6.9	8.5	1.6	(-1.1, 4.3)	7.7 (6.4, 9.0)
Teens aged 14 to 18					
Males	8.5	11.2	2.7	(-2.0, 7.4)	9.9 (7.5, 12.2)
Females	5.4	5.7	0.3	(-3.3, 3.9)	5.6 (3.7, 7.4)
White	7.2	10.3	3.1	(-0.6, 6.8)	8.8 (6.9, 10.6)
African American	2.9	5.3	2.4	(-2.9, 8.5)	4.1 (1.1, 7.1)
Hispanic	7.7	4.1	-3.6	(-7.7, 3.5)	5.9 (2.4, 9.4)
Northeast	7.6	3.6	-4.0	(-7.6, 0.9)	5.6 (3.1, 8.1)
South	5.9	6.1	0.2	(-4.0, 4.4)	6.0 (3.9, 8.1)
Midwest	5.3	10.9	5.6	(-0.9, 12.1)	8.1 (4.9, 11.3)
West	10.7	12.5	1.8	(-4.2, 7.8)	11.6 (8.6, 14.6)
Urban	6.1	6.5	0.4	(-4.0, 4.8)	6.3 (4.1, 8.5)
Suburban	8.9	8.7	-0.2	(-6.4, 6.0)	8.8 (5.7, 11.9)
Town and Rural	6.5	9.8	3.3	(-1.0, 7.6)	8.2 (6.0, 10.3)
Sensation Seeking					
High	10.8	12.5	1.7	(-2.5, 5.9)	11.7 (9.5, 13.8)
Low	1.1	3.4	2.3	(-0.8, 5.4)	2.3 (0.7, 3.8)

¹Regular use = Used 10 or more times in past year.

Table 6-5. 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							
1992	0.1	0.3	s														
1993	0.0	1.5	0.3	s													
1994	0.1	0.2	2.2	1.0	s												
1995	0.1	0.1	0.5	4.2	2.6	s											
1996	0.4	0.6	0.1	0.9	5.7	6.6	s										
1997	0.2	0.6	0.7	1.5	3.3	10.3	18.4	s									
1998	0.0	0.4	0.8	1.8	5.4	8.0	20.2	27.6	s								
1999	0.2	0.5	0.5	2.0	4.3	10.3	14.9	31.5	35.3	s							

NOTES: These data give retrospective estimates of usage by a given age as of a certain year. For example, the table shows that x% of 10-year-olds in 1992 had already used marijuana. This compares with y% of 10-year-olds in 1993 who had already used. The youth who turned 10 in 1992 turned 18 in 2000. All interviews were done between November 1999 and December 2000.

Table 6-6. Youth never receiving offers of marijuana by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent reporting never receiving offers of marijuana					
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	96.3	95.4	-0.9	(-2.8, 1.0)	95.9	(94.9, 96.8)
12 to 13	81.4	82.1	0.7	(-3.4, 4.8)	81.8	(79.7, 83.8)
14 to 15	51.6	55.4	3.8	(-2.9, 10.5)	53.5	(50.1, 56.9)
16 to 18	28.0	30.8	2.8	(-4.4, 10.0)	29.4	(25.8, 33.0)
14 to 18	38.5	42.3	3.8	(-1.9, 9.5)	40.4	(37.5, 43.3)
Adolescents aged 12 to 13						
Males	80.2	82.0	1.8	(-4.7, 8.3)	81.1	(77.8, 84.4)
Females	82.6	82.2	-0.4	(-6.3, 5.5)	82.4	(79.5, 85.3)
White	84.5	84.2	-0.3	(-4.8, 4.2)	84.4	(82.1, 86.6)
African American	77.0	79.3	2.3	(-10.7, 15.3)	78.2	(71.6, 84.7)
Hispanic	72.7	72.6	-0.1	(-12.7, 12.5)	72.7	(66.4, 78.9)
Northeast	88.8	86.7	-2.1	(-9.9, 5.7)	87.8	(83.8, 91.7)
South	81.4	80.9	-0.5	(-8.8, 7.8)	81.2	(77.0, 85.3)
Midwest	77.5	82.3	4.8	(-4.0, 13.6)	79.9	(75.5, 84.3)
West	78.5	80.3	1.8	(-5.4, 9.0)	79.4	(75.8, 83.0)
Urban	76.7	81.0	4.3	(-3.4, 12.0)	78.9	(75.0, 82.7)
Suburban	83.7	81.3	-2.4	(-9.7, 4.9)	82.5	(78.9, 86.1)
Town and Rural	83.9	83.4	-0.5	(-7.2, 6.2)	83.7	(80.3, 87.0)
Sensation Seeking						
High	71.6	70.9	-0.7	(-8.1, 6.7)	71.3	(67.6, 74.9)
Low	88.9	90.2	1.3	(-2.7, 5.3)	89.6	(87.5, 91.6)

Table 6-6. Youth never receiving offers of marijuana by age, gender, race/ethnicity, region, urbanicity, and sensation seeking (continued)

Characteristics	Percent reporting never receiving offers of marijuana					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
Teens aged 14 to 18						
Males	35.7	38.7	3.0		37.2	(33.6, 40.8)
Females	41.5	46.0	4.5		43.8	(39.3, 48.2)
White	40.2	42.5	2.3		41.4	(38.0, 44.7)
African American	38.5	35.6	-2.9		37.1	(30.5, 43.6)
Hispanic	28.3	40.4	12.1		34.4	(26.8, 41.9)
Northeast	34.8	47.0	12.2		40.9	(33.9, 47.9)
South	40.4	42.5	2.1		41.5	(37.3, 45.6)
Midwest	44.0	42.0	-2.0		43.0	(37.5, 48.5)
West	32.5	39.9	7.4		36.2	(30.2, 42.2)
Urban	35.3	43.1	7.8		39.2	(33.4, 45.0)
Suburban	36.2	37.4	1.2		36.8	(32.4, 41.2)
Town and Rural	42.3	44.1	1.8		43.2	(39.2, 47.2)
Sensation Seeking						
High	29.6	32.7	3.1		31.2	(27.9, 34.4)
Low	52.3	54.0	1.7		53.2	(48.4, 57.9)

Table 6-7. Youth receiving offers one or more times in the past 30 days of marijuana by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent reporting receiving offers of marijuana one or more times in past 30 days					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	N/A	N/A	N/A	N/A	N/A	N/A
12 to 13	9.9	9.8	-0.1	N/A	9.9	(8.3, 11.4)
14 to 15	29.9	23.5	-6.4	(-3.2, 3.0)	26.7	(23.1, 30.3)
16 to 18	48.3	45.0	-3.3	(-13.6, 0.8)	46.7	(43.0, 50.3)
14 to 18	40.1	35.0	-5.1	(-10.5, 3.9)	37.6	(35.0, 40.1)
Adolescents aged 12 to 13						
Males	10.8	9.8	-1.0	(-5.7, 3.7)	10.3	(7.9, 12.7)
Females	9.0	9.9	0.9	(-3.0, 4.8)	9.5	(7.5, 11.4)
White	7.3	8.1	0.8	(-2.7, 4.3)	7.7	(6.0, 9.4)
African American	10.7	12.1	1.4	(-7.6, 10.4)	11.4	(6.9, 15.9)
Hispanic	18.1	17.5	-0.6	(-11.5, 10.3)	17.8	(12.3, 23.3)
Northeast	2.8	3.6	0.8	(-2.8, 5.1)	3.2	(1.0, 5.4)
South	9.0	11.4	2.4	(-3.0, 7.8)	10.2	(7.5, 12.9)
Midwest	15.1	11.0	-4.1	(-11.6, 3.4)	13.1	(9.3, 16.8)
West	11.8	11.0	-0.8	(-6.2, 4.6)	11.4	(8.7, 14.1)
Urban	13.0	9.9	-3.1	(-8.8, 2.6)	11.5	(8.6, 14.3)
Suburban	9.7	9.1	-0.6	(-5.8, 4.6)	9.4	(6.8, 12.0)
Town and Rural	7.3	10.3	3.0	(-1.6, 7.6)	8.8	(6.5, 11.1)
Sensation Seeking						
High	15.5	17.0	1.5	(-4.5, 7.5)	16.3	(13.2, 19.3)
Low	5.8	4.5	-1.3	(-4.2, 1.6)	5.2	(3.7, 6.6)

Table 6-7. Youth receiving offers one or more times in the past 30 days of marijuana by age, gender, race/ethnicity, region, urbanicity, and sensation seeking (continued)

Characteristics	Percent reporting receiving offers of marijuana one or more times in past 30 days					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
Teens aged 14 to 18						
Males	42.0	37.6	-4.4	(-11.6, 2.8)	39.8	(36.2, 43.4)
Females	38.2	32.3	-5.9	(-13.8, 2.0)	35.3	(31.3, 39.2)
White	37.6	36.5	-1.1	(-7.3, 5.1)	37.1	(33.9, 40.2)
African American	43.8	36.3	-7.5	(-20.5, 5.5)	40.1	(33.6, 46.5)
Hispanic	49.2	31.1	-18.1	* (-31.8, -4.4)	40.2	(33.3, 47.0)
Northeast	47.6	27.2	-20.4	* (-32.2, -8.6)	37.4	(31.5, 43.3)
South	37.0	34.3	-2.7	(-10.4, 5.0)	35.7	(31.8, 39.5)
Midwest	34.8	35.3	0.5	(-9.5, 10.5)	35.1	(30.1, 40.0)
West	45.3	40.4	-4.9	(-16.1, 6.3)	42.9	(37.2, 48.5)
Urban	47.1	36.7	-10.4	(-20.9, 0.1)	41.9	(36.7, 47.1)
Suburban	38.9	32.7	-6.2	(-16.0, 3.6)	35.8	(30.9, 40.7)
Town and Rural	35.5	35.0	-0.5	(-7.5, 6.5)	35.3	(31.8, 38.7)
Sensation Seeking						
High	49.8	44.9	-4.9	(-10.9, 1.1)	47.4	(44.4, 50.3)
Low	24.9	22.1	-2.8	(-10.4, 4.8)	23.5	(19.7, 27.3)

Table 7-1. Beliefs about possible outcomes of using marijuana even once or twice among children aged 9 to 11 non-users

Outcome	Percent holding strong anti-drug beliefs ¹				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) % 95% CI
Make you go to harder drugs	17.6	17.4	-0.2	(-4.3, 3.9)	17.5 (15.4, 19.6)
Upset your parents/caregivers	88.5	88.1	-0.4	(-3.8, 3.0)	88.3 (86.6, 90.0)
Make you start using marijuana regularly	21.8	18.8	-3.0	(-7.7, 1.7)	20.3 (17.9, 22.7)
Make you act stupidly and foolishly	58.4	59.2	0.8	(-4.7, 6.3)	58.8 (56.1, 61.5)
Make you lazy	43.8	43.5	-0.3	(-6.2, 5.6)	43.7 (40.7, 46.6)
Make you do poorly in school	75.0	76.4	1.4	(-4.2, 7.0)	75.7 (72.9, 78.5)
Make you more popular	89.1	90.6	1.5	(-2.1, 5.1)	89.9 (88.1, 91.6)
Make you have a good time	73.2	73.8	0.6	(-5.8, 7.0)	73.5 (70.3, 76.7)

¹ Percentages displayed for negative outcomes (“Make you go to harder drugs” through “Make you do poorly in school”) are those who answered “Definitely Yes.” For positive consequences, (“Make you more popular,” and “Make you have a good time”) percentages reported are those who answered “Definitely No.”

Table 7-2. Beliefs about possible outcomes of using marijuana even once or twice among youth aged 12 to 18 non-users by age

Outcome Age	Percent holding strong anti-drug beliefs ¹					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
Upset my parents/caregivers						
12 to 13	82.6	82.3	-0.3	(-6.7, 6.1)	82.5	(79.2, 85.7)
14 to 18	81.3	79.7	-1.6	(-8.5, 5.3)	80.5	(77.0, 84.0)
Get in trouble with the law						
12 to 13	44.9	45.4	0.5	(-7.5, 8.5)	45.2	(41.1, 49.2)
14 to 18	32.1	43.6	11.5	*(2.0, 21.0)	37.9	(33.1, 42.6)
Lose control of myself						
12 to 13	34.1	33.8	-0.3	(-7.9, 7.3)	34.0	(30.1, 37.8)
14 to 18	22.9	36.0	13.1	*(4.9, 21.3)	29.5	(25.4, 33.5)
Start using stronger drugs						
12 to 13	12.2	10.2	-2.0	(-7.0, 3.0)	11.2	(8.7, 13.7)
14 to 18	13.1	15.0	1.9	(-3.3, 7.1)	14.1	(11.5, 16.6)
Be more relaxed						
12 to 13	55.9	53.6	-2.3	(-10.5, 5.9)	54.8	(50.7, 58.8)
14 to 18	39.7	48.5	8.8	*(0.2, 17.4)	44.1	(39.8, 48.4)
Have a good time with friends						
12 to 13	50.9	49.4	-1.5	(-9.4, 6.4)	50.2	(46.2, 54.1)
14 to 18	37.3	46.3	9.0	*(0.9, 17.1)	41.8	(37.8, 45.8)
Feel better						
12 to 13	61.1	61.0	-0.1	(-8.9, 8.7)	61.1	(56.7, 65.4)
14 to 18	52.7	63.4	10.7	*(1.5, 19.9)	58.1	(53.4, 62.7)
Be like the coolest kids						
12 to 13	64.1	68.5	4.4	(-4.1, 12.9)	66.3	(62.1, 70.5)
14 to 18	62.7	64.4	1.7	(-6.1, 9.5)	63.6	(59.6, 67.5)

¹Percentages displayed for negative outcomes (“Upset my parents” through “Start using stronger drugs”) are those who answered “Very Likely.” For positive consequences, (“Be more relaxed” through “Be like the coolest kids”) percentages reported are those who answered “Very Unlikely.”

Table 7-3. Non-users¹ intentions to use marijuana even once or twice in the next 12 months by age, gender, race/ethnicity, region, urbanicity, and sensation-seeking

Characteristics	Percent definitely not intending to try marijuana					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	N/A	96.8	N/A	N/A	96.8	(95.1-98.0)
12 to 13	91.6	92.9	1.3	(-1.6, 4.2)	92.3	(90.8, 93.7)
14 to 18	82.7	87.0	4.3	*(0.6, 8.0)	84.9	(83.0, 86.7)
Youth aged 12 to 18						
Males	84.8	88.6	3.8	(-0.6, 8.2)	86.7	(84.5, 88.9)
Females	87.0	89.7	2.7	(-1.2, 6.6)	88.4	(86.4, 90.3)
White	86.0	89.0	3.0	(-0.2, 6.2)	87.5	(85.9, 89.1)
African American	86.2	88.1	1.9	(-5.6, 9.4)	87.2	(83.4, 90.9)
Hispanic	84.2	90.5	6.3	(-0.4, 13.0)	87.4	(84.0, 90.7)
Northeast	83.2	86.2	3.0	(-4.9, 10.9)	84.7	(80.7, 88.7)
South	86.2	89.4	3.2	(-0.6, 7.0)	87.8	(85.9, 89.7)
Midwest	88.9	88.6	-0.3	(-5.8, 5.2)	88.8	(86.0, 91.5)
West	83.4	91.1	7.7	*(2.2, 13.2)	87.3	(84.5, 90.0)
Urban	85.2	87.6	2.4	(-3.4, 8.2)	86.4	(83.5, 89.3)
Suburban	85.6	91.5	5.9	*(0.8, 11.0)	88.6	(86.0, 91.1)
Town and Rural	86.5	89.0	2.5	(-1.8, 6.8)	87.8	(85.6, 89.9)
Sensation Seeking						
High	78.9	82.5	3.6	(-1.0, 8.2)	80.7	(78.4, 83.0)
Low	92.9	95.1	2.2	(-0.9, 5.3)	94.0	(92.4, 95.6)

¹Non-users are those who have never used marijuana in the past.

Table 7-4. Non-users¹ perceptions of friends' use of marijuana even once or twice in the last 12 months by age, gender, race/ethnicity, region, urbanicity, and sensation-seeking

Characteristics	Percent saying none or a few friends use even once or twice					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	98.4	97.9	-0.5	(-2.0, 1.0)	98.2	(97.4, 98.9)
12 to 13	93.6	92.0	-1.6	(-5.0, 1.8)	92.8	(91.1, 94.5)
14 to 18	69.1	73.1	4.0	(-4.1, 12.1)	71.1	(67.1, 75.1)
Youth aged 12 to 18						
Males	75.8	79.0	3.2	(-4.1, 10.5)	77.4	(73.8, 81.0)
Females	80.2	81.1	0.9	(-6.2, 8.0)	80.7	(77.1, 84.2)
White	79.3	81.5	2.2	(-4.3, 8.7)	80.4	(77.1, 83.7)
African American	76.1	70.9	-5.2	(-21.3, 10.9)	73.5	(65.5, 81.5)
Hispanic	72.0	75.2	3.2	(-10.8, 17.2)	73.6	(66.6, 80.6)
Northeast	s	75.4	N/A	N/A	75.6	(66.3-83.0)
South	82.1	82.1	0.0	(-7.5, 7.5)	82.1	(78.5-85.2)
Midwest	77.9	78.4	0.5	(-9.0, 10.0)	78.1	(72.9-82.7)
West	71.1	82.5	11.4	*(1.5, 21.3)	76.9	(71.8-81.2)
Urban	75.1	82.8	7.7	(-2.4, 17.8)	79.0	(73.9, 84.0)
Suburban	79.8	79.4	-0.4	(-10.1, 9.3)	79.6	(74.7, 84.5)
Town and Rural	79.0	78.7	-0.3	(-8.5, 7.9)	78.9	(74.7, 83.0)
Sensation Seeking						
High	68.2	71.4	3.2	(-6.0, 12.4)	69.8	(65.2, 74.4)
Low	86.2	87.6	1.4	(-4.7, 7.5)	86.9	(83.8, 90.0)

¹Non-users are those who have never used marijuana in the past.

Table 7-5. Non-users¹ perceptions of others' use of marijuana even once or twice in the last 12 months by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent saying none or a few other kids of the same age ² use even once or twice				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18					
9 to 11 ³	N/A	N/A	N/A	N/A	N/A
12 to 13	74.7	76.7	2.0	(-2.7, 6.7)	(73.3, 78.1)
14 to 18	29.3	30.3	1.0	(-5.2, 7.2)	(26.7, 32.9)
Youth aged 12 to 18					
Males	48.2	50.2	2.0	(-4.3, 8.3)	(46.1, 52.3)
Females	41.8	42.8	1.0	(-4.7, 6.7)	(39.5, 45.1)
White	43.7	44.8	1.1	(-4.1, 6.3)	(41.7, 46.8)
African American	47.1	47.9	0.8	(-9.3, 10.9)	(42.4, 52.6)
Hispanic	48.0	47.6	-0.4	(-10.9, 10.1)	(42.5, 53.1)
Northeast	44.1	45.1	1.0	(-10.1, 12.1)	(39.0, 50.2)
South	45.6	44.6	-1.0	(-7.5, 5.5)	(41.8, 48.4)
Midwest	45.2	47.8	2.6	(-7.3, 12.5)	(41.6, 51.4)
West	44.1	48.0	3.9	(-3.9, 11.7)	(42.1, 50.0)
Urban	45.8	51.4	5.6	(-2.0, 13.2)	(44.8, 52.4)
Suburban	44.5	47.1	2.6	(-5.9, 11.1)	(41.5, 50.1)
Town and Rural	44.7	42.7	-2.0	(-8.5, 4.5)	(40.4, 47.0)
Sensation Seeking					
High	35.3	35.7	0.4	(-5.8, 6.6)	(32.4, 38.6)
Low	54.3	55.0	0.7	(-5.1, 6.5)	(51.7, 57.6)

¹Non-users are those who have never used marijuana in the past.

²If respondent is currently in school, question wording referred to "kids in your grade at school."

³This question was not asked of children aged 9 to 11.

Table 7-6. Marijuana trial: non-users¹ attitudes by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Attitude ²				
	Wave 1		Wave 2		2000
	Mean	Wave 2 Mean	Estimate	95% CI	(Average Wave 1 and Wave 2) Estimate
	Mean	Mean	Estimate	95% CI	95% CI
All Youth aged 9 to 18					
9 to 11	6.75	6.76	0.01	(-0.1, 0.1)	6.76 (6.71, 6.80)
12 to 13	6.61	6.74	0.13	(-0.1, 0.3)	6.68 (6.58, 6.77)
14 to 18	6.45	6.57	0.12	(-0.1, 0.3)	6.51 (6.41, 6.61)
Youth aged 12 to 18					
Males	6.53	6.62	0.09	(-0.1, 0.3)	6.58 (6.46, 6.69)
Females	6.48	6.65	0.17	(0.0, 0.4)	6.57 (6.47, 6.66)
White	6.60	6.61	0.01	(-0.1, 0.2)	6.61 (6.52-6.69)
African American	6.34	6.57	0.23	(-0.3, 0.8)	6.45 (6.19-6.70)
Hispanic	6.28	6.74	0.46	*(0.1, 0.9)	6.52 (6.31-6.72)
Northeast	6.31	6.67	0.36	*(0.0, 0.7)	6.49 (6.31, 6.67)
South	6.48	6.51	0.03	(-0.3, 0.3)	6.50 (6.34, 6.65)
Midwest	6.65	6.72	0.07	(-0.2, 0.3)	6.69 (6.57, 6.80)
West	6.57	6.67	0.10	(-0.1, 0.3)	6.62 (6.51, 6.73)
Urban	6.45	6.66	0.21	(-0.1, 0.5)	6.56 (6.40, 6.71)
Suburban	6.56	6.63	0.07	(-0.2, 0.3)	6.60 (6.48, 6.71)
Town and Rural	6.52	6.62	0.10	(-0.1, 0.3)	6.57 (6.47, 6.67)
Sensation Seeking					
High	6.34	6.55	0.21	(0.0, 0.4)	6.45 (6.34, 6.55)
Low	6.65	6.69	0.04	(-0.2, 0.2)	6.67 (6.57, 6.77)

¹Non-users are those who have never used marijuana in the past.

²For children aged 9 to 11, attitude based on one item (extremely bad/good) and for other age groups, scale is of two items (extremely bad, unenjoyable/good, enjoyable).

Table 7-7. Marijuana trial: non-users¹ beliefs about outcomes² by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Beliefs about outcomes					
	Wave 1		Wave 2		2000	
	Mean	Wave 2 Mean	Estimate	95% CI	(Average Wave 1 and Wave 2) Estimate	95% CI
All Youth aged 9 to 18						
9 to 11	1.17	1.12	-0.05	(-0.1, 0.0)	1.15	(1.12, 1.17)
12 to 13	0.75	0.79	0.04	(-0.1, 0.2)	0.77	(0.71, 0.83)
14 to 18	0.64	0.70	0.06	(-0.1, 0.2)	0.67	(0.60, 0.74)
Youth aged 12 to 18						
Males						
Males	0.67	0.73	0.06	(-0.1, 0.2)	0.70	(0.63, 0.77)
Females						
Females	0.70	0.73	0.03	(-0.1, 0.2)	0.72	(0.64, 0.79)
Race/Ethnicity						
White	0.73	0.82	0.09	*(0.0, 0.2)	0.78	(0.73, 0.82)
African American	0.58	0.53	-0.05	(-0.4, 0.3)	0.56	(0.40, 0.71)
Hispanic	0.52	0.66	0.14	(-0.1, 0.4)	0.59	(0.46, 0.72)
Region						
Northeast	0.54	0.72	0.18	(-0.1, 0.4)	0.63	(0.51, 0.75)
South	0.69	0.81	0.12	(0.0, 0.3)	0.75	(0.67, 0.83)
Midwest	0.78	0.75	-0.03	(-0.2, 0.2)	0.77	(0.67, 0.86)
West	0.63	0.64	0.01	(-0.2, 0.2)	0.64	(0.54, 0.73)
Urbanicity						
Urban	0.53	0.64	0.11	(-0.1, 0.3)	0.59	(0.48, 0.69)
Suburban	0.66	0.74	0.08	(-0.1, 0.3)	0.70	(0.61, 0.79)
Town and Rural	0.80	0.79	-0.01	(-0.1, 0.1)	0.80	(0.74, 0.85)
Sensation Seeking						
High	0.58	0.61	0.03	(-0.1, 0.2)	0.60	(0.52, 0.67)
Low	0.77	0.84	0.07	(-0.1, 0.2)	0.81	(0.73, 0.88)

¹Non-users are those who have never used marijuana in the past.

²For children aged 9 to 11, average of individual items presented in Table 7-1, with positive outcomes (“Make you more popular.”) and “Make you have a good time” through “Be like the coolest kids”) reverse coded before taking average. For other ages, average of individual items presented in Table 7-2, with positive outcomes (“Be more relaxed” through “Be like the coolest kids”) reverse coded before taking average.

Table 7-8. Marijuana non-users¹ perceived parental expectations by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth reporting parents strongly disapprove of trial marijuana use					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	95% CI	%	95% CI	%	95% CI
All Youth aged 9 to 18						
9 to 11	91.7	(90.9, 93.7)	92.9	(91.5, 93.9)	1.2	(-1.5, 3.9)
12 to 13	95.3	(93.7, 97.3)	95.7	(93.1, 97.3)	0.4	(-3.1, 3.9)
14 to 18	91.7	(91.9, 96.7)	96.9	*(0.3, 8.3)	5.2	
Youth aged 12 to 18						
Males	93.0	(92.8, 97.0)	96.8	(92.8, 97.0)	3.8	(-0.3, 7.0)
Females	93.0	(92.4, 96.8)	96.2	(91.2, 7.0)	3.2	(-1.2, 7.0)
White	94.0	(93.3, 97.6)	96.9	(91.4, 6.0)	2.9	(-1.4, 6.0)
African American	89.6	(87.9, 97.3)	95.6	(93.4, 10.4)	6.0	(-3.4, 10.4)
Hispanic	91.5	(88.6, 97.3)	94.4	(95.8, 8.5)	2.9	(-5.8, 8.5)
Northeast	92.7	(88.5-98.9)	96.3	N/A	N/A	
South	92.7	(93.6-98.3)	96.7	(90.2, 7.3)	4.0	(-0.2, 7.3)
Midwest	95.5	(85.3-98.7)	95.5	(96.7, 4.5)	0.0	(-6.7, 4.5)
West	92.7	(93.3-98.9)	97.3	(91.4, 7.3)	4.6	(-1.4, 7.3)
Urban	91.9	(91.4, 97.0)	96.5	(91.0, 8.1)	4.6	(-1.0, 8.1)
Suburban	94.2	(91.8, 98.3)	95.9	(94.8, 5.8)	1.7	(-4.8, 5.8)
Town and Rural	93.2	(92.7, 97.3)	96.8	(91.0, 6.8)	3.6	(-1.0, 6.8)
Sensation Seeking						
High	90.8	(90.6, 96.4)	96.2	(90.4, 9.2)	5.4	(-0.4, 9.2)
Low	94.6	(93.6, 97.5)	96.5	(91.9, 5.4)	1.9	(-1.9, 5.4)

¹Non-users are those who have never used marijuana in the past.

Table 7-9. Marijuana trial: non-users¹ perceived social expectations by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth reporting friends strongly disapprove of trial marijuana use					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18						
9 to 11	76.7	78.5	1.8	(-3.0, 6.6)	77.6	(75.2, 80.0)
12 to 13	68.8	72.6	3.8	(-2.9, 10.5)	70.7	(67.3, 74.1)
14 to 18	54.2	60.2	6.0	(-2.6, 14.6)	57.2	(52.9, 61.5)
Youth aged 12 to 18						
Males	54.9	57.0	2.1	(-6.3, 10.5)	56.0	(51.8, 60.1)
Females	64.3	72.4	8.1	(-0.7, 16.9)	68.4	(63.9, 72.8)
White	61.4	65.5	4.1	(-3.2, 11.4)	63.5	(59.8, 67.1)
African American	51.4	56.4	5.0	(-10.8, 20.8)	53.9	(46.0, 61.8)
Hispanic	60.7	66.5	5.8	(-8.5, 20.1)	63.6	(56.4, 70.8)
Northeast	51.4	60.7	9.3	(-5.0, 23.6)	56.1	(48.9, 63.2)
South	60.1	61.4	1.3	(-8.1, 10.7)	60.8	(56.1, 65.4)
Midwest	63.8	67.9	4.1	(-9.7, 17.9)	65.9	(58.9, 72.8)
West	59.9	69.6	9.7	(-0.5, 19.9)	64.8	(59.6, 69.9)
Urban	60.3	69.4	9.1	(-1.6, 19.8)	64.9	(59.5, 70.2)
Suburban	55.2	60.3	5.1	(-7.5, 17.7)	57.8	(51.4, 64.1)
Town and Rural	61.0	64.1	3.1	(-6.1, 12.3)	62.6	(57.9, 67.2)
Sensation Seeking						
High	47.6	53.4	5.8	(-2.5, 14.1)	50.5	(46.3, 54.7)
Low	70.7	74.8	4.1	(-4.2, 12.4)	72.8	(68.6, 76.9)

¹Non-users are those who have never used marijuana in the past.

Table 7-10. Beliefs about possible outcomes of regular marijuana use by 12- to 13-year-old non-users¹

Outcome	Percent holding strong anti-drug beliefs ²					
	Wave 1	Wave 2	Change Wave 1 to		2000	
	%	%	Wave 2	(Average Wave 1 and Wave 2)	%	
			%	95% CI	95% CI	
Damage my brain _____	59.0	63.6	4.6	(-3.2, 12.4)	61.3	(57.4, 65.2)
Mess up my life _____	63.9	69.7	5.8	(-1.7, 13.3)	66.8	(63.1, 70.5)
Do worse in school _____	63.4	66.6	3.2	(-3.5, 9.9)	65.0	(61.7, 68.3)
Be acting against my moral beliefs _____	48.3	54.3	6.0	(-1.2, 13.2)	51.3	(47.7, 54.9)
Lose my ambition _____	44.8	51.9	7.1	* (0.2, 14.0)	48.4	(44.9, 51.8)
Lose my friends' respect _____	49.1	56.8	7.7	(-0.5, 15.9)	53.0	(48.9, 57.0)
Have a good time with friends _____	48.6	55.4	6.8	(-1.8, 15.4)	52.0	(47.7, 56.3)
Be more creative and imaginative _____	61.4	62.6	1.2	(-6.9, 9.3)	62.0	(57.9, 66.1)

¹Non-users are those who have never used marijuana in the past.

²Percentages displayed for negative outcomes ("Damage brain" through "Lose my friends' respect") are those who answered, "Very likely." For positive consequences, ("Have a good time with friends," and "Be more creative and imaginative") percentages reported are those who answered "Very unlikely."

Table 7-11. Beliefs about possible outcomes of regular marijuana use by 14- to 18-year-old non-users¹ and occasional users²

Outcome age	Percent holding strong anti-drug beliefs ³					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	%	%	%	95% CI	2000 (Average Wave 1 and Wave 2) %
Damage my brain						
Non-users	58.3	52.5	-5.8	(-14.3, 2.7)	55.2	(50.4-59.9)
Occasional users	21.0	s			27.8	(18.8-39.0)
Mess up my life						
Non-users	57.1	60.5	3.4	(-6.6, 13.4)	58.9	(53.2-64.4)
Occasional users	10.2	21.9	11.7	(-4.0, 27.4)	16.0	(9.5-25.7)
Do worse in school						
Non-users	57.4	63.2	5.8	(-3.4, 15.0)	60.5	(55.2-65.6)
Occasional users	15.2	23.0	7.8	(-6.0, 21.6)	19.1	(12.7-27.8)
Be acting against my moral beliefs						
Non-users	57.5	59.6	2.1	(-7.1, 11.3)	58.6	(54.2-63.0)
Occasional users	15.7	9.6	-6.1	(-15.7, 6.4)	12.7	(7.4-21.0)
Lose my ambition						
Non-users	44.1	43.8	-0.3	(-9.3, 8.7)	43.9	(39.4-48.6)
Occasional users	13.8	6.4	-7.4	(-13.8, 5.0)	10.1	(5.4-17.9)
Lose my friends' respect						
Non-users	41.1	42.7	1.6	(-7.1, 10.3)	41.9	(37.5-46.5)
Occasional users	8.4	4.9	-3.5	(-8.4, 4.5)	6.7	(3.6-11.9)
Have a good time with friends						
Non-users	34.6	41.0	6.4	(-3.1, 15.9)	38.0	(33.4-42.8)
Occasional users	11.9	s			10.9	(5.3-21.0)
Be more creative and imaginative						
Non-users	52.2	56.3	4.1	(-5.6, 13.8)	54.4	(49.4-59.3)
Occasional users	22.1	s			16.9	(9.9-27.3)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

³Percentages displayed for negative outcomes ("Damage brain" through "Lose my friends' respect") are those who answered, "Very Likely." For positive consequences, ("Have a good time with friends," and "Be more creative and imaginative") percentages reported are those who answered "Very Unlikely."

Table 7-12. Non-users¹ aged 12 to 18 and occasional users² aged 14 to 18 regular marijuana use intentions by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent definitely not intending to use marijuana regularly					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth Non-Users aged 12 to 18						
12 to 13	97.5	98.2	0.7	(-0.7, 2.1)	97.9	(97.2, 98.5)
14 to 18	94.6	95.9	1.3	(-1.1, 3.7)	95.3	(94.1, 96.4)
All Youth Occasional Users aged 14 to 18						
14 to 18	54.8	45.5	-9.3	(-23.4, 4.8)	50.2	(43.1, 57.2)
Youth Non-Users aged 12 to 18						
Males	95.6	96.4	0.8	(-1.4, 3.0)	96.0	(94.9, 97.1)
Females	95.6	97.0	1.4	(-1.0, 3.8)	96.3	(95.1, 97.5)
White	95.9	97.8	1.9	*(0.1, 3.7)	96.9	(96.0, 97.7)
African American	96.9	96.3	-0.6	(-3.8, 2.6)	96.6	(95.0, 98.2)
Hispanic	93.0	93.5	0.5	(-5.2, 6.2)	93.3	(90.4, 96.1)
Northeast	94.4	94.0	-0.4	(-5.8, 5.0)	94.2	(91.5, 96.9)
South	95.8	97.5	1.7	(-0.7, 4.1)	96.7	(95.4, 97.9)
Midwest	97.9	98.1	0.2	(-1.8, 2.1)	98.0	(97.0, 99.0)
West	92.8	96.1	3.3	(-0.9, 7.2)	94.5	(92.3, 96.6)
Urban	95.1	95.8	0.7	(-2.4, 3.8)	95.5	(93.9, 97.0)
Suburban	95.5	97.5	2.0	(-1.3, 4.5)	96.5	(94.9, 98.1)
Town and Rural	96.0	96.9	0.9	(-1.5, 3.3)	96.5	(95.3, 97.6)
Sensation Seeking						
High	93.1	94.5	1.4	(-1.7, 4.5)	93.8	(92.2, 95.4)
Low	98.0	98.7	0.7	(-0.6, 2.0)	98.4	(97.7, 99.0)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 7-13. Non-users¹ aged 12 to 18 and occasional users² aged 14 to 18 perceptions of friends' regular use of marijuana in the past 12 months by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent saying none or a few friends use nearly every month					
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
All Youth Non-Users aged 12 to 18						
12 to 13	94.3	95.4	1.1	(-0.9, 3.1)	94.9	(93.8, 95.9)
14 to 18	78.4	83.4	5.0	*(0.2, 9.8)	80.9	(78.5, 83.3)
All Youth Occasional Users aged 14 to 18						
14 to 18	31.0	31.4	0.4	(-16.9, 17.7)	31.2	(22.6, 39.8)
Youth Non-Users aged 12 to 18						
Males	83.2	89.2	6.0	*(1.4, 10.6)	86.2	(83.9, 88.5)
Females	85.0	86.1	1.1	(-2.9, 5.1)	85.6	(83.5, 87.6)
White	86.1	87.8	1.7	(-1.7, 5.1)	87.0	(85.2, 88.7)
African American	80.8	86.3	5.5	(-3.0, 14.0)	83.6	(79.3, 87.8)
Hispanic	76.7	85.7	9.0	*(0.0, 18.0)	81.2	(76.7, 85.7)
Northeast	81.6	90.9	9.3	*(2.4, 16.2)	86.3	(82.8, 89.7)
South	86.5	83.4	-3.1	(-9.1, 2.9)	85.0	(81.9, 88.0)
Midwest	83.7	86.4	2.7	(-3.7, 9.1)	85.1	(81.9, 88.2)
West	81.9	91.7	9.8	*(3.5, 16.1)	86.8	(83.7, 89.9)
Urban	78.6	86.9	8.3	*(2.1, 14.5)	82.8	(79.7, 85.8)
Suburban	87.8	89.4	1.6	(-3.0, 6.2)	88.6	(86.3, 90.9)
Town and Rural	86.3	87.3	1.0	(-3.8, 5.8)	86.8	(84.4, 89.2)
Sensation Seeking						
High	78.8	82.4	3.6	(-1.3, 8.5)	80.6	(78.2, 83.0)
Low	88.9	92.3	3.4	(-0.7, 7.5)	90.6	(88.6, 92.6)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 7-14. Non-users¹ aged 12 to 18 and occasional users² aged 14 to 18 perceptions of others' regular use of marijuana in the past 12 months by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent saying none or a few other kids of the same age ³ use nearly every month					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
All Youth Non-Users aged 12 to 18						
12 to 13 _____	87.7	88.1	0.4	(-3.1, 3.9)	87.9	(86.1, 89.7)
14 to 18 _____	46.1	46.6	0.5	(-6.7, 7.7)	46.4	(42.8, 49.9)
All Youth Occasional Users aged 14 to 18						
14 to 18 _____	22.4	19.5	-2.9	(-14.7, 8.9)	21.0	(15.0, 26.9)
Youth Non-Users aged 12 to 18						
Males _____	63.8	66.5	2.7	(-3.8, 9.2)	65.2	(61.9, 68.4)
Females _____	57.1	55.9	-1.2	(-7.9, 5.5)	56.5	(53.1, 59.9)
White _____	59.5	62.1	2.6	(-2.9, 8.1)	60.8	(58.0, 63.6)
African American _____	61.9	60.3	-1.6	(-12.6, 9.4)	61.1	(55.6, 66.6)
Hispanic _____	62.4	56.0	-6.4	(-18.2, 5.4)	59.2	(53.3, 65.1)
Northeast _____	53.7	54.0	0.3	(-10.4, 11.0)	53.9	(48.5, 59.2)
South _____	60.4	58.8	-1.6	(-9.3, 6.1)	59.6	(55.8, 63.4)
Midwest _____	64.2	65.5	1.3	(-8.8, 11.4)	64.9	(59.8, 69.9)
West _____	61.7	63.9	2.2	(-6.8, 11.2)	62.8	(58.3, 67.3)
Urban _____	58.8	62.2	3.4	(-5.3, 12.1)	60.5	(56.2, 64.8)
Suburban _____	62.3	62.2	-0.1	(-9.9, 9.7)	62.3	(57.4, 67.1)
Town and Rural _____	60.7	59.9	-0.8	(-7.9, 6.3)	60.3	(56.8, 63.8)
Sensation Seeking						
High _____	55.0	56.0	1.0	(-6.1, 8.1)	55.5	(52.0, 59.0)
Low _____	64.9	64.7	-0.2	(-6.7, 6.3)	64.8	(61.6, 68.0)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

³If respondent is currently in school, asked about "kids in your grade at school."

Table 7-15. Non-users¹ aged 12 to 18 and occasional users² aged 14 to 18 attitudes regarding regular marijuana use by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Wave 1 Mean	Wave 2 Mean	Attitude ³		
			1=strong pro-drug 7=strong anti-drug		2000 (Average Wave 1 and Wave 2) Estimate
			Change Wave 1 to Wave 2 Estimate	95% CI	
All Youth Non-Users aged 12 to 18					
12 to 13	6.61	6.77	0.16	* (0.1, 0.3)	6.69 (6.64, 6.74)
14 to 18	6.45	6.54	0.09	(-0.1, 0.2)	6.50 (6.42, 6.57)
All Youth Occasional Users aged 14 to 18					
14 to 18	4.54	4.99	0.45	(-0.2, 1.1)	4.77 (4.45, 5.08)
Youth Non-Users aged 12 to 18					
Males	6.40	6.55	0.15	(0.0, 0.3)	6.48 (6.39, 6.56)
Females	6.62	6.68	0.06	(-0.1, 0.2)	6.65 (6.58, 6.72)
White	6.50	6.64	0.14	* (0.0, 0.3)	6.57 (6.51, 6.63)
African American	6.45	6.65	0.20	(-0.1, 0.5)	6.55 (6.41, 6.69)
Hispanic	6.57	6.60	0.03	(-0.3, 0.3)	6.59 (6.44, 6.73)
Northeast	6.41	6.57	0.16	(-0.1, 0.5)	6.49 (6.34, 6.64)
South	6.55	6.69	0.14	(0.0, 0.3)	6.62 (6.53, 6.71)
Midwest	6.52	6.60	0.08	(-0.1, 0.3)	6.56 (6.46, 6.66)
West	6.47	6.54	0.07	(-0.2, 0.3)	6.51 (6.39, 6.62)
Urban	6.47	6.60	0.13	(-0.1, 0.4)	6.54 (6.42, 6.65)
Suburban	6.51	6.58	0.07	(-0.1, 0.3)	6.55 (6.45, 6.64)
Town and Rural	6.54	6.66	0.12	(0.0, 0.3)	6.60 (6.52, 6.68)
Sensation Seeking					
High	6.33	6.41	0.08	(-0.1, 0.3)	6.37 (6.28, 6.46)
Low	6.69	6.79	0.10	(0.0, 0.2)	6.74 (6.68, 6.80)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

³Attitude is a mean of two items (extremely bad, unenjoyable/good, enjoyable).

Table 7-16. Non-users¹ aged 12 to 18 and occasional users² aged 14 to 18 beliefs about outcomes regarding regular marijuana use by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Beliefs about outcomes ³				
	Wave 1		Wave 2		2000
	Mean	Wave 2 Mean	Estimate	95% CI	(Average Wave 1 and Wave 2) Estimate 95% CI
All Youth Non-Users aged 12 to 18					
12 to 13	1.13	1.23	0.10	(0.0, 0.2)	1.18 (1.12, 1.24)
14 to 18	1.11	1.11	0.00	(-0.2, 0.2)	1.11 (1.03, 1.19)
All Youth Occasional Users aged 14 to 18					
14 to 18	-0.22	0.02	0.24	(0.2, 0.6)	-0.10 (-0.28, 0.08)
Youth Non-Users aged 12 to 18					
Males	1.06	1.08	0.02	(-0.1, 0.2)	1.07 (0.99-1.15)
Females	1.18	1.22	0.04	(-0.1, 0.2)	1.20 (1.11-1.29)
White	1.17	1.25	0.08	(0.0, 0.2)	1.21 (1.15-1.28)
African American	0.94	0.90	-0.04	(-0.3, 0.2)	0.92 (0.79-1.04)
Hispanic	1.04	s			1.00 (0.75-1.25)
Northeast	0.99	1.08	0.09	(-0.3, 0.4)	0.99 (0.82-1.15)
South	1.14	1.16	0.02	(-0.1, 0.2)	1.14 (1.03-1.25)
Midwest	1.17	1.17	0.00	(-0.2, 0.2)	1.17 (1.03-1.31)
West	1.13	1.14	0.01	(-0.3, 0.3)	1.13 (0.99-1.28)
Urban	1.14	0.94	-0.20	(-0.4, 0.0)	1.04 (0.91-1.16)
Suburban	1.09	1.26	0.17	(0.0, 0.4)	1.18 (1.09-1.28)
Town and Rural	1.12	1.25	0.13	(0.0, 0.3)	1.19 (1.11-1.27)
Sensation Seeking					
High	0.97	1.10	0.13	(0.0, 0.3)	1.03 (0.95-1.12)
Low	1.27	1.19	-0.08	(-0.2, 0.1)	1.22 (1.14-1.31)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

³Average of individual items presented in 7-10, with positive outcomes (good time with friends, be more creative and imaginative) reverse coded before taking average.

Table 7-17. Non-users¹ aged 12 to 18 and occasional users² aged 14 to 18 perceived parental expectations regarding regular marijuana use by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth reporting parents strongly disapprove of regular marijuana use					
	Wave 1		Wave 2		Change Wave 1 to Wave 2	
	%	%	%	%	95% CI	95% CI
All Youth Non-Users aged 12 to 18						
12 to 13	93.2	96.4	3.2	(-0.2, 6.6)	94.8	(93.1, 96.5)
14 to 18	95.7	95.3	-0.4	(-3.5, 2.7)	95.5	(93.9, 97.1)
All Youth Occasional Users aged 14 to 18						
14 to 18	69.5	79.6	10.1	(-8.5, 28.7)	74.6	(65.2, 83.9)
Youth Non-Users aged 12 to 18						
Males	94.8	94.6	-0.2	(-3.5, 3.1)	94.7	(93.0, 96.4)
Females	94.8	96.8	2.0	(-1.4, 5.2)	95.8	(94.1, 97.5)
White	97.2	96.0	-1.2	(-3.9, 1.5)	96.6	(95.2, 98.0)
African American	85.4	92.5	7.1	(-3.0, 14.6)	89.0	(83.9, 94.0)
Hispanic	93.9	98.5	4.6	*(0.6, 6.1)	96.2	(94.2, 98.2)
Northeast	97.2	96.4	-0.8	(-5.7, 2.8)	96.8	(94.4, 99.2)
South	93.1	93.5	0.4	(-5.0, 5.8)	93.3	(90.6, 96.0)
Midwest	96.0	99.7	3.7	(-0.8, 4.0)	97.9	(95.6, 100.0)
West	94.6	94.9	0.3	(-4.0, 4.6)	94.8	(92.6, 96.9)
Urban	93.1	94.3	1.2	(-4.2, 6.6)	93.7	(91.0, 96.4)
Suburban	95.5	97.1	1.6	(-3.3, 4.5)	96.3	(93.8, 98.8)
Town and Rural	95.8	96.0	0.2	(-3.3, 3.7)	95.9	(94.1, 97.7)
Sensation Seeking						
High	93.4	96.3	2.9	(-1.3, 6.6)	94.9	(92.8, 96.9)
Low	96.4	95.7	-0.7	(-3.6, 2.2)	96.1	(94.6, 97.5)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 7-18. Non-users¹ aged 12 to 18 and occasional users² aged 14 to 18 perceived social expectations regarding regular marijuana use by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth reporting friends strongly disapprove of regular marijuana use						
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2			2000 (Average Wave 1 and Wave 2) %	95% CI
			%	95% CI	%		
All Youth Non-Users aged 12 to 18							
12 to 13	67.8	73.2	5.4	(-2.4, 13.2)	70.5	(66.6, 74.4)	
14 to 18	56.0	60.1	4.1	(-4.6, 12.8)	58.1	(53.7, 62.4)	
All Youth Occasional Users aged 14 to 18							
14 to 18	12.1	11.6	-0.5	(-12.1, 11.4)	11.9	(5.9, 17.8)	
Youth Non-Users aged 12 to 18							
Males	52.5	58.2	5.7	(-4.1, 15.5)	55.4	(50.5, 60.2)	
Females	67.7	71.1	3.4	(-5.2, 12.0)	69.4	(65.1, 73.7)	
White	63.0	70.0	7.0	(-1.0, 15.0)	66.5	(62.5, 70.5)	
African American	48.6	44.3	-4.3	(-19.1, 10.5)	46.5	(39.0, 53.9)	
Hispanic	56.3	61.7	5.4	(-11.5, 22.3)	59.0	(50.6, 67.4)	
Northeast	58.3	60.1	1.8	(-14.2, 17.8)	59.2	(51.2, 67.2)	
South	60.8	62.4	1.6	(-9.3, 12.5)	61.6	(56.2, 67.0)	
Midwest	61.2	68.9	7.7	(-7.6, 23.0)	65.1	(57.4, 72.7)	
West	58.9	67.0	8.1	(-3.3, 19.5)	63.0	(57.2, 68.7)	
Urban	56.6	55.0	-1.6	(-13.7, 10.5)	55.8	(49.7, 61.9)	
Suburban	58.3	60.9	2.6	(-9.9, 15.1)	59.6	(53.3, 65.9)	
Town and Rural	64.0	74.3	10.3	*(1.6, 19.0)	69.2	(64.8, 73.5)	
Sensation Seeking							
High	51.1	54.6	3.5	(-6.1, 13.1)	52.9	(48.1, 57.6)	
Low	68.9	71.6	2.7	(-5.3, 10.7)	70.3	(66.3, 74.2)	

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 7-19. Approval of occasional marijuana use by others by age, prior use, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth who report strongly disapproving of others' occasional marijuana use					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18						
9 to 11	83.0	84.2	1.2	(-3.0, 5.4)	83.6	(81.5, 85.7)
12 to 13	61.7	66.0	4.3	(-0.3, 8.9)	63.9	(61.5, 66.2)
14 to 15	37.9	46.2	8.3	* (0.3, 16.3)	42.1	(38.0, 46.1)
16 to 18	26.6	27.1	0.5	(-5.9, 6.9)	26.9	(23.7, 30.0)
14 to 18	31.6	35.9	4.3	(-0.5, 9.1)	33.8	(31.3, 36.2)
Youth aged 12 to 18						
Non-Users ¹	50.1	54.8	4.7	* (0.1, 9.3)	52.5	(50.1, 54.8)
Occasional Users ²	4.5	6.3	1.8	(-3.5, 7.1)	5.4	(2.8, 8.0)
Youth Non-Users aged 12 to 18						
Males	41.0	44.5	3.5	(-2.4, 9.4)	42.8	(39.8, 45.7)
Females	39.6	44.8	5.2	(-0.4, 10.8)	42.2	(39.4, 45.0)
White	39.3	42.5	3.2	(-1.6, 8.0)	40.9	(38.5, 43.3)
African American	41.4	49.4	8.0	(-1.7, 17.7)	45.4	(40.6, 50.2)
Hispanic	44.1	50.2	6.1	(-4.4, 16.6)	47.2	(41.9, 52.4)
Northeast	33.3	45.3	12.0	* (1.9, 22.1)	39.3	(34.3, 44.3)
South	45.9	47.8	1.9	(-4.3, 8.1)	46.9	(43.7, 50.0)
Midwest	39.4	42.7	3.3	(-5.1, 11.7)	41.1	(36.9, 45.2)
West	38.3	41.6	3.3	(-2.7, 9.3)	40.0	(36.9, 43.0)
Urban	41.2	47.7	6.5	(-1.1, 14.1)	44.5	(40.6, 48.3)
Suburban	34.7	39.9	5.2	(-1.9, 12.3)	37.3	(33.8, 40.8)
Town and Rural	42.7	45.1	2.4	(-3.8, 8.6)	43.9	(40.8, 47.0)
Sensation Seeking						
High	25.2	27.2	2.0	(-2.4, 6.4)	26.2	(24.0, 28.4)
Low	60.0	63.5	3.5	(-2.3, 9.3)	61.8	(58.9, 64.6)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 7-20. Approval of regular marijuana use by others by age, prior use, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent of youth who report strongly disapproving of others' regular marijuana use					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 12 to 18						
12 to 13	79.1	79.5	0.4	(-3.8, 4.6)	79.3	(77.2, 81.4)
14 to 15	58.3	65.6	7.3	(-0.8, 15.4)	62.0	(57.9, 66.0)
16 to 18	48.7	48.6	-0.1	(-7.7, 7.5)	48.7	(44.9, 52.4)
14 to 18	52.9	56.4	3.5	(-1.5, 8.5)	54.7	(52.1, 57.2)
Youth aged 12 to 18						
Non-Users ¹	72.2	73.6	1.4	(-2.6, 5.4)	72.9	(70.9, 74.9)
Occasional Users ²	17.7	24.5	6.8	(-6.3, 19.9)	21.1	(14.5, 27.7)
Youth Non-Users aged 12 to 18						
Male	71.4	73.3	1.9	(-4.2, 8.0)	72.4	(69.3, 75.4)
Female	73.1	73.9	0.8	(-4.5, 6.1)	73.5	(70.8, 76.2)
White	73.8	75.9	2.1	(-3.0, 7.2)	74.9	(72.3, 77.4)
African American	66.8	67.5	0.7	(-10.7, 12.1)	67.2	(61.5, 72.8)
Hispanic	71.4	68.4	-3.0	(-12.7, 6.7)	69.9	(65.1, 74.7)
Northeast	65.2	69.3	4.1	(-5.2, 13.4)	67.3	(62.6, 71.9)
South	75.9	75.7	-0.2	(-6.4, 6.0)	75.8	(72.7, 78.9)
Midwest	73.3	74.9	1.6	(-8.1, 11.3)	74.1	(69.2, 79.0)
West	70.3	73.1	2.8	(-3.4, 9.0)	71.7	(68.6, 74.8)
Urban	70.0	66.6	-3.4	(-11.3, 4.5)	68.3	(64.4, 72.2)
Suburban	70.4	72.5	2.1	(-5.8, 10.0)	71.5	(67.5, 75.4)
Town and Rural	74.8	79.4	4.6	(-1.6, 10.8)	77.1	(74.0, 80.2)
Sensation Seeking						
High	61.9	63.7	1.8	(-4.5, 8.1)	62.8	(59.7, 65.9)
Low	82.4	81.7	-0.7	(-6.3, 4.9)	82.1	(79.2, 84.9)

¹Non-users are those who have never used marijuana in the past.²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 7-21. Perceptions of how much others risk harming themselves if they use marijuana occasionally by age, prior use, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent saying great risk of harm from occasional use of marijuana					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Change Wave 1 to Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 12 to 18						
12 to 13	44.8	45.4	0.6	(-5.3, 6.5)	45.1	(42.1, 48.1)
14 to 15	26.1	29.5	3.4	(-3.8, 10.6)	27.8	(24.2, 31.4)
16 to 18	17.7	19.5	1.8	(-4.1, 7.7)	18.6	(15.6, 21.6)
14 to 18	21.5	24.1	2.6	(-2.0, 7.2)	22.8	(20.5, 25.1)
Youth aged 12 to 18						
Non-Users ¹	34.7	37.2	2.5	(-2.2, 7.2)	35.9	(33.6-38.3)
Occasional Users ²	4.0	s	N/A	N/A	5.1	(2.1-11.6)
Youth Non-Users aged 12 to 18						
Male	34.2	37.3	3.1	(-3.9, 10.1)	35.8	(32.3, 39.2)
Female	35.2	37.0	1.8	(-4.1, 7.7)	36.1	(33.1, 39.1)
White	34.3	37.6	3.3	(-2.8, 9.4)	36.0	(32.9, 39.0)
African American	36.7	29.3	-7.4	(-18.6, 3.8)	33.0	(27.4, 38.6)
Hispanic	35.5	43.4	7.9	(-2.6, 18.4)	39.5	(34.2, 44.7)
Northeast	25.2	31.1	5.9	(-4.6, 16.4)	28.2	(22.9, 33.4)
South	39.5	41.1	1.6	(-7.0, 10.2)	40.3	(36.0, 44.6)
Midwest	35.6	33.0	-2.6	(-12.8, 7.6)	34.3	(29.2, 39.4)
West	33.2	41.1	7.9	(-0.2, 16.0)	37.2	(33.1, 41.2)
Urban	34.4	36.1	1.7	(-6.1, 9.5)	35.3	(31.4, 39.1)
Suburban	31.0	32.1	1.1	(-6.4, 8.6)	31.6	(27.8, 35.3)
Town and Rural	36.8	40.7	3.9	(-3.6, 11.4)	38.8	(35.0, 42.5)
Sensation Seeking						
High	26.3	25.4	-0.9	(-6.7, 4.9)	25.9	(23.0, 28.7)
Low	43.2	47.4	4.2	(-2.8, 11.2)	45.3	(41.8, 48.8)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 7-22. Perceptions of how much others risk harming themselves if they use marijuana regularly by age, prior use, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Percent saying great risk of harm from regular use of marijuana				
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000
	%	%	%	95% CI	(Average Wave 1 and Wave 2) % 95% CI
All Youth aged 12 to 18					
12 to 13	73.1	74.5	1.4	(-4.0, 6.8)	73.8 (71.1, 76.5)
14 to 15	62.9	59.7	-3.2	(-11.7, 5.3)	61.3 (57.0, 65.6)
16 to 18	45.2	45.8	0.6	(-6.8, 8.0)	45.5 (41.8, 49.2)
14 to 18	53.1	52.2	-0.9	(-6.7, 4.9)	52.7 (49.8, 55.5)
Youth aged 12 to 18					
Non-Users ¹	68.9	68.9	0.0	(-4.8, 4.8)	68.9 (66.5, 71.3)
Occasional Users ²	24.1	23.3	-0.8	(-11.9, 10.3)	23.7 (18.2, 29.2)
Youth Non-Users aged 12 to 18					
Male	65.0	67.1	2.1	(-4.3, 8.5)	66.1 (62.9, 69.2)
Female	72.7	70.8	-1.9	(-8.2, 4.4)	71.8 (68.6, 74.9)
White	70.6	72.2	1.6	(-3.2, 6.4)	71.4 (69.0, 73.8)
African American	66.8	59.4	-7.4	(-20.7, 5.9)	63.1 (56.4, 69.8)
Hispanic	62.3	66.0	3.7	(-8.6, 16.0)	64.2 (58.0, 70.3)
Northeast	57.0	69.1	12.1	*(1.6, 22.6)	63.1 (57.8, 68.3)
South	71.6	69.9	-1.7	(-10.6, 7.2)	70.8 (66.3, 75.2)
Midwest	72.0	68.5	-3.5	(-11.9, 4.9)	70.3 (66.0, 74.5)
West	70.3	69.0	-1.3	(-9.5, 6.9)	69.7 (65.6, 73.7)
Urban	68.7	62.9	-5.8	(-15.0, 3.4)	65.8 (61.2, 70.4)
Suburban	68.0	72.5	4.5	(-3.1, 12.1)	70.3 (66.4, 74.1)
Town and Rural	69.4	71.5	2.1	(-4.5, 8.7)	70.5 (67.2, 73.7)
Sensation Seeking					
High	60.1	63.4	3.3	(-2.9, 9.5)	61.8 (58.7, 64.8)
Low	76.6	74.1	-2.5	(-9.7, 4.7)	75.4 (71.8, 78.9)

¹Non-users are those who have never used marijuana in the past.²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

Table 7-23. Non-users¹ aged 12 to 18 and occasional users² aged 14 to 18 self-efficacy to refuse marijuana by age, gender, race/ethnicity, region, urbanicity, and sensation seeking

Characteristics	Self-efficacy ³ to resist use -2=cannot resist; +2=can resist					
	Wave 1		Wave 2		Change Wave 1 to 2000	
	Mean	95% CI	Mean	95% CI	Estimate	95% CI
All Youth Non-Users aged 12 to 18						
12 to 13	1.61	(1.56, 1.67)	1.62	(1.56, 1.67)	0.01	(-0.1, 0.1)
14 to 18	1.69	(1.59, 1.71)	1.61	(1.59, 1.71)	-0.08	(-0.2, 0.0)
All Youth Occasional Users aged 14 to 18						
14 to 18	1.37	(1.17, 1.50)	1.30	(1.17, 1.50)	-0.07	(-0.4, 0.3)
Youth Non-Users aged 12 to 18						
Males	1.59	(1.52, 1.64)	1.57	(1.52, 1.64)	-0.02	(-0.1, 0.1)
Females	1.73	(1.63, 1.76)	1.66	(1.63, 1.76)	-0.07	(-0.2, 0.1)
White	1.71	(1.68, 1.76)	1.73	(1.68, 1.76)	0.02	(-0.1, 0.1)
African American	1.57	(1.38, 1.64)	1.45	(1.38, 1.64)	-0.12	(-0.4, 0.1)
Hispanic	1.52	(1.30, 1.64)	1.42	(1.30, 1.64)	-0.10	(-0.4, 0.2)
Northeast	1.59	(1.40, 1.65)	1.46	(1.40, 1.65)	-0.13	(-0.4, 0.1)
South	1.65	(1.63, 1.73)	1.71	(1.63, 1.73)	0.06	(0.0, 0.2)
Midwest	1.69	(1.65, 1.77)	1.73	(1.65, 1.77)	0.04	(-0.1, 0.2)
West	1.69	(1.47, 1.71)	1.49	(1.47, 1.71)	-0.20	(-0.4, 0.0)
Urban	1.59	(1.41, 1.60)	1.42	(1.41, 1.60)	-0.17	(-0.4, 0.0)
Suburban	1.68	(1.63, 1.75)	1.70	(1.63, 1.75)	0.02	(-0.1, 0.1)
Town and Rural	1.70	(1.66, 1.75)	1.71	(1.66, 1.75)	0.01	(-0.1, 0.1)
Sensation Seeking						
High	1.57	(1.51, 1.65)	1.59	(1.51, 1.65)	0.02	(-0.1, 0.2)
Low	1.75	(1.65, 1.77)	1.67	(1.65, 1.77)	-0.08	(-0.2, 0.0)

¹Non-users are those who have never used marijuana in the past.

²Occasional users are those who have used marijuana 1 to 9 times in the past 12 months.

³All youth, regardless of current or prior marijuana usage, were asked about their confidence to say no to marijuana if they really wanted to.

Table 8-1. Percent of parents¹ and children who reported conversation² about family rules or expectations about drug use in past 6 months by age of child

Age of child	Percent reporting they had conversation about family rules or expectations about drug use						
	Parent		Child		2000		(Average Wave 1 and Wave 2) 95% CI
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %		
9 to 11	77.5	77.1	-0.4	(-4.7, 3.9)	77.3	(75.1, 79.5)	(62.0, 66.7)
	66.3	62.4	-3.9	(-8.6, 0.8)	64.4		
12 to 13	80.5	77.1	-3.4	(-8.4, 1.6)	78.8	(76.3, 81.3)	(56.4, 62.2)
	60.3	58.3	-2.0	(-7.9, 3.9)	59.3		
14 to 15	82.2	79.5	-2.7	(-10.1, 4.7)	80.9	(77.1, 84.6)	(50.1, 58.0)
	56.3	51.8	-4.5	(-12.4, 3.4)	54.1		
16 to 18	77.6	76.3	-1.3	(-8.1, 5.5)	77.0	(73.6, 80.3)	(43.2, 49.7)
	43.5	49.4	5.9	(-0.6, 12.4)	46.5		
14 to 18	79.7	77.8	-1.9	(-7.4, 3.6)	78.8	(76.0, 81.5)	(47.2, 52.5)
	49.2	50.5	1.3	(-4.0, 6.6)	49.9		

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-2. Percent of parents¹ and children who reported conversation² 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

Age of child	Percent reporting they had conversation about specific things child could do to stay away from drugs					
	Parent		Child		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
9 to 11	67.7	68.0	0.3	(-4.8, 5.4)	67.9	(65.3, 70.4)
	68.2	66.5	-1.7	(-6.5, 3.1)	67.4	(64.9, 69.8)
12 to 13	71.4	70.5	-0.9	(-6.0, 4.2)	71.0	(68.4, 73.5)
	58.7	55.0	-3.7	(-9.9, 2.5)	56.9	(53.7, 60.0)
14 to 15	65.4	68.1	2.7	(-6.0, 11.4)	66.8	(62.4, 71.1)
	49.7	45.3	-4.4	(-11.6, 2.8)	47.5	(43.9, 51.1)
16 to 18	64.5	66.2	1.7	(-6.6, 10.0)	65.4	(61.2, 69.5)
	34.7	36.7	2.0	(-5.2, 9.2)	35.7	(32.1, 39.3)
14 to 18	64.9	67.1	2.2	(-4.2, 8.6)	66.0	(62.8, 69.2)
	41.4	40.7	-0.7	(-5.9, 4.5)	41.1	(38.5, 43.6)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-3. Percent of parents¹ and children who reported conversation² about drug use in movies, music, and on TV in past 6 months by age of child

Age of child	Percent reporting they had conversations about drug use in movies, music, and on TV					
	Parent			Child		
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
9 to 11	54.4 47.8	53.6 44.2	-0.8 -3.6	(-6.2, 4.6) (-8.6, 1.4)	54.0 46.0	(51.3, 56.7) (43.5, 48.5)
12 to 13	62.3 48.1	57.9 42.3	-4.4 -5.8	(-9.8, 1.0) * (-10.8, -0.8)	60.1 45.2	(57.4, 62.8) (42.7, 47.7)
14 to 15	58.8 34.8	59.4 34.4	0.6 -0.4	(-8.1, 9.3) (-7.8, 7.0)	59.1 34.6	(54.8, 63.4) (30.9, 38.3)
16 to 18	52.0 28.4	54.1 27.5	2.1 -0.9	(-7.1, 11.3) (-8.0, 6.2)	53.1 28.0	(48.4, 57.7) (24.4, 31.5)
14 to 18	55.0 31.2	56.6 30.7	1.6 -0.5	(-4.6, 7.8) (-5.3, 4.3)	55.8 31.0	(52.7, 58.9) (28.5, 33.4)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-4. Percent of parents¹ and children who reported conversation² about people they know who have gotten in trouble with drugs in past 6 months by age of child

Talking with children about drugs

Age of child	Percent reporting they had conversation about people they know who have gotten in trouble with drugs					
	Parent		Child		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
9 to 11	54.7 36.4	54.5 32.2	-0.2 -4.2	(-5.6, 5.2) (-8.7, 0.3)	54.6 34.3	(51.9, 57.3) (32.0, 36.6)
12 to 13	65.1 44.4	65.4 45.2	0.3 0.8	(-5.7, 6.3) (-4.9, 6.5)	65.3 44.8	(62.3, 68.2) (41.9, 47.7)
14 to 15	70.2 53.7	68.8 49.0	-1.4 -4.7	(-9.8, 7.0) (-12.8, 3.4)	69.5 51.4	(65.3, 73.7) (47.3, 55.4)
16 to 18	73.1 52.9	71.4 55.2	-1.7 2.3	(-10.3, 6.9) (-5.2, 9.8)	72.3 54.1	(67.9, 76.6) (50.3, 57.8)
14 to 18	71.8 53.2	70.2 52.3	-1.6 -0.9	(-8.3, 5.1) (-6.5, 4.7)	71.0 52.8	(67.6, 74.4) (50.0, 55.5)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-5. Percent of parents¹ and children who reported having two or more conversations² with their children/parents about drugs in past 6 months by age of child

Age of child	Percent reporting they had two or more conversations about drugs					
	Parent		Child		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
9 to 11	71.3 62.7	72.3 57.4	1.0 -5.3	(-4.9, 6.9) * (-10.3, -0.3)	71.8 60.1	(68.8, 74.8) (57.6, 62.5)
12 to 13	80.2 59.2	78.3 56.2	-1.9 -3.0	(-6.9, 3.1) (-9.0, 3.0)	79.3 57.7	(76.7, 81.8) (54.7, 60.7)
14 to 15	81.9 58.6	79.3 52.1	-2.6 -6.5	(-10.0, 4.8) (-14.7, 1.7)	80.6 55.4	(76.9, 84.3) (51.2, 59.5)
16 to 18	78.2 48.4	80.0 51.7	1.8 3.3	(-4.7, 8.3) (-4.0, 10.6)	79.1 50.1	(75.8, 82.4) (46.4, 53.7)
14 to 18	79.9 52.9	79.7 51.9	-0.2 -1.0	(-5.4, 5.0) (-6.5, 4.5)	79.8 52.4	(77.2, 82.4) (49.6, 55.2)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-5. Percent of parents¹ and children who reported having two or more conversations² with their children/parents about drugs in past 6 months by age of child (continued)

Characteristics	Parent						Child	
	Percent reporting they had two or more conversations about drugs						2000	
	Wave 1 Mean	Wave 2 Mean	%	Change Wave 1 to Wave 2	95% CI	(Average Wave 1 and Wave 2) %	95% CI	
All Youth aged 9 to 18								
Males	78.7	78.8	0.1		(-4.5, 4.7)	78.8	(76.4, 81.1)	
Females	55.9	53.2	-2.7		(-6.9, 1.5)	54.6	(52.5, 56.6)	
	75.7	75.2	-0.5		(-5.7, 4.7)	75.5	(72.9, 78.0)	
	58.6	55.9	-2.7		(-7.7, 2.3)	57.3	(54.8, 59.7)	
White	76.9	78.1	1.2		(-3.7, 6.1)	77.5	(75.0, 80.0)	
African American	56.0	53.2	-2.8		(-6.8, 1.2)	54.6	(52.6, 56.6)	
Hispanic	77.0	77.8	0.8		(-7.8, 9.4)	77.4	(73.1, 81.7)	
	63.9	55.5	-8.4		(-17.5, 0.7)	59.7	(55.2, 64.2)	
	80.3	75.0	-5.3		(-12.6, 2.0)	77.7	(74.0, 81.3)	
	59.2	59.0	-0.2		(-8.3, 7.9)	59.1	(55.0, 63.2)	
Northeast	77.6	77.2	-0.4		(-8.7, 7.9)	77.4	(73.2, 81.6)	
South	58.3	49.3	-9.0	*	(-15.5, -2.5)	53.8	(50.6, 57.0)	
Midwest	74.9	78.5	3.6		(-5.6, 12.8)	76.7	(72.1, 81.3)	
West	56.7	58.4	1.7		(-4.9, 8.3)	57.6	(54.3, 60.8)	
	77.9	76.5	-1.4		(-7.7, 4.9)	77.2	(74.0, 80.4)	
	56.3	53.4	-2.9		(-9.5, 3.7)	54.9	(51.5, 58.2)	
	80.6	76.4	-4.2		(-9.8, 1.4)	78.5	(75.7, 81.3)	
	58.7	53.9	-4.8		(-11.0, 1.4)	56.3	(53.2, 59.4)	
Urban	77.9	77.2	-0.7		(-6.6, 5.2)	77.6	(74.6, 80.5)	
Suburban	61.1	54.5	-6.6	*	(-12.6, -0.6)	57.8	(54.8, 60.8)	
Town and Rural	77.2	73.2	-4.0		(-10.5, 2.5)	75.2	(71.9, 78.5)	
	54.7	51.2	-3.5		(-9.8, 2.8)	53.0	(49.8, 56.1)	
	76.7	79.1	2.4		(-4.2, 9.0)	77.9	(74.6, 81.2)	
	55.5	56.3	0.8		(-5.1, 6.7)	55.9	(53.0, 58.8)	

Table 8-5. Percent of parents¹ and children who reported having two or more conversations² with their children/parents about drugs in past 6 months by age of child (continued)

Characteristics	Percent reporting they had two or more conversations about drugs					
	Parent			Child		
	Wave 1 Mean	Wave 2 Mean	Change Wave 1 to Wave 2 %	Wave 1 to Wave 2 %	2000 (Average Wave 1 and Wave 2) %	95% CI
Sensation Seeking						
High	79.1	80.2	1.1	* (1.1, 1.1)	79.7	(77.4, 81.9)
Low	52.6	52.5	-0.1	* (-0.1, -0.1)	52.6	(50.2, 54.9)
	75.3	74.7	-0.6	* (-0.6, -0.6)	75.0	(72.0, 78.0)
	61.6	55.7	-5.9	* (-5.9, -5.9)	58.7	(56.2, 61.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

Table 8-6. Percent of parents¹ and children who reported that parents know what child is doing when s/he is away from home² by age of child

Monitoring Children	Percent saying they know what child is doing when s/he is away from home									
	Parent					Child				
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000
Age of child	%	%	%	95% CI	%	%	%	95% CI	%	95% CI
9 to 11	78.2	76.4	-1.8	(-6.5, 2.9)	77.3	77.3	0.0	(-6.5, 2.9)	77.3	(74.9, 79.7)
	49.5	54.5	5.0	(-0.6, 10.6)	52.0	52.0	0.0	(-0.6, 10.6)	52.0	(49.2, 54.8)
12 to 13	66.4	67.6	1.2	(-4.2, 6.6)	67.0	67.0	0.0	(-4.2, 6.6)	67.0	(64.3, 69.7)
	52.7	52.1	-0.6	(-6.3, 5.1)	52.4	52.4	0.0	(-6.3, 5.1)	52.4	(49.5, 55.3)
14 to 15	61.4	61.9	0.5	(-6.9, 7.9)	61.7	61.7	0.0	(-6.9, 7.9)	61.7	(57.9, 65.4)
	48.0	45.6	-2.4	(-10.0, 5.2)	46.8	46.8	0.0	(-10.0, 5.2)	46.8	(43.0, 50.6)
16 to 18	49.1	53.3	4.2	(-3.5, 11.9)	51.2	51.2	0.0	(-3.5, 11.9)	51.2	(47.3, 55.1)
	40.8	41.6	0.8	(-6.0, 7.6)	41.2	41.2	0.0	(-6.0, 7.6)	41.2	(37.8, 44.6)
14 to 18	54.7	57.3	2.6	(-3.0, 8.2)	56.0	56.0	0.0	(-3.0, 8.2)	56.0	(53.2, 58.8)
	44.0	43.4	-0.6	(-5.5, 4.3)	43.7	43.7	0.0	(-5.5, 4.3)	43.7	(41.3, 46.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-7. Percent of parents¹ and children who reported that parents know what child's plans are for the coming day² by age of child

Age of child	Monitoring Children					
	Percent saying they always or almost always know what child's plans are for the coming day					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 Parent Child		2000 (Average Wave 1 and Wave 2) %	
		%	95% CI	%	95% CI	
9 to 11	74.2	74.4	0.2	(-4.6, 5.0)	74.3	(71.9, 76.7)
	32.2	32.8	0.6	(-4.9, 6.1)	32.5	(29.7, 35.3)
12 to 13	64.2	63.6	-0.6	(-6.1, 4.9)	63.9	(61.2, 66.6)
	35.2	33.9	-1.3	(-6.9, 4.3)	34.6	(31.8, 37.3)
14 to 15	59.7	57.0	-2.7	(-10.8, 5.4)	58.4	(54.3, 62.4)
	32.5	30.5	-2.0	(-9.9, 5.9)	31.5	(27.6, 35.4)
16 to 18	48.5	51.5	3.0	(-5.5, 11.5)	50.0	(45.7, 54.3)
	27.7	29.3	1.6	(-5.5, 8.7)	28.5	(25.0, 32.0)
14 to 18	53.6	54.1	0.5	(-5.5, 6.5)	53.9	(50.9, 56.8)
	29.8	29.9	0.1	(-5.3, 5.5)	29.9	(27.2, 32.5)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-8. Percent of parents¹ and children who reported that parents limit time child spends with other children without adult supervision² by age of child

Age of child	Percent saying they always or almost always limit time child spends with other children without adult supervision									
	Parent					Child				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) %	95% CI	95% CI	95% CI	95% CI	95% CI
9 to 11	55.5	51.3	-4.2	(-9.3, 0.9)	53.4	(50.8, 56.0)				
	34.9	31.9	-3.0	(-7.4, 1.4)	33.4	(31.2, 35.6)				
12 to 13	33.8	33.4	-0.4	(-5.7, 4.9)	33.6	(31.0, 36.2)				
	15.1	16.6	1.5	(-2.3, 5.3)	15.9	(14.0, 17.7)				
14 to 15	28.6	24.9	-3.7	(-10.9, 3.5)	26.8	(23.1, 30.4)				
	7.8	8.7	0.9	(-3.9, 5.7)	8.3	(5.9, 10.6)				
16 to 18	16.4	17.4	1.0	(-5.0, 7.0)	16.9	(13.9, 19.9)				
	5.5	5.6	0.1	(-3.1, 3.3)	5.6	(3.9, 7.2)				
14 to 18	22.0	20.9	-1.1	(-5.9, 3.7)	21.5	(19.0, 23.9)				
	6.6	7.0	0.4	(-2.3, 3.1)	6.8	(5.5, 8.1)				

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-9. Percent of parents¹ who reported that they personally know child's friends very well² by age of child

Age of child	Percent saying they personally know child's friends very well					
	Wave 1		Wave 2		2000	
	%	95% CI	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
9 to 11	46.4	(46.1, 51.2)	50.9	(-0.6, 9.6)	48.7	(46.1, 51.2)
12 to 13	39.9	(38.0, 43.8)	41.9	(-3.8, 7.8)	40.9	(38.0, 43.8)
14 to 15	36.7	(31.7, 38.5)	33.5	(-10.0, 3.6)	35.1	(31.7, 38.5)
16 to 18	31.5	(29.1, 36.2)	33.8	(-4.9, 9.5)	32.7	(29.1, 36.2)
14 to 18	33.9	(31.2, 36.4)	33.7	(-5.3, 4.9)	33.8	(31.2, 36.4)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-10. Percent of parents¹ who reported that they require child to be home before midnight² on weekends by age of child

Monitoring Children

Age of child	Percent saying they require child to be home before midnight ³					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2		2000 (Average Wave 1 and Wave 2)	
			%	95% CI	%	95% CI
9 to 11	100.0	100.0	0.0	N/A	100.0	N/A
12 to 13	94.9	96.7	1.8	(-0.7, 4.3)	95.8	(94.2-97.0)
14 to 15	93.8	96.5	2.7	(-1.0, 6.2)	95.2	(93.1-96.6)
16 to 18	83.3	86.7	3.4	(-2.0, 8.8)	84.9	(82.2-87.3)
14 to 18	88.0	91.3	3.3	(-0.3, 6.9)	89.6	(87.7-91.3)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

³This item was always forced equal to yes for parents of children aged 9-11.

Table 8-11. Parents¹ reports of engaging in projects or activities with children² in past week by age of child(ren), gender, race/ethnicity, region, and urbanicity

Characteristics	Percent saying they did projects or activities with child at home more than once in past week					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	80.9	78.5	-2.4	(-6.3, 1.5)	79.7	(77.7, 81.7)
12 to 13	69.1	69.8	0.7	(-4.6, 6.0)	69.5	(66.8, 72.1)
14 to 15	63.5	62.6	-0.9	(-8.4, 6.6)	63.1	(59.3, 66.8)
16 to 18	51.5	45.7	-5.8	(-13.9, 2.3)	48.6	(44.5, 52.7)
14 to 18	56.9	53.6	-3.3	(-9.4, 2.8)	55.3	(52.2, 58.3)
Youth aged 9 to 18						
Males	65.8	63.2	-2.6	(-7.6, 2.4)	64.5	(62.0, 67.0)
Females	66.4	66.3	-0.1	(-4.9, 4.7)	66.4	(63.9, 68.8)
White	67.5	65.8	-1.7	(-6.6, 3.2)	66.7	(64.2, 69.1)
African American	66.0	62.8	-3.2	(-12.5, 6.1)	64.4	(59.8, 69.0)
Hispanic	59.7	59.5	-0.2	(-11.4, 11.0)	59.6	(54.0, 65.2)
Northeast	65.0	63.9	-1.1	(-9.6, 7.4)	64.5	(60.2, 68.7)
South	65.8	68.9	3.1	(-3.4, 9.6)	67.4	(64.1, 70.6)
Midwest	65.1	58.4	-6.7	(-16.5, 3.1)	61.8	(56.8, 66.7)
West	68.9	65.4	-3.5	(-9.1, 2.1)	67.2	(64.3, 70.0)
Urban	63.7	66.0	2.3	(-4.6, 9.2)	64.9	(61.4, 68.3)
Suburban	64.7	60.2	-4.5	(-11.7, 2.7)	62.5	(58.8, 66.1)
Town and Rural	68.9	66.3	-2.6	(-8.6, 3.4)	67.6	(64.6, 70.6)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²These parent questions were repeated separately for each sample child.

Table 8-12. Parents¹ reports of going someplace for fun with children² in past week by age of child(ren), gender, race/ethnicity, region, and urbanicity

Engaging in fun family activities	Percent saying they went someplace to do activity we both enjoy more than once in past week					
	Wave 1		Wave 2		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18						
9 to 11	66.3	68.5	2.2	(-3.6, 8.0)	67.4	(64.5, 70.3)
12 to 13	58.3	62.7	4.4	(-1.0, 9.8)	60.5	(57.8, 63.2)
14 to 15	49.0	49.4	0.4	(-7.7, 8.5)	49.2	(45.1, 53.3)
16 to 18	38.3	44.3	6.0	(-3.2, 15.2)	41.3	(36.7, 45.9)
14 to 18	43.1	46.7	3.6	(-3.1, 10.3)	44.9	(41.5, 48.3)
Youth aged 9 to 18						
Males	51.9	52.6	0.7	(-4.5, 5.9)	52.3	(49.7, 54.8)
Females	53.6	61.4	7.8	*(1.9, 13.7)	57.5	(54.6, 60.4)
White	55.3	59.9	4.6	(-1.0, 10.2)	57.6	(54.8, 60.4)
African American	47.2	49.6	2.4	(-7.2, 12.0)	48.4	(43.6, 53.2)
Hispanic	46.5	49.6	3.1	(-7.4, 13.6)	48.1	(42.8, 53.3)
Northeast	47.4	54.8	7.4	(-2.0, 16.8)	51.1	(46.4, 55.8)
South	55.4	58.2	2.8	(-5.7, 11.3)	56.8	(52.5, 61.1)
Midwest	51.0	55.6	4.6	(-5.8, 15.0)	53.3	(48.1, 58.5)
West	53.9	56.8	2.9	(-4.5, 10.3)	55.4	(51.6, 59.1)
Urban	49.0	56.0	7.0	(-0.5, 14.5)	52.5	(48.7, 56.3)
Suburban	53.0	54.6	1.6	(-5.9, 9.1)	53.8	(50.1, 57.5)
Town and Rural	55.6	58.7	3.1	(-4.1, 10.3)	57.2	(53.6, 60.7)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-13. Parents¹ prior direct involvement by expressing views to family members to support opinions about drug use by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they expressed views to family members					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
Overall	90.2	90.1	-0.1	(-2.8, 2.6)	90.2	(88.8, 91.5)
Males	89.9	89.3	-0.6	(-4.5, 3.3)	89.6	(87.7, 91.5)
Females	90.4	90.7	0.3	(-2.9, 3.5)	90.6	(89.0, 92.1)
White	90.7	90.9	0.2	(-2.6, 3.0)	90.8	(89.4, 92.2)
African American	91.1	93.7	2.6	(-1.9, 7.1)	92.4	(90.2, 94.6)
Hispanic	88.9	82.8	-6.1	(-14.3, 2.1)	85.9	(81.7, 90.0)
Less Than High School	85.0	83.9	-1.1	(-8.5, 6.3)	84.5	(80.8, 88.1)
High School Graduate	89.1	89.1	0.0	(-5.5, 5.5)	89.1	(86.4, 91.8)
Some College	92.4	94.1	1.7	(-2.2, 5.6)	93.3	(91.3, 95.2)
College Graduate	92.2	90.4	-1.8	(-6.1, 2.5)	91.3	(89.2, 93.4)
Northeast	90.7	87.9	-2.8	(-8.0, 2.4)	89.3	(86.7, 91.9)
South	89.2	90.6	1.4	(-3.8, 6.6)	89.9	(87.3, 92.5)
Midwest	92.2	91.9	-0.3	(-3.6, 3.0)	92.1	(90.4, 93.7)
West	89.6	88.9	-0.7	(-6.7, 5.3)	89.3	(86.3, 92.2)
Urban	90.8	90.0	-0.8	(-5.8, 4.2)	90.4	(87.9, 92.9)
Suburban	89.7	88.9	-0.8	(-5.9, 4.3)	89.3	(86.8, 91.8)
Town and Rural	90.2	90.8	0.6	(-3.0, 4.2)	90.5	(88.7, 92.3)
One or more children aged ²						
9-11	88.8	88.1	-0.7	(-4.4, 3.0)	88.5	(86.6, 90.3)
12-13	90.3	90.4	0.1	(-3.2, 3.4)	90.4	(88.7, 92.0)
14-18	91.7	92.0	0.3	(-2.8, 3.4)	91.9	(90.3, 93.4)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 8-14. Parents¹ prior direct involvement by written letter to political official/newspaper to support opinions about drug use by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they have written letter to political official/newspaper					
	Wave 1		Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
Overall	6.6	7.4	0.8	(-1.5, 3.1)	7.0	(5.8, 8.2)
Males	6.8	7.6	0.8	(-3.2, 4.8)	7.2	(5.2, 9.2)
Females	6.5	7.3	0.8	(-1.8, 3.4)	6.9	(5.6, 8.2)
White	5.9	6.8	0.9	(-1.7, 3.5)	6.4	(5.0, 7.7)
African American	10.7	10.6	-0.1	(-6.8, 6.6)	10.7	(7.3, 14.0)
Hispanic	5.4	6.9	1.5	(-4.1, 7.1)	6.2	(3.4, 8.9)
Less Than High School	4.7	10.0	5.3	(-0.4, 11.0)	7.4	(4.5, 10.2)
High School Graduate	7.2	5.1	-2.1	(-5.3, 1.1)	6.2	(4.6, 7.7)
Some College	5.1	10.2	5.1	*(0.6, 9.6)	7.7	(5.4, 9.9)
College Graduate	7.3	5.8	-1.5	(-4.5, 1.5)	6.6	(5.1, 8.0)
Northeast	6.8	6.3	-0.5	(-4.2, 3.2)	6.6	(4.7, 8.4)
South	6.1	6.5	0.4	(-3.4, 4.2)	6.3	(4.4, 8.2)
Midwest	8.2	7.3	-0.9	(-6.8, 5.0)	7.8	(4.8, 10.7)
West	5.9	9.6	3.7	(-0.3, 7.7)	7.8	(5.7, 9.8)
Urban	7.9	8.5	0.6	(-3.2, 4.4)	8.2	(6.3, 10.1)
Suburban	5.4	3.8	-1.6	(-4.8, 1.6)	4.6	(3.0, 6.2)
Town and Rural	6.4	8.7	2.3	(-1.6, 6.2)	7.6	(5.6, 9.5)
One or more children aged ²						
9-11	5.4	5.7	0.3	(-2.0, 2.6)	5.6	(4.4, 6.7)
12-13	5.7	6.4	0.7	(-2.0, 3.4)	6.1	(4.7, 7.4)
14-18	6.7	9.6	2.9	(-0.8, 6.6)	8.2	(6.3, 10.0)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 8-15. Parents' prior direct involvement by calling radio or TV call-in show to support opinions about drug use by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they called radio or TV call-in show					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
Overall	5.5	6.6	1.1	(-0.7, 2.9)	6.1	(5.1, 7.0)
Males	5.5	6.8	1.3	(-2.0, 4.6)	6.2	(4.5, 7.8)
Females	5.5	6.5	1.0	(-1.3, 3.3)	6.0	(4.9, 7.1)
White	3.9	4.8	0.9	(-0.8, 2.6)	4.4	(3.5, 5.2)
African American	14.9	14.0	-0.9	(-7.1, 5.3)	14.5	(11.4, 17.5)
Hispanic	5.9	8.4	2.5	(-2.3, 7.3)	7.2	(4.8, 9.5)
Less Than High School	5.8	7.5	1.7	(-3.3, 6.7)	6.7	(4.1, 9.2)
High School Graduate	6.9	6.7	-0.2	(-3.6, 3.2)	6.8	(5.1, 8.5)
Some College	5.4	8.8	3.4	(-0.3, 7.1)	7.1	(5.2, 9.0)
College Graduate	3.2	3.7	0.5	(-1.8, 2.8)	3.5	(2.3, 4.6)
Northeast	5.8	4.9	-0.9	(-4.2, 2.4)	5.4	(3.7, 7.0)
South	5.4	6.7	1.3	(-2.2, 4.8)	6.1	(4.3, 7.8)
Midwest	5.7	3.9	-1.8	(-4.9, 1.3)	4.8	(3.3, 6.3)
West	5.0	10.3	5.3	*(1.6, 9.0)	7.7	(5.8, 9.5)
Urban	7.7	8.9	1.2	(-2.6, 5.0)	8.3	(6.4, 10.2)
Suburban	3.7	7.0	3.3	(-0.5, 7.1)	5.4	(3.4, 7.3)
Town and Rural	4.9	5.0	0.1	(-2.6, 2.8)	5.0	(3.6, 6.3)
One or more children aged ²						
9-11	5.1	6.2	1.1	(-1.2, 3.4)	5.7	(4.5, 6.8)
12-13	5.3	7.2	1.9	(-1.3, 5.1)	6.3	(4.7, 7.8)
14-18	4.8	7.2	2.4	(-0.6, 5.4)	6.0	(4.5, 7.5)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 8-16. Parents¹ prior direct involvement by attending meeting/rally to support opinions about drug use by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they attended meeting/rally in support of position					
	Wave 1		Wave 2		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Overall	24.5	25.9	1.4	(-2.3, 5.1)	25.2	(23.3, 27.1)
Males	24.0	23.2	-0.8	(-6.5, 4.9)	23.6	(20.8, 26.4)
Females	24.8	27.9	3.1	(-1.0, 7.2)	26.4	(24.3, 28.4)
White	22.6	23.9	1.3	(-2.9, 5.5)	23.3	(21.1, 25.4)
African American	33.1	37.5	4.4	(-5.0, 13.8)	35.3	(30.6, 40.0)
Hispanic	25.5	24.8	-0.7	(-11.7, 10.3)	25.2	(19.7, 30.6)
Less Than High School	23.5	22.1	-1.4	(-9.0, 6.2)	22.8	(19.0, 26.6)
High School Graduate	21.4	19.6	-1.8	(-7.6, 4.0)	20.5	(17.6, 23.4)
Some College	25.6	31.0	5.4	(-0.9, 11.7)	28.3	(25.1, 31.5)
College Graduate	27.2	29.5	2.3	(-4.7, 9.3)	28.4	(24.9, 31.8)
Northeast	23.4	21.6	-1.8	(-10.3, 6.7)	22.5	(18.2, 26.8)
South	23.3	28.2	4.9	(-1.1, 10.9)	25.8	(22.7, 28.8)
Midwest	26.8	27.7	0.9	(-6.5, 8.3)	27.3	(23.6, 30.9)
West	24.9	24.1	-0.8	(-8.7, 7.1)	24.5	(20.6, 28.4)
Urban	26.9	29.3	2.4	(-4.2, 9.0)	28.1	(24.8, 31.4)
Suburban	21.5	22.1	0.6	(-5.9, 7.1)	21.8	(18.5, 25.1)
Town and Rural	24.6	25.7	1.1	(-3.7, 5.9)	25.2	(22.8, 27.5)
One or more children aged ²						
9-11	22.2	21.0	-1.2	(-5.6, 3.2)	21.6	(19.4, 23.8)
12-13	25.6	26.8	1.2	(-4.5, 6.9)	26.2	(23.4, 29.0)
14-18	25.8	30.1	4.3	(-0.8, 9.4)	28.0	(25.4, 30.5)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 8-17. Parents'¹ prior direct involvement by joining group actively working on issue to support opinions about drug use by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Percent saying they joined group actively working on issue				
	Wave 1		Wave 2		2000
	%	%	%	%	(Average Wave 1 and Wave 2) % 95% CI
Overall	12.9	13.3	0.4	(-2.3, 3.1)	13.1 (11.8, 14.4)
Males	12.2	12.5	0.3	(-4.2, 4.8)	12.4 (10.1, 14.6)
Females	13.3	13.8	0.5	(-2.9, 3.9)	13.6 (11.9, 15.2)
White	11.3	10.9	-0.4	(-3.4, 2.6)	11.1 (9.6, 12.6)
African American	17.2	24.6	7.4	(-0.2, 15.0)	20.9 (17.1, 24.7)
Hispanic	13.7	11.9	-1.8	(-9.6, 6.0)	12.8 (8.9, 16.7)
Less Than High School	11.1	12.9	1.8	(-4.5, 8.1)	12.0 (8.8, 15.2)
High School Graduate	9.2	9.9	0.7	(-3.3, 4.7)	9.6 (7.6, 11.5)
Some College	13.5	14.8	1.3	(-3.5, 6.1)	14.2 (11.8, 16.5)
College Graduate	18.6	16.1	-2.5	(-8.2, 3.2)	17.4 (14.5, 20.2)
Northeast	11.4	11.2	-0.2	(-4.6, 4.2)	11.3 (9.1, 13.5)
South	11.4	15.4	4.0	(-0.9, 8.9)	13.4 (10.9, 15.9)
Midwest	15.7	12.3	-3.4	(-9.5, 2.7)	14.0 (10.9, 17.1)
West	13.5	12.8	-0.7	(-5.7, 4.3)	13.2 (10.6, 15.7)
Urban	15.1	15.6	0.5	(-4.1, 5.1)	15.4 (13.0, 17.7)
Suburban	12.2	10.9	-1.3	(-6.2, 3.6)	11.6 (9.1, 14.0)
Town and Rural	11.7	13.0	1.3	(-3.1, 5.7)	12.4 (10.1, 14.6)
One or more children aged ²					
9-11	11.5	12.2	0.7	(-2.5, 3.9)	11.9 (10.3, 13.4)
12-13	11.9	12.1	0.2	(-3.6, 4.0)	12.0 (10.1, 13.9)
14-18	13.7	14.6	0.9	(-3.4, 5.2)	14.2 (12.0, 16.3)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 8-18. Parents¹ prior overall direct involvement in activities to support opinions about drug use by gender, race/ethnicity, education, region, urbanicity, and age of child(ren)

Characteristics	Summary scale of parent involvement in activities (0-5)					
	Wave 1		Wave 2		2000	
	Mean	Mean	Estimate	95% CI	Estimate	95% CI
Overall	1.40	1.43	0.03	(-0.1, 0.1)	1.42	(1.37, 1.46)
Males	1.39	1.39	0.00	(-0.1, 0.1)	1.39	(1.32, 1.46)
Females	1.40	1.46	0.06	(0.0, 0.2)	1.43	(1.38, 1.48)
White	1.35	1.37	0.02	(-0.1, 0.1)	1.36	(1.32, 1.40)
African American	1.66	1.80	0.14	(-0.1, 0.4)	1.73	(1.62, 1.84)
Hispanic	1.39	1.35	-0.04	(-0.3, 0.2)	1.37	(1.24, 1.50)
Less Than High School	1.31	1.36	0.05	(-0.1, 0.2)	1.34	(1.24, 1.43)
High School Graduate	1.34	1.31	-0.03	(-0.2, 0.1)	1.33	(1.25, 1.40)
Some College	1.42	1.59	0.17	*(0.0, 0.3)	1.51	(1.44, 1.57)
College Graduate	1.48	1.46	-0.02	(-0.2, 0.1)	1.47	(1.39, 1.55)
Northeast	1.37	1.32	-0.05	(-0.2, 0.1)	1.35	(1.27, 1.42)
South	1.36	1.47	0.11	(0.0, 0.3)	1.42	(1.34, 1.49)
Midwest	1.49	1.43	-0.06	(-0.2, 0.1)	1.46	(1.37, 1.55)
West	1.39	1.46	0.07	(-0.1, 0.3)	1.43	(1.33, 1.52)
Urban	1.48	1.52	0.04	(-0.1, 0.2)	1.50	(1.42, 1.58)
Suburban	1.33	1.33	0.00	(-0.2, 0.2)	1.33	(1.25, 1.41)
Town and Rural	1.38	1.43	0.05	(-0.1, 0.2)	1.41	(1.35, 1.46)
One or more children aged ²						
9-11	1.33	1.33	0.00	(-0.1, 0.1)	1.33	(1.27, 1.39)
12-13	1.38	1.43	0.05	(-0.1, 0.2)	1.41	(1.34, 1.47)
14-18	1.43	1.53	0.10	(0.0, 0.2)	1.48	(1.42, 1.54)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²Parents with children in multiple rows have their responses averaged into each relevant row.

Table 8-19. Percent of parents¹ and their children² who reported having talked about anti-drug ads by youth characteristics

Characteristics	Percent reporting they talked about anti-drug ads with parent/child											
	Parent					Child						
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) %	95% CI	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI		
All Youth aged 9 to 18												
9 to 11	49.6	43.4	-6.2	* (-12.0, -0.4)	46.5	(43.6, 49.4)	49.6	46.2	-3.4	(-8.1, 1.3)	47.9	(45.5, 50.3)
12 to 13	52.7	49.1	-3.6	(-10.2, 3.0)	50.9	(47.6, 54.2)	40.1	37.4	-2.7	(-8.0, 2.6)	38.8	(36.1, 41.4)
14 to 15	50.9	52.5	1.6	(-6.7, 9.9)	51.7	(47.6, 55.8)	31.0	30.0	-1.0	(-8.1, 6.1)	30.5	(26.9, 34.1)
16 to 18	44.3	44.9	0.6	(-8.2, 9.4)	44.6	(40.2, 49.0)	21.1	16.3	-4.8	(-11.1, 1.5)	18.7	(15.5, 21.9)
14 to 18	47.3	48.5	1.2	(-5.1, 7.5)	47.9	(44.8, 51.0)	25.6	22.6	-3.0	(-7.4, 1.4)	24.1	(21.9, 26.3)

Table 8-19. Percent of parents¹ and their children² who reported having talked about anti-drug ads by youth characteristics (continued)

Characteristics	Parent						Child						
	Percent reporting they talked about anti-drug ads with parent/child			Change Wave 1 to			2000			2000			
	Wave 1 %	Wave 2 %	%	Wave 2 %	Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI	Wave 1 %	Wave 2 %	95% CI		
All Youth aged 9 to 18													
Males	50.4	47.5	-2.9	47.5	-2.9	(-8.5, 2.7)	49.0	(46.2, 51.7)	34.4	30.2	(-8.4, 0.0)	32.3	(30.2, 34.4)
Females	47.7	46.5	-1.2	46.5	-1.2	(-6.6, 4.2)	47.1	(44.4, 49.8)	36.4	34.4	(-6.1, 2.1)	35.4	(33.3, 37.5)
White	47.0	45.3	-1.7	45.3	-1.7	(-6.3, 2.9)	46.2	(43.8, 48.5)	32.3	29.3	(-6.8, 0.8)	30.8	(28.9, 32.7)
African American	53.6	48.8	-4.8	48.8	-4.8	(-15.6, 6.0)	51.2	(45.8, 56.6)	44.4	37.8	(-14.4, 1.2)	41.1	(37.2, 45.0)
Hispanic	55.5	53.2	-2.3	53.2	-2.3	(-11.9, 7.3)	54.4	(49.6, 59.1)	43.6	41.5	(-9.8, 5.6)	42.6	(38.7, 46.4)
Northeast	47.2	41.0	-6.2	41.0	-6.2	(-15.2, 2.8)	44.1	(39.6, 48.6)	33.0	31.5	(-7.7, 4.7)	32.3	(29.1, 35.4)
South	48.5	48.0	-0.5	48.0	-0.5	(-7.8, 6.8)	48.3	(44.6, 51.9)	33.2	32.5	(-4.9, 3.5)	32.9	(30.7, 35.0)
Midwest	49.8	47.6	-2.2	47.6	-2.2	(-9.5, 5.1)	48.7	(45.1, 52.3)	37.8	31.3	(-14.8, 1.8)	34.6	(30.4, 38.7)
West	50.8	48.6	-2.2	48.6	-2.2	(-9.5, 5.1)	49.7	(46.1, 53.3)	38.6	33.9	(-10.8, 1.4)	36.3	(33.2, 39.3)
Urban	50.2	48.5	-1.7	48.5	-1.7	(-8.9, 5.5)	49.4	(45.7, 53.0)	39.2	37.0	(-8.3, 3.9)	38.1	(35.0, 41.2)
Suburban	50.1	47.4	-2.7	47.4	-2.7	(-10.8, 5.4)	48.8	(44.7, 52.8)	33.1	26.1	* (-12.8, -1.2)	29.6	(26.7, 32.5)
Town and Rural	47.6	45.7	-1.9	45.7	-1.9	(-7.7, 3.9)	46.7	(43.8, 49.5)	33.6	32.3	(-6.1, 3.5)	33.0	(30.6, 35.3)
Sensation Seeking													
High	48.6	48.3	-0.3	48.3	-0.3	(-6.2, 5.6)	48.5	(45.5, 51.4)	26.6	24.3	(-6.1, 1.5)	25.5	(23.6, 27.3)
Low	48.9	46.8	-2.1	46.8	-2.1	(-7.7, 3.5)	47.9	(45.0, 50.7)	43.9	39.6	(-9.0, 0.4)	41.8	(39.4, 44.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 8-20. Parental monitoring activities as reported by parents¹ by youth characteristics

		Summary scale of parental monitoring activities (0-3) (where higher scores represent more types of activities)				
Characteristics	Parent		Child			
	Wave 1 Mean	Wave 2 Mean	Change Wave 1 to Wave 2 Estimate	95% CI	2000 (Average Wave 1 and Wave 2) Mean 95% CI	
All Youth aged 9 to 18						
9 to 11 _____	2.38 1.46	2.36 1.44	-0.02 -0.02	(-0.1, 0.1) (-0.1, 0.1)	2.37 1.45 (2.31, 2.43) (1.39, 1.51)	
12 to 13 _____	2.11 1.40	2.08 1.37	-0.03 -0.03	(-0.1, 0.1) (-0.2, 0.1)	2.10 1.39 (2.04, 2.15) (1.31, 1.46)	
14 to 15 _____	1.97 1.20	1.90 1.19	-0.07 -0.01	(-0.2, 0.1) (-0.2, 0.2)	1.94 1.20 (1.85, 2.02) (1.10, 1.29)	
16 to 18 _____	1.58 0.98	1.66 0.98	0.08 0.00	(-0.1, 0.3) (-0.2, 0.2)	1.62 0.98 (1.52, 1.72) (0.90, 1.06)	
14 to 18 _____	1.76 1.08	1.77 1.08	0.01 0.00	(-0.1, 0.1) (-0.1, 0.1)	1.77 1.08 (1.70, 1.83) (1.02, 1.14)	

Table 8-20. Parental preventive practices as reported by parents by youth characteristics (continued)

Characteristics	Summary scale of parental monitoring activities (0-3) (where higher scores represent more types of activities)					
	Parent			Child		
	Wave 1	Wave 2	Change Wave 1 to	Wave 1	Wave 2	Change Wave 1 to
	Mean	Mean	Estimate	Mean	Mean	Estimate
All Youth aged 9 to 18						
Males	1.95	1.87	-0.08	1.91	1.91	(1.85, 1.97)
Females	1.09	1.09	0.00	1.09	1.09	(1.04, 1.14)
White	2.10	2.18	0.08	2.14	2.14	(2.09, 2.19)
African American	1.44	1.42	-0.02	1.43	1.43	(1.37, 1.49)
Hispanic	2.09	2.08	-0.01	2.09	2.09	(2.04, 2.13)
Northeast	1.32	1.30	-0.02	1.31	1.31	(1.25, 1.37)
South	1.83	1.80	-0.03	1.82	1.82	(1.72, 1.91)
Midwest	1.17	0.99	-0.18	1.08	1.08	(0.97, 1.19)
West	1.94	2.03	0.09	1.99	1.99	(1.89, 2.08)
Urban	1.17	1.31	0.14	1.24	1.24	(1.15, 1.33)
Suburban	2.12	2.09	-0.03	2.11	2.11	(1.99, 2.22)
Town and Rural	1.26	1.26	0.00	1.26	1.26	(1.19, 1.33)
	2.04	2.02	-0.02	2.03	2.03	(1.96, 2.10)
	1.34	1.34	0.00	1.34	1.34	(1.26, 1.42)
	1.94	2.00	0.06	1.97	1.97	(1.86, 2.08)
	1.19	1.19	0.00	1.19	1.19	(1.11, 1.27)
	2.01	2.02	0.01	2.02	2.02	(1.94, 2.09)
	1.23	1.23	0.00	1.23	1.23	(1.16, 1.30)
	1.93	1.95	0.02	1.94	1.94	(1.87, 2.01)
	1.20	1.18	-0.02	1.19	1.19	(1.11, 1.27)
	2.09	2.03	-0.06	2.06	2.06	(1.97, 2.15)
	1.18	1.27	0.09	1.23	1.23	(1.16, 1.29)
	2.05	2.07	0.02	2.06	2.06	(1.99, 2.13)
	1.36	1.29	-0.07	1.33	1.33	(1.26, 1.39)

Table 8-20. Parental preventive practices as reported by parents by youth characteristics (continued)

		Summary scale of parental monitoring activities (0-3) (where higher scores represent more types of activities)			
		Parent		Child	
Characteristics	Wave 1 Mean	Wave 2 Mean	Change Wave 1 to Wave 2		2000
			Estimate	95% CI	(Average Wave 1 and Wave 2) Mean 95% CI
Sensation Seeking					
High	1.85	1.88	0.03	* (0.0, 0.0)	1.87 (1.81, 1.92)
Low	0.93	0.90	-0.03	* (0.0, 0.0)	0.92 (0.86, 0.97)
	2.17	2.12	-0.05	* (0.0, 0.0)	2.15 (2.10, 2.19)
	1.58	1.57	-0.01	* (0.0, 0.0)	1.58 (1.52, 1.63)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

Table 9-1. Parents'¹ feelings of self-efficacy to talk with children about drugs² if child asked questions about drug use in general by age of child

Age of child	Percent saying they are very sure they could talk to child if...					
	Child asked questions about drug use in general					
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2		2000 (Average Wave 1 and Wave 2) 95% CI	
9 to 11	76.6	77.1	0.5	(-4.8, 5.8)	76.9	(74.2, 79.5)
12 to 13	78.1	77.5	-0.6	(-6.7, 5.5)	77.8	(74.7, 80.9)
14 to 15	78.7	78.4	-0.3	(-8.5, 7.9)	78.6	(74.4, 82.7)
16 to 18	75.3	77.3	2.0	(-5.4, 9.4)	76.3	(72.6, 80.0)
14 to 18	76.8	77.8	1.0	(-5.5, 7.5)	77.3	(74.0, 80.6)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-2. Parents'¹ feelings of self-efficacy to talk with children about drugs² if child asked specific things to do to avoid drugs by age of child

Age of child	Percent saying they are very sure they could talk to child if...				
	Child asked specific things to do to avoid drugs				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) %
9 to 11	74.0	75.0	1.0	(-4.0, 6.0)	74.5 (72.0, 77.0)
12 to 13	73.6	73.7	0.1	(-5.7, 5.9)	73.7 (70.8, 76.5)
14 to 15	75.6	74.4	-1.2	(-9.2, 6.8)	75.0 (71.0, 79.0)
16 to 18	72.5	71.5	-1.0	(-9.1, 7.1)	72.0 (67.9, 76.1)
14 to 18	73.9	72.8	-1.1	(-7.5, 5.3)	73.4 (70.1, 76.6)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-3. Parents¹ feelings of self-efficacy to talk with children about drugs² if child and parent were having conflicts about other things and relationship was tense by age of child

Age of child	Percent saying they are very sure they could talk to child if...						
	Wave 1		Wave 2		2000		
	%	95% CI	%	95% CI	(Average Wave 1 and Wave 2)	95% CI	
9 to 11	44.0		47.5	3.5	(-1.8, 8.8)	45.8	(43.1, 48.4)
12 to 13	42.9		44.9	2.0	(-4.3, 8.3)	43.9	(40.7, 47.1)
14 to 15	41.3		41.0	-0.3	(-7.3, 6.7)	41.2	(37.6, 44.7)
16 to 18	34.2		45.0	10.8	* (2.9, 18.7)	39.6	(35.6, 43.6)
14 to 18	37.4		43.2	5.8	* (0.2, 11.4)	40.3	(37.5, 43.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-4. Parents'¹ feelings of self-efficacy to talk with children about drugs² if child asked parent about their own past use of drugs by age of child

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 %	Change Wave 1 to Wave 2 %	2000 (Average Wave 1 and Wave 2) %	95% CI
9 to 11	62.5	63.6	1.1	63.1	(60.4, 65.7)
12 to 13	64.0	65.7	1.7	64.9	(61.9, 67.8)
14 to 15	67.2	70.2	3.0	68.7	(64.8, 72.6)
16 to 18	67.0	71.3	4.3	69.2	(65.4, 72.9)
14 to 18	67.1	70.8	3.7	69.0	(66.1, 71.8)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-5. Parent¹ feelings of self-efficacy to talk with children about drugs² by youth characteristics

Characteristics	Parent feelings of self-efficacy to talk with children about drugs (-2 to +2) (where higher scores represent stronger self-efficacy)					
	Wave 1		Wave 2		2000	
	Mean	Mean	Estimate	95% CI	Estimate	95% CI
	Change Wave 1 to Wave 2		Change Wave 1 to Wave 2		Change Wave 1 to Wave 2	
All Youth aged 9 to 18						
9 to 11	1.51	1.52	0.01	(0.0, 0.1)	1.52	(1.49, 1.54)
12 to 13	1.53	1.53	0.00	(-0.1, 0.1)	1.53	(1.50, 1.56)
14 to 15	1.52	1.53	0.01	(-0.1, 0.1)	1.53	(1.48, 1.57)
16 to 18	1.49	1.55	0.06	(0.0, 0.1)	1.52	(1.48, 1.56)
14 to 18	1.50	1.54	0.04	(0.0, 0.1)	1.52	(1.48, 1.56)
Youth aged 9 to 18						
Males	1.50	1.53	0.03	(0.0, 0.1)	1.52	(1.49, 1.54)
Females	1.53	1.54	0.01	(-0.1, 0.1)	1.54	(1.50, 1.57)
White	1.52	1.54	0.02	(0.0, 0.1)	1.53	(1.50, 1.56)
African American	1.54	1.56	0.02	(-0.1, 0.2)	1.55	(1.48, 1.62)
Hispanic	1.46	1.50	0.04	(-0.1, 0.1)	1.48	(1.43, 1.53)
Northeast	1.53	1.58	0.05	(-0.5, 0.6)	1.56	(1.26, 1.85)
South	1.52	1.51	-0.01	(-1.2, 1.2)	1.52	(0.93, 2.10)
Midwest	1.49	1.52	0.03	(-0.6, 0.7)	1.51	(1.17, 1.84)
West	1.52	1.55	0.03	(-0.6, 0.6)	1.54	(1.24, 1.83)
Urban	1.49	1.53	0.04	(0.0, 0.1)	1.51	(1.47, 1.55)
Suburban	1.54	1.57	0.03	(0.0, 0.1)	1.56	(1.52, 1.59)
Town and Rural	1.51	1.51	0.00	(-0.1, 0.1)	1.51	(1.47, 1.55)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.

² These questions were repeated separately for each sample child.

Table 9-6. Parents¹ general attitude toward discussing drugs² with children by youth characteristics

Characteristics	Parents' general attitude toward discussing drugs with children (1 to 7) (where higher scores represent more positive attitudes)				
	Wave 1		Wave 2		2000
	Mean	Wave 2 Mean	Estimate	95% CI	(Average Wave 1 and Wave 2) Estimate 95% CI
All Youth aged 9 to 18					
9 to 11	6.26	6.26	0.00	(-0.1, 0.1)	6.26 (6.21, 6.31)
12 to 13	6.32	6.26	-0.06	(-0.2, 0.0)	6.29 (6.24, 6.34)
14 to 15	6.21	6.19	-0.02	(-0.2, 0.1)	6.20 (6.12, 6.28)
16 to 18	6.00	6.08	0.08	(-0.1, 0.2)	6.04 (5.96, 6.12)
14 to 18	6.09	6.13	0.04	(-0.1, 0.1)	6.11 (6.06, 6.16)
Youth aged 9 to 18					
Males	6.15	6.21	0.06	(0.0, 0.2)	6.18 (6.13, 6.23)
Females	6.23	6.19	-0.04	(-0.1, 0.1)	6.21 (6.16, 6.26)
White	6.10	6.12	0.02	(-0.1, 0.1)	6.11 (6.07, 6.15)
African American	6.45	6.41	-0.04	(-0.2, 0.1)	6.43 (6.35, 6.51)
Hispanic	6.38	6.45	0.07	(-0.1, 0.2)	6.42 (6.33, 6.50)
Northeast	6.17	6.22	0.05	(-0.1, 0.2)	6.20 (6.12, 6.27)
South	6.35	6.27	-0.08	(-0.2, 0.0)	6.31 (6.25, 6.37)
Midwest	6.03	6.14	0.11	(0.0, 0.2)	6.09 (6.02, 6.15)
West	6.13	6.15	0.02	(-0.1, 0.2)	6.14 (6.07, 6.21)
Urban	6.22	6.26	0.04	(-0.1, 0.2)	6.24 (6.18, 6.30)
Suburban	6.16	6.11	-0.05	(-0.2, 0.1)	6.14 (6.06, 6.21)
Town and Rural	6.18	6.20	0.02	(-0.1, 0.1)	6.19 (6.15, 6.23)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.² These questions were repeated separately for each sample child.

Table 9-7. Parents¹ perceived social expectations for talking with children about drugs² by youth characteristics

Characteristics	Percent saying that others think parent definitely should talk with children about drugs					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 9 to 18						
9 to 11	56.2	57.9	1.7	(-4.3, 7.7)	57.1	(54.1, 60.0)
12 to 13	62.4	59.6	-2.8	(-9.4, 3.8)	61.0	(57.7, 64.3)
14 to 15	65.8	69.3	3.5	(-5.0, 12.0)	67.6	(63.3, 71.8)
16 to 18	57.9	62.3	4.4	(-3.9, 12.7)	60.1	(55.9, 64.3)
14 to 18	61.5	65.6	4.1	(-2.0, 10.2)	63.6	(60.5, 66.6)
Youth aged 9 to 18						
Males	60.6	62.7	2.1	(-3.2, 7.4)	61.7	(59.0, 64.3)
Females	59.3	61.1	1.8	(-4.1, 7.7)	60.2	(57.2, 63.2)
White	57.4	59.8	2.4	(-2.5, 7.3)	58.6	(56.2, 61.0)
African American	69.0	68.4	-0.6	(-11.8, 10.6)	68.7	(63.1, 74.3)
Hispanic	65.8	66.2	0.4	(-8.5, 9.3)	66.0	(61.5, 70.5)
Northeast	62.1	66.2	4.1	(-4.2, 12.4)	64.2	(60.0, 68.3)
South	62.0	68.2	6.2	(-3.9, 16.3)	65.1	(60.0, 70.2)
Midwest	55.2	57.6	2.4	(-4.8, 9.6)	56.4	(52.8, 60.0)
West	61.4	69.3	7.9	* (0.6, 15.2)	65.4	(61.7, 69.0)
Urban	60.9	62.3	1.4	(-5.4, 8.2)	61.6	(58.2, 65.0)
Suburban	60.3	60.9	0.6	(-7.8, 9.0)	60.6	(56.4, 64.8)
Town and Rural	59.1	62.2	3.1	(-3.1, 9.3)	60.7	(57.5, 63.8)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.

² These questions were repeated separately for each sample child.

Table 9-8. Youth perceptions of difficulty of talking with parents¹ about drugs² by youth characteristics

Characteristics	Percent saying it would be very easy to talk with parents about drugs ³					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All Youth aged 12 to 18						
12 to 13	16.2	19.6	3.4	(-0.6, 7.4)	17.9	(15.9, 19.9)
14 to 15	14.6	19.0	4.4	(-1.9, 10.7)	16.8	(13.6, 20.0)
16 to 18	20.9	21.2	0.3	(-6.2, 6.8)	21.1	(17.8, 24.3)
14 to 18	18.1	20.2	2.1	(-2.6, 6.8)	19.2	(16.8, 21.5)
Youth aged 12 to 18						
Males	16.2	22.6	6.4	* (1.3, 11.5)	19.4	(16.9, 21.9)
Females	18.9	17.3	-1.6	(-6.0, 2.8)	18.1	(15.9, 20.3)
White	16.3	18.8	2.5	(-2.2, 7.2)	17.6	(15.2, 19.9)
African American	20.7	28.6	7.9	(-1.7, 17.5)	24.7	(19.9, 29.4)
Hispanic	22.3	19.6	-2.7	(-10.6, 5.2)	21.0	(17.0, 24.9)
Northeast	17.7	18.7	1.0	(-6.1, 8.1)	18.2	(14.6, 21.8)
South	16.3	19.9	3.6	(-2.0, 9.2)	18.1	(15.3, 20.9)
Midwest	18.6	16.4	-2.2	(-8.5, 4.1)	17.5	(14.3, 20.7)
West	18.0	24.8	6.8	(-2.3, 15.9)	21.4	(16.8, 26.0)
Urban	20.7	19.6	-1.1	(-7.4, 5.2)	20.2	(17.0, 23.3)
Suburban	16.2	22.1	5.9	(-0.2, 12.0)	19.2	(16.1, 22.2)
Town and Rural	15.8	19.1	3.3	(-2.6, 9.2)	17.5	(14.5, 20.4)

¹ All parents and caregivers of youth aged 9 to 18 who live with their children.

² These questions were repeated separately for each sample child.

³ This item was asked only of youth aged 12 to 18.

Table 9-9. Intentions to talk to child about family rules about using drugs by youth characteristics

Characteristics	Percent of parents reporting strong intentions to talk to child about family rules about using drugs					
	Wave 1		Wave 2		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
All youth aged 9 to 18						
9 to 11	49.8	51.1	1.30	(-4.0, 6.6)	50.5	(47.8, 53.1)
12 to 13	53.6	55.5	1.90	(-4.4, 8.2)	54.6	(51.4, 57.7)
14 to 15	52.2	57.3	5.10	(-3.9, 14.1)	54.8	(50.2, 59.3)
16 to 18	43.5	46.2	2.70	(-5.9, 11.3)	44.9	(40.5, 49.2)
14 to 18	47.5	51.4	3.90	(-2.5, 10.3)	49.5	(46.2, 52.7)
Youth aged 9 to 18						
Males	50.2	53.9	3.70	(-1.8, 9.2)	52.1	(49.3, 54.8)
Females	48.7	50.3	1.60	(-3.9, 7.1)	49.5	(46.7, 52.3)
White	44.4	48.7	4.30	(-0.9, 9.5)	46.6	(44.0, 49.1)
African American	60.8	59.4	-1.40	(-11.0, 8.2)	60.1	(55.3, 64.9)
Hispanic	60.5	59.0	-1.50	(-11.4, 8.4)	59.8	(54.8, 64.7)
Northeast	48.5	53.4	4.90	(-3.5, 13.3)	51.0	(46.8, 55.1)
South	52.2	51.3	-0.90	(-9.5, 7.7)	51.8	(47.4, 56.1)
Midwest	45.7	50.3	4.60	(-4.8, 14.0)	48.0	(43.3, 52.7)
West	50.7	53.8	3.10	(-4.4, 10.6)	52.3	(48.5, 56.0)
Urban	54.6	53.3	-1.30	(-7.4, 4.8)	54.0	(50.9, 57.0)
Suburban	46.6	50.8	4.20	(-3.5, 11.9)	48.7	(44.8, 52.6)
Rural	47.0	52.0	5.00	(-2.3, 12.3)	49.5	(45.9, 53.1)

Table 9-10. Intentions to talk to child about specific things their child can do to stay away from drugs by youth characteristics

Characteristics	Percent of parents reporting strong intentions to talk about specific things their child can do to stay away from drugs					
	Wave 1		Wave 2		2000	
	%	95% CI	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
All youth aged 9 to 18						
9 to 11	50.4	(48.2, 53.5)	51.3	(49.4, 53.2)	50.9	(48.2, 53.5)
12 to 13	50.0	(48.2, 54.7)	52.9	(49.4, 56.4)	51.5	(48.2, 54.7)
14 to 15	47.9	(46.5, 55.6)	54.2	(51.4, 57.0)	51.1	(46.5, 55.6)
16 to 18	35.9	(33.5, 41.7)	39.3	(37.1, 41.5)	37.6	(33.5, 41.7)
14 to 18	41.3	(40.6, 47.0)	46.3	(45.6, 47.0)	43.8	(40.6, 47.0)
Youth aged 9 to 18						
Males	45.7	(44.5, 50.0)	48.8	(47.3, 50.3)	47.3	(44.5, 50.0)
Females	46.1	(44.8, 51.0)	49.7	(48.3, 51.1)	47.9	(44.8, 51.0)
White	39.8	(39.0, 44.8)	44.0	(43.1, 44.9)	41.9	(39.0, 44.8)
African American	57.9	(52.8, 62.5)	57.4	(52.8, 62.5)	57.7	(52.8, 62.5)
Hispanic	61.7	(57.5, 66.9)	62.7	(57.5, 66.9)	62.2	(57.5, 66.9)
Northeast	47.4	(45.2, 53.2)	51.0	(49.4, 52.6)	49.2	(45.2, 53.2)
South	51.9	(45.7, 54.9)	48.7	(45.7, 54.9)	50.3	(45.7, 54.9)
Midwest	37.9	(36.6, 48.1)	46.8	(36.6, 48.1)	42.4	(36.6, 48.1)
West	45.1	(44.4, 51.9)	51.2	(44.4, 51.9)	48.2	(44.4, 51.9)
Urban	51.2	(49.5, 55.9)	54.2	(49.5, 55.9)	52.7	(49.5, 55.9)
Suburban	43.8	(40.6, 48.1)	44.9	(40.6, 48.1)	44.4	(40.6, 48.1)
Rural	42.9	(41.1, 49.7)	47.9	(41.1, 49.7)	45.4	(41.1, 49.7)

Table 9-11. Intentions to talk to child about drug use in movies, music, and on TV by youth characteristics

Characteristics	Percent of parents reporting strong intentions to talk about drug use in movies, music, and on TV					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Change Wave 1 to Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI
All youth aged 9 to 18						
9 to 11	38.7	38.5	-0.2	(-5.6, 5.2)	38.6	(35.9, 41.3)
12 to 13	38.2	39.6	1.4	(-4.2, 7.0)	38.9	(36.1, 41.7)
14 to 15	37.3	38.6	1.3	(-7.1, 9.7)	38.0	(33.8, 42.1)
16 to 18	26.0	23.7	-2.3	(-9.2, 4.6)	24.9	(21.4, 28.3)
14 to 18	31.1	30.6	-0.5	(-5.3, 4.3)	30.9	(28.5, 33.2)
Youth aged 9 to 18						
Males	34.7	32.6	-2.1	(-8.1, 3.9)	33.7	(30.7, 36.6)
Females	35.0	37.4	2.4	(-5.4, 10.2)	36.2	(32.3, 40.1)
White	29.8	31.3	1.5	(-3.3, 6.3)	30.6	(28.1, 33.0)
African American	45.3	36.8	-8.5	(-19.4, 2.4)	41.1	(35.6, 46.5)
Hispanic	46.8	45.2	-1.6	(-11.7, 8.5)	46.0	(40.9, 51.1)
Northeast	35.9	37.0	1.1	(-6.0, 8.2)	36.5	(32.9, 40.0)
South	36.9	34.7	-2.2	(-10.0, 5.6)	35.8	(31.9, 39.7)
Midwest	32.0	30.7	-1.3	(-10.1, 7.5)	31.4	(26.9, 35.8)
West	35.1	37.7	2.6	(-5.1, 10.3)	36.4	(32.6, 40.2)
Urban	39.6	43.1	3.5	(-2.9, 9.9)	41.4	(38.1, 44.6)
Suburban	32.3	40.0	7.7	*(0.8, 14.6)	36.2	(32.7, 39.6)
Rural	32.6	36.8	4.2	(-2.6, 11.0)	34.7	(31.3, 38.1)

Table 9-12. Intentions to talk to child about people they know who have gotten into trouble with drugs by youth characteristics

Characteristics	Percent of parents reporting they are very likely to talk about people they know who have gotten into trouble with drugs					
	Wave 1		Wave 2		2000	
	%	95% CI	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
All youth aged 9 to 18						
9 to 11	34.0	(4.7, 5.1)	34.2	(-4.7, 5.1)	0.2	(31.6, 36.6)
12 to 13	40.6	(-4.2, 7.0)	42.0	(-4.2, 7.0)	1.4	(38.5, 44.1)
14 to 15	44.6	(-7.6, 12.2)	46.9	(-7.6, 12.2)	2.3	(40.8, 50.7)
16 to 18	37.9	(-8.8, 8.4)	37.7	(-8.8, 8.4)	-0.2	(33.5, 42.1)
14 to 18	40.9	(-5.9, 8.1)	42.0	(-5.9, 8.1)	1.1	(37.9, 45.0)
Youth aged 9 to 18						
Males	38.4	(-5.0, 6.2)	39.0	(-5.0, 6.2)	0.6	(35.9, 41.5)
Females	39.0	(-4.2, 6.4)	40.1	(-4.2, 6.4)	1.1	(36.9, 42.2)
White	36.9	(-4.7, 5.9)	37.5	(-4.7, 5.9)	0.6	(34.6, 39.8)
African American	44.0	(-9.0, 11.4)	45.2	(-9.0, 11.4)	1.2	(39.5, 49.7)
Hispanic	40.7	(-9.8, 15.0)	43.3	(-9.8, 15.0)	2.6	(35.8, 48.2)
Northeast	41.2	(-10.5, 6.1)	39.0	(-10.5, 6.1)	-2.2	(36.0, 44.2)
South	39.9	(-10.0, 8.0)	38.9	(-10.0, 8.0)	-1.0	(34.9, 43.9)
Midwest	37.4	(-8.4, 9.4)	37.9	(-8.4, 9.4)	0.5	(33.2, 42.1)
West	36.2	(-1.1, 13.1)	42.2	(-1.1, 13.1)	6.0	(35.6, 42.8)
Urban	40.2	(-7.2, 5.8)	39.5	(-7.2, 5.8)	-0.7	(36.6, 43.1)
Suburban	34.6	(-3.1, 10.7)	38.4	(-3.1, 10.7)	3.8	(33.0, 40.0)
Rural	39.9	(-6.9, 7.5)	40.2	(-6.9, 7.5)	0.3	(36.5, 43.6)

Table 9-13. Summary scale of intentions to talk to child about drugs by youth characteristics

Characteristics	Summary scale of intentions to talk about drugs Parents reporting they are very likely to talk (-2 to +2)				
	Wave 1		Wave 2		2000
	Mean	Wave 2 Mean	Estimate	95% CI	(Average Wave 1 and Wave 2) Estimate
All youth aged 9 to 18					
9 to 11	1.05	1.05	0.00	(-0.1, 0.1)	1.05 (1.01, 1.09)
12 to 13	1.14	1.15	0.01	(-0.1, 0.1)	1.15 (1.10, 1.19)
14 to 15	1.14	1.21	0.07	(-0.1, 0.2)	1.18 (1.10, 1.25)
16 to 18	0.92	0.89	-0.03	(-0.2, 0.1)	0.91 (0.83, 0.98)
14 to 18	1.01	1.04	0.03	(-0.1, 0.1)	1.03 (0.98, 1.07)
Youth aged 9 to 18					
Males	1.04	1.08	0.04	(0.0, 0.1)	1.06 (1.02, 1.10)
Females	1.06	1.05	-0.01	(-0.1, 0.1)	1.06 (1.01, 1.10)
White	1.01	1.02	0.01	(-0.1, 0.1)	1.02 (0.97, 1.06)
African American	1.17	1.18	0.01	(-0.1, 0.2)	1.18 (1.10, 1.25)
Hispanic	1.12	1.19	0.07	(-0.1, 0.2)	1.16 (1.08, 1.23)
Northeast	1.08	1.06	-0.02	(-0.2, 0.1)	1.07 (0.99, 1.15)
South	1.09	1.09	0.00	(-0.1, 0.1)	1.09 (1.03, 1.15)
Midwest	1.00	1.02	0.02	(-0.1, 0.2)	1.01 (0.94, 1.08)
West	1.03	1.08	0.05	(-0.1, 0.2)	1.06 (1.00, 1.11)
Urban	1.07	1.10	0.03	(-0.1, 0.1)	1.09 (1.04, 1.13)
Suburban	1.00	1.02	0.02	(-0.1, 0.2)	1.01 (0.94, 1.08)
Rural	1.07	1.07	0.00	(-0.1, 0.1)	1.07 (1.01, 1.13)

Table 9-14. Specific belief that parental¹ monitoring² will make it more likely that their child will do well in school by youth characteristics

Characteristics	Percent of parents holding strong belief that parental monitoring will make it more likely that their child will do well in school					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
All youth aged 9 to 18						
9 to 11	67.1	67.9	0.8	(-4.5, 6.1)	67.5	(64.9, 70.1)
12 to 13	62.6	61.6	-1.0	(-6.1, 4.1)	62.1	(59.6, 64.6)
14 to 15	57.2	55.2	-2.0	(-10.3, 6.3)	56.2	(52.0, 60.4)
16 to 18	42.0	46.5	4.5	(-3.9, 12.9)	44.3	(40.0, 48.5)
14 to 18	49.0	50.6	1.6	(-4.8, 8.0)	49.8	(46.6, 53.0)
Youth aged 9 to 18						
Males	55.9	57.8	1.9	(-3.6, 7.4)	56.9	(54.1, 59.6)
Females	59.0	58.7	-0.3	(-5.7, 5.1)	58.9	(56.2, 61.5)
White	57.8	59.4	1.6	(-3.1, 6.3)	58.6	(56.2, 61.0)
African American	58.4	53.3	-5.1	(-16.4, 6.2)	55.9	(50.2, 61.5)
Hispanic	53.9	59.0	5.1	(-3.6, 13.8)	56.5	(52.1, 60.8)
Northeast	57.7	55.1	-2.6	(-9.9, 4.7)	56.4	(52.7, 60.1)
South	57.7	60.9	3.2	(-4.8, 11.2)	59.3	(55.3, 63.3)
Midwest	56.6	60.4	3.8	(-3.0, 10.6)	58.5	(55.1, 61.9)
West	58.9	55.6	-3.3	(-9.6, 3.0)	57.3	(54.1, 60.4)
Urban	55.4	56.6	1.2	(-5.7, 8.1)	56.0	(52.5, 59.5)
Suburban	61.9	60.4	-1.5	(-8.9, 5.9)	61.2	(57.5, 64.8)
Rural	56.4	58.2	1.8	(-4.4, 8.0)	57.3	(54.2, 60.4)
Sensation Seeking						
High	53.8	55.0	1.2	(-4.5, 6.9)	54.4	(51.6, 57.2)
Low	60.1	60.9	0.8	(-4.8, 6.4)	60.5	(57.7, 63.3)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²These questions were repeated separately for each sample child.

Table 9-15. Specific belief that parental¹ monitoring² will make parent feel that they are doing their job as a parent by youth characteristics

'Characteristics	Percent of parents holding strong belief that parental monitoring will make them feel they are doing their job as a parent				2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
All youth aged 9 to 18						
9 to 11	61.4	63.4	2.0	(-2.9, 6.9)	62.4	(59.9, 64.9)
12 to 13	57.1	55.4	-1.7	(-7.1, 3.7)	56.3	(53.6, 58.9)
14 to 15	51.6	51.6	0.0	(-7.6, 7.6)	51.6	(47.8, 55.4)
16 to 18	39.6	47.1	7.5	(-0.7, 15.7)	43.4	(39.2, 47.5)
14 to 18	45.1	49.2	4.1	(-1.6, 9.8)	47.2	(44.3, 50.0)
Youth aged 9 to 18						
Males	51.7	55.0	3.3	(-2.1, 8.7)	53.4	(50.7, 56.0)
Females	53.6	54.8	1.2	(-3.9, 6.3)	54.2	(51.6, 56.8)
White	51.4	53.6	2.2	(-2.6, 7.0)	52.5	(50.1, 54.9)
African American	55.0	59.1	4.1	(-5.5, 13.7)	57.1	(52.2, 61.9)
Hispanic	55.3	56.0	0.7	(-7.8, 9.2)	55.7	(51.4, 59.9)
Northeast	58.1	49.8	-8.3	(-17.0, 0.4)	54.0	(49.6, 58.3)
South	53.3	59.8	6.5	(-0.9, 13.9)	56.6	(52.8, 60.3)
Midwest	47.4	51.8	4.4	(-4.2, 13.0)	49.6	(45.3, 53.9)
West	54.0	54.4	0.4	(-6.2, 7.0)	54.2	(50.9, 57.5)
Urban	53.6	57.0	3.4	(-3.5, 10.3)	55.3	(51.9, 58.7)
Suburban	57.1	56.2	-0.9	(-8.4, 6.6)	56.7	(52.9, 60.4)
Rural	49.2	52.6	3.4	(-2.9, 9.7)	50.9	(47.8, 54.0)
Sensation Seeking						
High	50.3	51.6	1.3	(-4.2, 6.8)	51.0	(48.2, 53.7)
Low	54.9	57.9	3.0	(-2.5, 8.5)	56.4	(53.7, 59.1)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-16. Specific belief that parental¹ monitoring² will make it less likely that their child will try any drug, even once or twice by youth characteristics

Characteristics	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		2000	
	%	Wave 2 %	%	Wave 2 95% CI	(Average Wave 1 and Wave 2) %	95% CI
All youth aged 9 to 18						
9 to 11	57.2	52.3	-4.9	(-10.2, 0.4)	54.8	(52.1, 57.4)
12 to 13	48.1	49.0	0.9	(-5.1, 6.9)	48.6	(45.5, 51.6)
14 to 15	40.7	42.2	1.5	(-6.2, 9.2)	41.5	(37.6, 45.3)
16 to 18	36.9	32.1	-4.8	(-11.9, 2.3)	34.5	(31.0, 38.0)
14 to 18	38.6	36.9	-1.7	(-6.9, 3.5)	37.8	(35.1, 40.4)
Youth aged 9 to 18						
Males	45.4	42.3	-3.1	(-7.9, 1.7)	43.9	(41.5, 46.2)
Females	47.4	46.2	-1.2	(-6.1, 3.7)	46.8	(44.3, 49.3)
White	48.5	44.9	-3.6	(-7.9, 0.7)	46.7	(44.5, 48.9)
African American	48.1	44.0	-4.1	(-14.3, 6.1)	46.1	(40.9, 51.2)
Hispanic	35.8	41.7	5.9	(-4.4, 16.2)	38.8	(33.6, 43.9)
Northeast	46.3	43.0	-3.3	(-12.4, 5.8)	44.7	(40.1, 49.2)
South	46.8	46.7	-0.1	(-6.8, 6.6)	46.8	(43.4, 50.1)
Midwest	47.0	44.5	-2.5	(-9.0, 4.0)	45.8	(42.5, 49.0)
West	45.8	41.5	-4.3	(-11.9, 3.3)	43.7	(39.9, 47.4)
Urban	43.9	43.9	0.0	(-6.9, 6.9)	43.9	(40.4, 47.4)
Suburban	51.0	44.0	-7.0	(-14.7, 0.7)	47.5	(43.6, 51.4)
Rural	45.6	44.5	-1.1	(-6.0, 3.8)	45.1	(42.6, 47.5)
Sensation Seeking						
High	41.1	40.6	-0.5	(-5.6, 4.6)	40.9	(38.3, 43.4)
Low	51.2	47.6	-3.6	(-8.9, 1.7)	49.4	(46.8, 52.0)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²These questions were repeated separately for each sample child.

Table 9-17. Specific belief that parental¹ monitoring² will make it less likely their child will use any drug nearly every month by youth characteristics

'Characteristics	Percent of parents holding strong belief that parental monitoring will make it less likely their child will use any drug nearly every month					
	Wave 1		Wave 2		2000	
	%	Wave 2 %	%	Wave 2 95% CI	(Average Wave 1 and Wave 2) %	95% CI
All youth aged 12 to 18						
12 to 13	51.8	54.4	2.6	(-3.1, 8.3)	53.1	(50.3, 55.9)
14 to 15	44.7	50.1	5.4	(-2.0, 12.8)	47.4	(43.7, 51.1)
16 to 18	39.1	36.5	-2.6	(-9.8, 4.6)	37.8	(34.2, 41.4)
14 to 18	41.6	42.9	1.3	(-3.9, 6.5)	42.3	(39.7, 44.8)
Youth aged 12 to 18						
Males	43.4	44.9	1.5	(-4.3, 7.3)	44.2	(41.2, 47.1)
Females	45.7	47.7	2.0	(-4.1, 8.1)	46.7	(43.7, 49.7)
White	48.1	47.4	-0.7	(-5.6, 4.2)	47.8	(45.3, 50.2)
African American	40.8	44.4	3.6	(-8.7, 15.9)	42.6	(36.5, 48.7)
Hispanic	33.5	42.8	9.3	(-1.3, 19.9)	38.2	(32.8, 43.5)
Northeast	52.5	46.7	-5.8	(-15.7, 4.1)	49.6	(44.6, 54.6)
South	45.0	46.5	1.5	(-6.7, 9.7)	45.8	(41.7, 49.8)
Midwest	48.2	39.0	-9.2	* (-17.9, -0.5)	43.6	(39.2, 48.0)
West	42.6	47.3	4.7	(-3.1, 12.5)	45.0	(41.1, 48.8)
Urban	40.6	45.8	5.2	(-2.8, 13.2)	43.2	(39.2, 47.2)
Suburban	47.4	49.3	1.9	(-7.5, 11.3)	48.4	(43.6, 53.1)
Rural	46.0	44.9	-1.1	(-7.1, 4.9)	45.5	(42.5, 48.4)
Sensation Seeking						
High	42.3	42.6	0.3	(-5.3, 5.9)	42.5	(39.7, 45.2)
Low	47.2	50.2	3.0	(-3.5, 9.5)	48.7	(45.4, 52.0)

¹All parents and caregivers of youth aged 12 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-18. Specific belief that parental¹ monitoring² will make their child feel they are invading his/her privacy by youth characteristics

Characteristics	Percent of parents holding strong belief that parental monitoring will make their child feel they are invading his/her privacy (disagree)				
	Wave 1		Wave 2		2000
	%	%	%	95% CI	(Average Wave 1 and Wave 2) % 95% CI
All youth aged 9 to 18					
9 to 11	24.6	22.4	-2.2	(-6.7, 2.3)	23.5 (21.2, 25.8)
12 to 13	18.0	18.8	0.8	(-4.2, 5.8)	18.4 (15.9, 20.9)
14 to 15	16.9	12.7	-4.2	(-9.8, 1.4)	14.8 (12.0, 17.6)
16 to 18	14.7	13.9	-0.8	(-7.0, 5.4)	14.3 (11.2, 17.4)
14 to 18	15.7	13.3	-2.4	(-6.5, 1.7)	14.5 (12.4, 16.6)
Youth aged 9 to 18					
Males	19.0	15.8	-3.2	(-6.6, 0.2)	17.4 (15.7, 19.1)
Females	18.9	18.8	-0.1	(-3.8, 3.6)	18.9 (17.0, 20.7)
White	16.4	13.9	-2.5	(-5.6, 0.6)	15.2 (13.6, 16.7)
African American	26.3	22.7	-3.6	(-11.4, 4.2)	24.5 (20.6, 28.4)
Hispanic	21.9	22.7	0.8	(-8.1, 9.7)	22.3 (17.8, 26.8)
Northeast	15.7	15.3	-0.4	(-12.2, 11.4)	15.5 (9.6, 21.4)
South	17.1	8.1	-9.0	* (-14.6, -3.4)	12.6 (9.8, 15.4)
Midwest	11.1	15.8	4.7	(-2.7, 12.1)	13.5 (9.7, 17.2)
West	19.9	16.8	-3.1	(-12.3, 6.1)	18.4 (13.8, 22.9)
Urban	21.4	18.9	-2.5	(-7.9, 2.9)	20.2 (17.4, 22.9)
Suburban	19.7	16.6	-3.1	(-7.9, 1.7)	18.2 (15.8, 20.5)
Rural	16.6	16.5	-0.1	(-4.0, 3.8)	16.6 (14.6, 18.5)
Sensation Seeking					
High	16.2	13.3	-2.9	(-6.2, 0.4)	14.8 (13.1, 16.4)
Low	21.8	19.8	-2.0	(-5.8, 1.8)	20.8 (18.9, 22.7)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²These questions were repeated separately for each sample child.

Table 9-19. Summary scale of specific beliefs about effectiveness of parental¹ monitoring² by youth characteristics

Characteristics	Summary scale of specific beliefs about effectiveness of parental monitoring (-2 to +2) (where higher scores represent stronger pro-monitoring beliefs) ³				
	Wave 1		Wave 2		2000
	Mean	Estimate	Mean	Estimate	(Average Wave 1 and Wave 2) Estimate
All youth aged 12 to 18					
12 to 13	1.12	0.03	1.15	0.03	1.14
14 to 15	1.05	-0.03	1.02	-0.03	1.04
16 to 18	0.89	0.01	0.90	0.01	0.90
14 to 18	0.96	0.00	0.96	0.00	0.96
Youth aged 12 to 18					
Males	1.07	0.00	1.07	0.00	1.07
Females	1.11	-0.01	1.10	-0.01	1.11
White	1.13	-0.03	1.10	-0.03	1.12
African American	1.09	0.00	1.09	0.00	1.09
Hispanic	0.90	0.13	1.03	0.13	0.97
Northeast	1.11	-0.05	1.06	-0.05	1.09
South	1.10	0.00	1.10	0.00	1.10
Midwest	1.08	0.04	1.12	0.04	1.10
West	1.08	-0.03	1.05	-0.03	1.07
Urban	1.01	0.08	1.09	0.08	1.05
Suburban	1.17	-0.08	1.09	-0.08	1.13
Rural	1.10	-0.02	1.08	-0.02	1.09

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

³Since parents of children aged 9 to 11 were not asked about the effect of monitoring on their child's regular use of drugs, the summary scale is based on answers to the remaining four items displayed in this table.

Table 9-20. Specific intention to perform parental¹ monitoring² by requiring child to be home at specific time at night by age of child

Age of child	Percent of parents reporting strong intentions to require child to be home at specific time at night							
	Wave 1		Wave 2		Change Wave 1 to Wave 2			
	%	95% CI	%	95% CI	%	95% CI		
9 to 11	92.2	(90.9, 93.4)	92.1	(90.9, 93.4)	-0.1	(-2.6, 2.4)	92.2	(90.9, 93.4)
12 to 13	85.4	(85.1, 88.9)	88.6	(85.1, 88.9)	3.2	(-0.7, 7.1)	87.0	(85.1, 88.9)
14 to 15	84.0	(81.2, 87.2)	84.4	(81.2, 87.2)	0.4	(-5.7, 6.5)	84.2	(81.2, 87.2)
16 to 18	69.2	(67.2, 74.4)	72.4	(67.2, 74.4)	3.2	(-4.1, 10.5)	70.8	(67.2, 74.4)
14 to 18	76.0	(74.4, 79.6)	78.0	(74.4, 79.6)	2.0	(-3.2, 7.2)	77.0	(74.4, 79.6)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-21. Specific intention to perform parental¹ monitoring² by limiting the time child spends with other children without adult supervision by age of child

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		2000	
	%	%	%	%	(Average Wave 1 and Wave 2) %	95% CI
9 to 11	67.9	68.1	0.2	(-4.6, 5.0)	68.0	(65.6, 70.4)
12 to 13	58.4	59.1	0.7	(-5.3, 6.7)	58.8	(55.8, 61.7)
14 to 15	48.7	50.0	1.3	(-6.9, 9.5)	49.4	(45.3, 53.4)
16 to 18	27.3	23.7	-3.6	(-10.6, 3.4)	25.5	(22.0, 29.0)
14 to 18	37.0	36.0	-1.0	(-6.4, 4.4)	36.5	(33.8, 39.2)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-22. Specific intention to perform parental¹ monitoring² by knowing what child is doing when s/he is away from home by age of child

Age of child	Percent of parents reporting strong intentions to know what child is doing when s/he is away from home					
	Wave 1	Wave 2	Change Wave 1 to Wave 2		2000	
	%	%	%	95% CI	(Average Wave 1 and Wave 2) %	95% CI
9 to 11	75.2	75.5	0.3	(-4.0, 4.6)	75.4	(73.2, 77.5)
12 to 13	65.9	67.4	1.5	(-3.4, 6.4)	66.7	(64.2, 69.1)
14 to 15	62.1	64.3	2.2	(-5.4, 9.8)	63.2	(59.4, 67.0)
16 to 18	46.9	51.7	4.8	(-3.1, 12.7)	49.3	(45.4, 53.2)
14 to 18	53.9	57.6	3.7	(-2.0, 9.4)	55.8	(52.9, 58.6)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-23. Specific intention to perform parental¹ monitoring² by personally knowing child's friends well by age of child

Age of child	Percent of parents reporting strong intentions to personally know child's friends well					
	Wave 1		Wave 2		2000	
	%	%	%	%	(Average Wave 1 and Wave 2)	95% CI
9 to 11	64.4	65.2	0.8	(-3.8, 5.4)	64.8	(62.5, 67.1)
12 to 13	55.8	60.2	4.4	(-0.8, 9.6)	58.0	(55.4, 60.6)
14 to 15	54.8	55.8	1.0	(-6.6, 8.6)	55.3	(51.5, 59.1)
16 to 18	44.9	47.7	2.8	(-5.3, 10.9)	46.3	(42.2, 50.4)
14 to 18	49.4	51.5	2.1	(-3.7, 7.9)	50.5	(47.6, 53.3)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-24. Specific intention to perform parental¹ monitoring² by knowing what child's plans are for the coming day by age of child

Age of child	Percent of parents reporting strong intentions to know what child's plans are for the coming day				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	2000 (Average Wave 1 and Wave 2) %	95% CI
9 to 11	68.9	71.8	2.9	70.4	(67.8, 72.9)
12 to 13	60.9	61.5	0.6	61.2	(58.5, 63.9)
14 to 15	52.7	56.4	3.7	54.6	(50.2, 58.9)
16 to 18	43.2	45.6	2.4	44.4	(40.1, 48.7)
14 to 18	47.5	50.7	3.2	49.1	(45.9, 52.3)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-25. Summary scale of specific intentions to perform parental¹ monitoring² by youth characteristics

Characteristics	Summary scale of parents reporting strong intentions to perform parental monitoring (where higher scores represent stronger pro-monitoring intentions)					
	Wave 1		Wave 2		2000	
	Mean	Estimate	Mean	Estimate	(Average Wave 1 and Wave 2)	95% CI
	Change Wave 1 to Wave 2 (-2 to +2)					
All youth aged 9 to 18						
9 to 11	1.62	0.00	1.62	0.00	1.62	(1.59, 1.65)
12 to 13	1.51	0.03	1.54	0.03	1.53	(1.50, 1.55)
14 to 15	1.39	0.04	1.43	0.04	1.41	(1.36, 1.46)
16 to 18	1.06	0.04	1.10	0.04	1.08	(1.02, 1.14)
14 to 18	1.21	0.04	1.25	0.04	1.23	(1.19, 1.27)
Youth aged 9 to 18						
Males	1.38	0.01	1.39	0.01	1.39	(1.35, 1.42)
Females	1.42	0.05	1.47	0.05	1.45	(1.42, 1.47)
White	1.41	0.04	1.45	0.04	1.43	(1.40, 1.46)
African American	1.38	0.00	1.38	0.00	1.38	(1.32, 1.44)
Hispanic	1.35	0.02	1.37	0.02	1.36	(1.30, 1.42)
Northeast	1.45	-0.01	1.44	-0.01	1.45	(1.39, 1.50)
South	1.41	0.02	1.43	0.02	1.42	(1.38, 1.46)
Midwest	1.36	0.07	1.43	0.07	1.40	(1.35, 1.44)
West	1.39	0.01	1.40	0.01	1.40	(1.36, 1.43)
Urban	1.34	0.04	1.38	0.04	1.36	(1.32, 1.40)
Suburban	1.46	0.02	1.48	0.02	1.47	(1.43, 1.51)
Rural	1.41	0.02	1.43	0.02	1.42	(1.39, 1.45)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These questions were repeated separately for each sample child.

Table 9-26. Summary measures of general attitudes toward parental¹ monitoring² by youth characteristics

Characteristics	Summary scale of general attitude toward parental monitoring (1 to 7) (where higher score represents stronger pro-monitoring attitudes)					
	Wave 1 Mean	Wave 2 Mean	Change Wave 1 to Wave 2		2000 (Average Wave 1 and Wave 2) Estimate	95% CI
			Estimate	95% CI		
All Youth aged 9 to 18						
9 to 11	6.52	6.51	-0.01	(-0.1, 0.0)	6.52	(6.49, 6.54)
12 to 13	6.36	6.35	-0.01	(-0.1, 0.1)	6.36	(6.31, 6.40)
14 to 15	6.15	6.19	0.04	(-0.1, 0.2)	6.17	(6.10, 6.24)
16 to 18	5.91	5.96	0.05	(-0.1, 0.2)	5.94	(5.86, 6.01)
14 to 18	6.02	6.07	0.05	(-0.1, 0.2)	6.05	(5.99, 6.10)
Youth aged 9 to 18						
Males	6.20	6.22	0.02	(-0.1, 0.1)	6.21	(6.16, 6.26)
Females	6.29	6.32	0.03	(-0.1, 0.1)	6.31	(6.26, 6.35)
White	6.20	6.23	0.03	(-0.1, 0.1)	6.22	(6.17, 6.26)
African American	6.34	6.26	-0.08	(-0.2, 0.1)	6.30	(6.22, 6.38)
Hispanic	6.40	6.45	0.05	(-0.1, 0.2)	6.43	(6.35, 6.50)
Northeast	6.28	6.29	0.01	(-0.1, 0.2)	6.29	(6.21, 6.36)
South	6.34	6.29	-0.05	(-0.2, 0.1)	6.32	(6.26, 6.37)
Midwest	6.11	6.28	0.17	*(0.0, 0.3)	6.20	(6.13, 6.26)
West	6.23	6.22	-0.01	(-0.2, 0.1)	6.23	(6.15, 6.30)
Urban	6.22	6.31	0.09	(0.0, 0.2)	6.27	(6.20, 6.33)
Suburban	6.33	6.18	-0.15	*(-0.3, 0.0)	6.26	(6.19, 6.32)
Town and Rural	6.22	6.28	0.06	(-0.1, 0.2)	6.25	(6.19, 6.31)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²These questions were repeated separately for each sample child.

Table 9-27. Use of marijuana among youth aged 9 to 18 as reported by parents¹ and their children² by youth characteristics

Characteristics	Percent of youth who have never used marijuana in the past 12 months											
	Parent					Child						
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) %	95% CI	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI		
All Youth aged 9 to 18												
9 to 11	99.8	99.9	0.1	(-0.2, 0.2)	99.9	(99.7, 100.0)	99.2	100.0	0.8	(-0.4, 0.8)	99.6	(99.0, 100.0)
12 to 13	97.1	98.6	1.5	* (0.1, 2.9)	97.9	(97.1, 98.6)	96.7	96.8	0.1	(-2.0, 2.2)	96.8	(95.7, 97.8)
14 to 15	91.0	90.3	-0.7	(-5.9, 4.5)	90.7	(88.1, 93.2)	88.8	88.5	-0.3	(-6.2, 5.6)	88.7	(85.7, 91.6)
16 to 18	80.5	81.6	1.1	(-4.7, 6.9)	81.1	(78.1, 84.0)	71.0	70.7	-0.3	(-7.2, 6.6)	70.9	(67.4, 74.3)
14 to 18	85.3	85.7	0.4	(-3.5, 4.3)	85.5	(83.5, 87.5)	79.0	79.0	0.0	(-4.4, 4.4)	79.0	(76.8, 81.2)

Table 9-27. Use of marijuana among youth aged 14 to 18 as reported by parents¹ and their children² by youth characteristics (continued)

Characteristics	Percent of youth who have never used marijuana in the past 12 months					
	Parent		Child		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
Youth aged 14 to 18						
Males	85.2	82.2	-3.0	(-9.2, 3.2)	83.7	(80.6, 86.8)
	77.0	76.0	-1.0	(-8.3, 6.3)	76.5	(72.8, 80.2)
Females	85.4	89.4	4.0	(-1.6, 9.6)	87.4	(84.6, 90.2)
	81.0	82.2	1.2	(-4.2, 6.6)	81.6	(78.9, 84.3)
White	84.9	84.2	-0.7	(-5.5, 4.1)	84.6	(82.2, 86.9)
	78.1	76.5	-1.6	(-7.4, 4.2)	77.3	(74.4, 80.2)
African American	87.0	85.7	-1.3	(-12.2, 9.6)	86.4	(80.9, 91.8)
	84.2	80.2	-4.0	(-14.6, 6.6)	82.2	(76.9, 87.5)
Hispanic	85.2	91.4	6.2	(-2.9, 14.8)	88.3	(83.8, 92.8)
	79.1	87.1	8.0	(-2.0, 18.0)	83.1	(78.1, 88.1)
Northeast	83.4	85.3	1.9	(-6.9, 10.7)	84.4	(79.9, 88.8)
	77.2	86.9	9.7	*(1.2, 18.2)	82.1	(77.8, 86.3)
South	88.4	89.2	0.8	(-4.5, 6.1)	88.8	(86.2, 91.4)
	81.1	81.6	0.5	(-5.6, 6.6)	81.4	(78.3, 84.4)
Midwest	85.6	87.6	2.0	(-6.8, 10.8)	86.6	(82.2, 91.0)
	80.8	79.0	-1.8	(-10.1, 6.5)	79.9	(75.8, 84.0)
West	81.6	79.6	-2.0	(-9.9, 5.9)	80.6	(76.6, 84.6)
	75.2	71.3	-3.9	(-13.9, 6.1)	73.3	(68.2, 78.3)
Urban	82.8	85.9	3.1	(-4.4, 10.6)	84.4	(80.6, 88.1)
	76.7	78.9	2.2	(-5.1, 9.5)	77.8	(74.2, 81.4)
Suburban	85.6	81.2	-4.4	(-12.5, 3.7)	83.4	(79.4, 87.4)
	78.6	76.3	-2.3	(-10.6, 6.0)	77.5	(73.3, 81.6)
Rural	87.0	87.7	0.7	(-5.0, 6.4)	87.4	(84.5, 90.2)
	80.9	80.5	-0.4	(-7.4, 6.6)	80.7	(77.2, 84.2)

Table 9-27. Use of marijuana among youth aged 14 to 18 as reported by parents¹ and their children² by youth characteristics (continued)

Characteristics	Parent						Child	
	Percent of youth who have never used marijuana in the past 12 months						2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2		(Average Wave 1 and Wave 2) %	95% CI		
Sensation Seeking High	80.4	81.4	1.0	1.0	80.9	(78.4, 83.4)		
	70.5	69.4	-1.1	^2))))),1)&"") * (-1.1, -1.1)	70.0	(66.9, 73.0)		
Low	92.8	91.3	-1.5	* (-1.5, -1.5)	92.1	(89.4, 94.7)		
	92.6	91.7	-0.9	* (-0.9, -0.9)	92.2	(89.7, 94.6)		

¹All parents and caregivers of youth aged 14 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 9-28. Intentions to use marijuana once or twice among youth aged 9 to 18 as reported by parents¹ and their children² by youth characteristics

Characteristics	Parent		Child		2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI
All Youth aged 9 to 18						
9 to 11	N/A N/A	93.7 96.1	N/A N/A	N/A N/A	93.7 96.1	(91.1-95.6) (94.0-97.4)
12 to 13	86.4 87.5	89.0 89.8	2.6 2.3	(-1.2, 6.4) (-1.1, 5.7)	87.7 88.7	(85.8, 89.6) (87.0, 90.3)
14 to 15	75.3 75.3	78.1 78.5	2.8 3.2	(-3.6, 9.2) (-3.3, 9.7)	76.7 76.9	(73.5, 79.9) (73.7, 80.1)
16 to 18	69.8 59.2	74.7 63.4	4.9 4.2	(-2.4, 12.2) (-2.5, 10.9)	72.3 61.3	(68.6, 75.9) (58.0, 64.6)
14 to 18	72.3 66.4	76.3 70.4	4.0 4.0	(-0.6, 8.6) (-0.2, 8.2)	74.3 68.4	(72.0, 76.6) (66.3, 70.5)

Table 9-28. Intentions to use marijuana once or twice among youth aged 12 to 18 as reported by parents¹ and their children² by youth characteristics (continued)

Characteristics	Percent of teens who definitely will not use or children who very unlikely will use marijuana even once or twice in the next 12 months									
	Parent					Child				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	2000 (Average Wave 1 and Wave 2) %	95% CI	95% CI	95% CI	95% CI	95% CI
Youth aged 12 to 13										
Males	84.7	88.8	4.1	(-0.8, 9.0)	86.8	(84.3, 89.2)				
	85.2	87.5	2.3	(-2.7, 7.3)	86.4	(83.9, 88.8)				
Females	88.2	89.3	1.1	(-4.5, 6.7)	88.8	(85.9, 91.6)				
	90.0	92.2	2.2	(-1.8, 6.2)	91.1	(89.1, 93.1)				
White	88.7	90.9	2.2	(-2.3, 6.7)	89.8	(87.5, 92.1)				
	88.2	92.0	3.8	*(0.3, 7.3)	90.1	(88.3, 91.9)				
African American	81.0	79.6	-1.4	(-14.7, 11.9)	80.3	(73.7, 86.9)				
	92.6	84.9	-7.7	(-16.4, 1.0)	88.8	(84.4, 93.1)				
Hispanic	80.2	89.2	9.0	(-0.7, 18.7)	84.7	(79.9, 89.5)				
	81.6	82.5	0.9	(-11.1, 12.9)	82.1	(76.1, 88.0)				
Northeast	88.6	95.3	6.7	(0.0, 11.4)	92.0	(88.6, 95.3)				
	94.6	93.0	-1.6	(-8.0, 4.8)	93.8	(90.6, 97.0)				
South	86.0	84.7	-1.3	(-8.4, 5.8)	85.4	(81.8, 88.9)				
	88.9	88.5	-0.4	(-6.0, 5.2)	88.7	(85.9, 91.5)				
Midwest	85.3	91.6	6.3	(-0.9, 13.5)	88.5	(84.9, 92.0)				
	83.8	88.3	4.5	(-4.1, 13.1)	86.1	(81.8, 90.3)				
West	86.4	88.3	1.9	(-6.9, 10.7)	87.4	(82.9, 91.8)				
	83.1	90.8	7.7	*(1.4, 14.0)	87.0	(83.8, 90.1)				
Urban	84.2	88.0	3.8	(-2.4, 10.0)	86.1	(83.0, 89.2)				
	86.7	89.8	3.1	(-3.2, 9.4)	88.3	(85.1, 91.4)				
Suburban	85.5	88.8	3.3	(-4.1, 10.7)	87.2	(83.5, 90.8)				
	88.1	89.4	1.3	(-5.1, 7.7)	88.8	(85.5, 92.0)				
Rural	88.9	90.0	1.1	(-4.8, 7.0)	89.5	(86.5, 92.4)				
	87.9	90.0	2.1	(-3.5, 7.7)	89.0	(86.1, 91.8)				

Table 9-28. Intentions to use marijuana once or twice among youth aged 12 to 18 as reported by parents¹ and their children² by youth characteristics (continued)

Characteristics	Percent of teens who definitely will not use or children who very unlikely will use marijuana even once or twice in the next 12 months					
	Parent			Child		
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	Wave 1 to Wave 2 95% CI	(Average Wave 1 and Wave 2) %	2000 95% CI
Sensation Seeking						
High	82.9 76.7	85.8 80.1	2.9 3.4	* (2.9, 2.9) * (3.4, 3.4)	84.4 78.4	(81.5, 87.2) (75.2, 81.6)
Low	88.9 95.5	91.2 97.0	2.3 1.5	* (2.3, 2.3) * (1.5, 1.5)	90.1 96.3	(87.7, 92.4) (94.9, 97.6)

Table 9-28. Intentions to use marijuana once or twice among youth aged 12 to 18 as reported by parents¹ and their children² by youth characteristics (continued)

Characteristics	Wave 1		Wave 2		Change Wave 1 to Wave 2		2000	
	%	%	%	%	%	95% CI	(Average Wave 1 and Wave 2)	95% CI
Youth aged 14 to 18								
Males	70.0	72.3	2.3	(-3.2, 7.8)	71.2	(67.5, 74.8)		
	63.9	69.5	5.6	* (5.6, 5.6)	66.7	(62.8, 70.6)		
Females	74.7	80.6	5.9	(-5.7, 17.5)	77.7	(74.4, 80.9)		
	68.9	71.3	2.4	* (2.4, 2.4)	70.1	(66.8, 73.4)		
White	72.5	76.4	3.9	(-6.7, 14.5)	74.5	(71.8, 77.1)		
	66.0	67.7	1.7	* (1.7, 1.7)	66.9	(64.1, 69.6)		
African American	71.9	73.0	1.1	(-8.9, 11.1)	72.5	(66.0, 78.9)		
	67.5	71.1	3.6	* (3.6, 3.6)	69.3	(63.5, 75.1)		
Hispanic	72.6	77.2	4.6	(-1.6, 10.8)	74.9	(69.6, 80.2)		
	67.7	80.5	12.8	* (12.8, 12.8)	74.1	(68.8, 79.4)		
Northeast	69.8	75.3	5.5	(-3.9, 14.9)	72.6	(67.2, 77.9)		
	61.1	73.1	12.0	* (12.0, 12.0)	67.1	(62.1, 72.1)		
South	75.1	79.6	4.5	(-5.2, 14.2)	77.4	(73.6, 81.1)		
	68.9	71.6	2.7	* (2.7, 2.7)	70.3	(67.1, 73.4)		
Midwest	70.8	76.7	5.9	(-2.6, 14.4)	73.8	(68.5, 79.0)		
	71.0	68.8	-2.2	* (-2.2, -2.2)	69.9	(65.2, 74.6)		
West	72.0	72.4	0.4	(-8.8, 9.6)	72.2	(68.6, 75.8)		
	60.5	68.2	7.7	* (7.7, 7.7)	64.4	(59.5, 69.2)		
Urban	69.7	76.6	6.9	* (0.2, 13.6)	73.2	(69.2, 77.1)		
	64.1	71.4	7.3	* (7.3, 7.3)	67.8	(63.5, 72.0)		
Suburban	76.3	72.0	-4.3	(-11.2, 2.6)	74.2	(69.8, 78.5)		
	65.8	69.8	4.0	(-2.1, 10.1)	67.8	(63.2, 72.4)		
Rural	72.1	78.2	6.1	(-0.1, 12.3)	75.2	(71.6, 78.7)		
	68.5	69.9	1.4	(-5.1, 7.9)	69.2	(65.9, 72.5)		

Table 9-28. Intentions to use marijuana once or twice among youth aged 12 to 18 as reported by parents¹ and their children² by youth characteristics (continued)

Characteristics	Percent of teens who definitely will not use or children who very unlikely will use marijuana even once or twice in the next 12 months				
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	Parent Child 95% CI	2000 (Average Wave 1 and Wave 2) % 95% CI
Sensation Seeking					
High	66.7 55.6	71.5 58.0	4.8 2.4	* (4.8, 4.8) * (2.4, 2.4)	69.1 56.8 (65.6, 72.6) (53.7, 59.9)
Low	80.9 84.0	82.5 87.4	1.6 3.4	* (1.6, 1.6) * (3.4, 3.4)	81.7 85.7 (78.6, 84.8) (82.5, 88.9)

¹All parents and caregivers of youth aged 9 to 18 who live with their children.

²These parent questions were repeated separately for each sample child.

Table 9-29. Intentions to use marijuana regularly among youth aged 9 to 18 as reported by parents¹ and their children² by youth characteristics

Characteristics	Parent						Child	
	Percent of teens who definitely will not use or children who very unlikely will use marijuana regularly in the next 12 months						2000	
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2 %	95% CI	(Average Wave 1 and Wave 2) %	95% CI		
All Youth aged 9 to 18								
9 to 11	95.0 N/A	94.9 96.1	-0.1 N/A	(-2.6, 2.4) N/A	95.0 96.1	(93.7, 96.2) (94.1-97.5)		
12 to 13	90.7 94.4	92.5 96.1	1.8 1.7	(-1.4, 5.0) (-1.5, 4.9)	91.6 95.3	(90.0, 93.2) (93.7, 96.8)		
14 to 15	83.4 89.6	85.2 89.6	1.8 0.0	(-3.7, 7.3) (-4.6, 4.6)	84.3 89.6	(81.6, 87.0) (87.3, 91.9)		
16 to 18	76.1 76.2	79.1 74.5	3.0 -1.7	(-3.5, 9.5) (-7.2, 3.8)	77.6 75.4	(74.4, 80.8) (72.6, 78.1)		
14 to 18	79.4 82.2	82.0 81.5	2.6 -0.7	(-1.3, 6.5) (-4.3, 2.9)	80.7 81.9	(78.8, 82.6) (80.0, 83.7)		

Table 9-29. Intentions to use marijuana regularly among youth aged 9 to 18 as reported by parents¹ and their children² by youth characteristics (continued)

Characteristics	Parent						Child		
	Percent of teens who definitely will not use or children who very unlikely will use marijuana regularly in the next 12 months						2000		
	Wave 1 %	Wave 2 %	Change Wave 1 to Wave 2		Wave 2 %	(Average Wave 1 and Wave 2) %	95% CI	95% CI	
Youth aged 14 to 18									
Males	79.6	77.9	-1.7	(-8.2, 4.8)	78.8	(75.5, 82.0)			
	80.2	79.2	-1.0	(-7.4, 5.4)	79.7	(76.5, 82.9)			
Females	79.1	86.3	7.2	*(1.4, 13.0)	82.7	(79.8, 85.6)			
	84.3	84.0	-0.3	(-5.6, 5.0)	84.2	(81.5, 86.8)			
White	82.2	82.2	0.0	(-4.6, 4.6)	82.2	(79.9, 84.5)			
	83.1	80.6	-2.5	(-7.4, 2.4)	81.9	(79.4, 84.3)			
African American	74.0	81.3	7.3	(-3.7, 18.3)	77.7	(72.2, 83.1)			
	86.2	82.5	-3.7	(-13.0, 5.6)	84.4	(79.7, 89.0)			
Hispanic	72.8	80.8	8.0	(-2.8, 18.8)	76.8	(71.4, 82.2)			
	76.1	86.1	10.0	*(0.7, 19.3)	81.1	(76.4, 85.8)			
Northeast	76.4	83.5	7.1	(-2.6, 16.8)	80.0	(75.1, 84.8)			
	79.3	82.7	3.4	(-6.1, 12.9)	81.0	(76.3, 85.7)			
South	81.7	83.2	1.5	(-4.9, 7.9)	82.5	(79.3, 85.6)			
	84.5	84.8	0.3	(-4.9, 5.5)	84.7	(82.1, 87.2)			
Midwest	79.5	83.4	3.9	(-5.7, 13.5)	81.5	(76.6, 86.3)			
	86.9	80.5	-6.4	(-15.0, 2.2)	83.7	(79.4, 88.0)			
West	78.6	77.9	-0.7	(-7.2, 5.8)	78.3	(75.0, 81.5)			
	74.2	77.7	3.5	(-3.7, 10.7)	76.0	(72.4, 79.5)			
Urban	75.7	81.0	5.3	(-1.6, 12.2)	78.4	(74.9, 81.8)			
	80.9	81.0	0.1	(-6.9, 7.1)	81.0	(77.4, 84.5)			
Suburban	83.3	81.0	-2.3	(-10.1, 5.5)	82.2	(78.3-85.5)			
	81.5	80.8	-0.7	(-9.0, 7.6)	81.2	(76.5-85.1)			
Rural	80.1	83.1	3.0	(-3.2, 9.2)	81.6	(78.5, 84.7)			
	83.6	82.2	-1.4	(-7.2, 4.4)	82.9	(80.0, 85.8)			
Sensation Seeking									
High	75.6	77.9	2.3	(-3.2, 7.8)	76.8	(74.0, 79.5)			
	75.3	73.1	-2.2	(-7.8, 3.4)	74.2	(71.4, 77.0)			
Low	84.6	86.8	2.2	(-3.4, 7.8)	85.7	(82.9, 88.5)			
	93.2	92.9	-0.3	(-4.5, 3.9)	93.1	(91.0, 95.1)			

¹All parents and caregivers of youth aged 9 to 18 who live with their children.²These parent questions were repeated separately for each sample child.

Table 10-1. The relationship between exposure to general anti-drug advertising and youth cognitions among youth 12-18 years old who have not previously tried marijuana November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Percent definitely not intending to try marijuana	87.4 (86.0-88.8)	85.0 (78.7-89.6)	86.4 (83.1-89.2)	88.2 (86.2-89.9)	2.4 (-2.5,7.5)		3.2 (-2.6,9.0)
Percent whose friends strongly disapprove of marijuana	61.7 (58.7-64.6)	59.2 (48.7-69.0)	62.5 (56.0-68.5)	61.0 (57.1-64.8)	2.5 (-6.9,11.9)		1.8 (-9.0,12.6)
Percent whose parents strongly disapprove of marijuana	94.8 (92.5-96.4)	92.8 (85.9-96.5)	94.4 (91.2-96.5)	95.9 (93.0-97.6)	2 (-2.1,5.9)		3.1 (-1.3,7.5)
Percent who strongly disapprove of occasional marijuana use	52.3 (50.0-54.6)	56.0 (49.5-62.3)	46.1 (41.8-50.4)	54.9 (51.9-57.9)	-3.7 (-9.7,2.3)		-1.1 (8.5,6.2)
Percent believing that few or none of their peers have used marijuana in the past 12 months (4)	45.4 (43.3-47.6)	52.7 (47.7-57.7)	43.9 (39.6-48.2)	44.1 (41.0-47.3)	-7.3 (-12.2,-2.5)	*	-8.6 (-14.6,-2.6)
Percent perceiving great risk of harm from occasional marijuana use	35.7 (33.4-38.1)	35.9 (31.7-40.4)	32.6 (28.6-37.0)	38.0 (35.0-41.2)	-0.2 (-4.5,4.1)		2.1 (-3.3,7.5)

Table 10-1. The relationship between exposure to general anti-drug advertising and youth cognitions among youth 12-18 years old who have not previously tried marijuana (continued)
November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship? (C4-C2)	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)			
Mean attitude scale toward marijuana trial (1) 1 = strong pro-drug / 7 = strong anti drug	6.56 (6.49-6.64)	6.47 (6.14-6.80)	6.63 (6.53-6.74)	6.55 (6.42-6.67)	0.09 (-0.22,0.41)		0.08 (-0.29,0.44)
Mean self-efficacy scale for refusing marijuana offers (2) -2 = cannot resist / +2 = can resist	1.65 (1.61-1.69)	1.55 (1.44-1.67)	1.61 (1.51-1.71)	1.71 (1.66-1.76)	0.1 (-0.02,0.21)	*	0.16 (0.03,0.28)
Mean belief scale about consequences of marijuana trial (3) -2 = strong pro-drug / +2 = strong anti-drug	0.71 (0.66-0.76)	0.58 (0.45-0.71)	0.74 (0.65-0.84)	0.72 (0.66-0.78)	0.13 (0.01,0.24)	*	0.14 (0.00,0.28)

(1) See table 7-6 for full distribution. Attitude scale based on 2 questions asking the degree to which using marijuana even once or twice in the next 6 months would be good/bad (C4a), and enjoyable/unenjoyable (C5a).

(2) See table 7-23 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).

(3) See table 7-7 for full distribution. Belief scale based on 8 questions asking how likely it is that youth would: upset their parents/caregivers (C3aa); get in trouble with the law (C3ab); lose control of myself (C3ac); start using stronger drugs (C3ad); be more relaxed (C3ae); have a good time with my friends (C3af); feel better (C3ag); be like the coolest kids (C3ah); if they used marijuana even once or twice over the next 6 months.

(4) See table 7-5 for full distribution. Peers are defined as kids in their own grade at school for youth still in school and as kids their own age for others.

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 10-1A. The relationship between exposure to general anti-drug advertising and youth cognitions among youth 12-13 years old who have not previously tried marijuana
November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)			Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)			
Percent definitely not intending to try marijuana	92.2 (90.5-93.7)	94.9 (91.1-97.1)	92.4 (89.1-94.8)	91.7 (89.5-93.5)	-2.7 (-5.5,0.2)	-3.2 (-6.8,0.4)
Percent whose friends strongly disapprove of marijuana	70.6 (66.9-74.0)	70.3 (60.6-78.4)	73.6 (66.4-79.7)	68.3 (63.4-72.8)	0.3 (-7.7,8.4)	-2 (-11.6,7.6)
Percent whose parents strongly disapprove of marijuana	95.9 (93.8-97.2)	96.3 (92.6-98.2)	96.7 (92.0-98.7)	95.8 (92.7-97.6)	-0.4 (-3.0,2.1)	-0.5 (-3.9,2.9)
Percent who strongly disapprove of occasional marijuana use	66.3 (63.5-69.0)	66.4 (60.0-72.3)	63.7 (58.8-68.4)	68.6 (64.9-72.1)	-0.1 (-5.9,5.7)	2.2 (-5.1,9.4)
Percent believing that few or none of their peers have used marijuana even once or twice in past 12 months (4)	75.7 (73.1-78.2)	84.2 (79.1-88.3)	77.0 (71.2-81.9)	72.7 (68.9-76.2)	-8.5 (-13.3,-3.7)	-11.5 (-17.2,-5.8)
Percent perceiving great risk of harm from occasional marijuana use	46.8 (43.7-50.0)	44.5 (39.0-50.1)	43.7 (38.2-49.4)	49.7 (45.6-53.8)	2.3 (-3.1,7.7)	5.2 (-1.5,12.0)

Table 10-1A. The relationship between exposure to general anti-drug advertising and youth cognitions among youth 12-13 years old who have not previously tried marijuana (continued)
November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Mean attitude scale toward marijuana trial (1) 1 = strong pro-drug / 7 = strong anti drug	6.67 (6.57-6.76)	6.73 (6.59-6.88)	6.72 (6.57-6.88)	6.66 (6.52-6.79)	-0.06 (-0.20,0.07)	*	-0.07 (-0.26,0.11)
Mean self-efficacy scale for refusing marijuana offers (2) -2 = cannot resist / +2 = can resist	1.62 (1.57-1.67)	1.53 (1.40-1.66)	1.66 (1.55-1.77)	1.65 (1.59-1.71)	0.09 (-0.02,0.20)		0.12 (-0.02,0.25)
Mean belief scale about consequences of marijuana trial (3) -2 = strong pro-drug / +2 = strong anti-drug	0.77 (0.71-0.84)	0.55 (0.40-0.71)	0.84 (0.72-0.95)	0.81 (0.73-0.89)	0.22 (0.08,0.36)	*	0.26 (0.09,0.43)

(1) See table 7-6 for full distribution. Attitude scale based on 2 questions asking the degree to which using marijuana even once or twice in the next 6 months would be good/bad (C4a), and enjoyable/unenjoyable (C5a).

(2) See table 7-23 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).

(3) See table 7-7 for full distribution. Belief scale based on 8 questions asking how likely it is that youth would: upset their parents/caregivers (C3aa); get in trouble with the law (C3ab); lose control of myself (C3ac); start using stronger drugs (C3ad); be more relaxed (C3ae); have a good time with my friends (C3af); feel better (C3ag); be like the coolest kids (C3ah); if they used marijuana even once or twice over the next 6 months.

(4) See table 7-5 for full distribution. Peers are defined as kids in their own grade at school for youth still in school and as kids their own age for others.

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 10-1B. The relationship between exposure to general anti-drug advertising and youth cognitions among youth 14-18 years old who have not previously tried marijuana
November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Percent definitely not intending to try marijuana	84.8 (82.7-86.7)	79.2 (69.7-86.3)	82.9 (78.2-86.9)	86.3 (83.5-88.8)	5.6 (-1.8,13.1)		7.1 (-1.6,15.9)
Percent whose friends strongly disapprove of marijuana	56.6 (52.3-60.7)	53.0 (38.9-66.5)	55.3 (46.6-63.7)	57.0 (51.1-62.7)	3.6 (-9.3,16.5)		4 (-11.1,19.2)
Percent whose parents strongly disapprove of marijuana	94.1 (90.6-96.4)	90.8 (80.0-96.1)	92.9 (88.8-95.6)	95.9 (91.2-98.2)	3.3 (-2.5,9.2)		5.1 (-1.3,11.5)
Percent who strongly disapprove of occasional marijuana use	44.5 (41.6-47.5)	50.0 (41.2-58.8)	35.9 (30.5-41.7)	47.6 (43.7-51.5)	-5.5 (-13.7,2.7)		-2.4 (-12.6,7.7)
Percent believing that few or none of their peers have used marijuana even once or twice in past 12 months (4)	29.1 (26.0-32.3)	35.0 (27.9-42.8)	25.2 (20.2-30.8)	29.5 (25.5-33.8)	-5.9 (-12.2,0.4)		-5.5 (-13.7,2.8)
Percent perceiving great risk of harm from occasional marijuana use	29.6 (26.8-32.6)	31.0 (25.3-37.2)	26.3 (20.9-32.5)	31.9 (27.7-36.4)	-1.4 (-7.2,4.4)		0.9 (-6.5,8.4)

Table 10-1B. The relationship between exposure to general anti-drug advertising and youth cognitions among youth 14-18 years old who have not previously tried marijuana (continued)
November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Mean attitude scale toward marijuana trial (1) 1 = strong pro-drug / 7 = strong anti drug	6.51 (6.40-6.61)	6.32 (5.83-6.81)	6.58 (6.43-6.72)	6.49 (6.32-6.65)	0.19 (-0.27,0.64)		0.17 (-0.37,0.71)
Mean self-efficacy scale for refusing marijuana offers (2) -2 = cannot resist / +2 = can resist	1.67 (1.61-1.73)	1.57 (1.39-1.75)	1.58 (1.43-1.72)	1.74 (1.68-1.80)	0.1 (-0.07,0.27)		0.17 (-0.01,0.37)
Mean belief scale about consequences of marijuana trial (3) -2 = strong pro-drug / +2 = strong anti-drug	0.67 (0.60-0.74)	0.60 (0.41-0.79)	0.68 (0.54-0.82)	0.67 (0.58-0.77)	0.07 (-0.10,0.24)		0.07 (-0.13,0.28)

(1) See table 7-6 for full distribution. Attitude scale based on 2 questions asking the degree to which using marijuana even once or twice in the next 6 months would be good/bad (C4a), and enjoyable/unenjoyable (C5a).

(2) See table 7-23 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).

(3) See table 7-7 for full distribution. Belief scale based on 8 questions asking how likely it is that youth would: upset their parents/caregivers (C3aa); get in trouble with the law (C3ab); lose control of myself (C3ac); start using stronger drugs (C3ad); be more relaxed (C3ae); have a good time with my friends (C3af); feel better (C3ag); be like the coolest kids (C3ah); if they used marijuana even once or twice over the next 6 months.

(4) See table 7-5 for full distribution. Peers are defined as kids in their own grade at school for youth still in school and as kids their own age for others.

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 10-2. The relationship between exposure to specific youth-targeted TV anti-drug advertising and youth cognitions among youth 12-18 years old who have not previously tried marijuana November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	Actual during period (C1)	Less than once per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)			
Percent definitely not intending to try marijuana	87.4 (86.0-88.8)	88.4 (85.3-90.9)	88.0 (85.2-90.2)	84.9 (81.7-87.7)	s (s)	-1 (-3.7,1.9)		
Percent whose friends strongly disapprove of marijuana trial	61.7 (58.7-64.6)	63.3 (56.0-70.0)	61.6 (56.8-66.3)	62.3 (56.8-67.5)	52.8 (39.3-65.8)	-1.6 (-7.9,4.8)		-10.5 (-25.5,4.4)
Percent whose parents strongly disapprove of marijuana trial	94.8 (92.5-96.4)	95.4 (91.7-97.6)	94.2 (90.2-96.6)	93.5 (88.9-96.2)	96.6 (88.5-99.1)	-0.6 (-3.4,2.0)		1.2 (-3.9,6.2)
Percent who strongly disapprove of occasional marijuana use	52.3 (50.0-54.6)	52.0 (46.7-57.3)	51.3 (47.4-55.2)	51.7 (48.0-55.4)	55.1 (40.7-68.6)	0.3 (-4.5,5.1)		3.1 (-11.8,18.0)
Percent believing that few or none of their peers have used marijuana even once or twice in past 12 months (4)	45.4 (43.3-47.6)	48.6 (43.6-53.6)	46.5 (42.5-50.6)	42.7 (39.0-46.5)	41.6 (32.5-51.4)	-3.2 (-8.2,1.8)		-7 (-17.7,3.8)
Percent perceiving great risk of harm from occasional marijuana use	35.7 (33.4-38.1)	37.9 (32.5-43.6)	35.1 (31.8-38.6)	33.6 (29.7-37.7)	40.9 (29.4-53.6)	-2.2 (-7.2,2.8)		3 (-10.3,16.4)

Table 10-2. The relationship between exposure to specific youth-targeted TV anti-drug advertising and youth cognitions among youth 12-18 years old who have not previously tried marijuana (continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	Actual during period (C1)	Less than once per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)			
Cognition								
Mean attitude scale toward marijuana trial (1)								
1 = strong pro-drug / 7 = strong anti drug	6.56 (6.49-6.64)	6.66 (6.53-6.80)	6.57 (6.42-6.72)	6.54 (6.40-6.68)	6.59 (6.38-6.80)	-0.1 (-0.24,0.04)		-0.07 (-0.33,0.18)
Mean self-efficacy scale for refusing marijuana offers (2)								
-2 = cannot resist / +2 = can resist	1.65 (1.61-1.69)	1.58 (1.47-1.70)	1.66 (1.61-1.71)	1.68 (1.61-1.75)	1.66 (1.51-1.81)	0.07 (-0.21,0.16)		0.08 (-0.10,0.25)
Mean belief scale about consequences of marijuana trial (3)								
-2 = strong pro-drug / +2 = strong anti-drug	0.71 (0.66-0.76)	0.77 (0.65-0.89)	0.69 (0.61-0.77)	0.68 (0.58-0.78)	0.82 (0.63-1.02)	-0.06 (-0.17,0.05)		0.05 (-0.18,0.28)

(1) See table 7-6 for full distribution. Attitude scale based on 2 questions asking the degree to which using marijuana even once or twice in the next 6 months would be good/bad (C4a), and enjoyable/unenjoyable (C5a).

(2) See table 7-23 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).

(3) See table 7-7 for full distribution. Belief scale based on 8 questions asking how likely it is that youth would: upset their parents/caregivers (C3aa); get in trouble with the law (C3ab); lose control of myself (C3ac); start using stronger drugs (C3ad); be more relaxed (C3ae); have a good time with my friends (C3af); feel better (C3ag); be like the coolest kids (C3ah); if they used marijuana even once or twice over the next 6 months.

(4) See table 7-5 for full distribution. Peers are defined as kids in their own grade at school for youth still in school and as kids their own age for others.

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 10-2A. The relationship between exposure to specific youth-targeted TV anti-drug advertising and youth cognitions among youth 12-13 years olds who have not previously tried marijuana November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	Actual during period (C1)	Less than once per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)			
Percent definitely not intending to try marijuana	92.2 (90.5-93.7)	90.6 (85.2-94.1)	93.2 (90.5-95.2)	91.8 (88.8-94.1)	90.5 (82.7-95.0)	1.6 (-2.2,5.5)		-0.1 (-6.8,6.7)
Percent whose friends strongly disapprove of marijuana trial	70.6 (66.9-74.0)	72.6 (63.5-80.1)	70.1 (63.4-76.1)	72.1 (64.8-78.4)	65.4 (49.4-78.6)	-2 (-9.8,5.9)		-7.2 (-25.5,11.2)
Percent whose parents strongly disapprove of marijuana trial	95.9 (93.8-97.2)	93.5 (83.9-97.5)	96.8 (94.1-98.3)	94.9 (90.6-97.3)	s (s)	2.4 (-3.0,7.7)		
Percent who strongly disapprove of occasional marijuana use	66.3 (63.5-69.0)	68.8 (61.9-75.0)	63.1 (57.7-68.2)	67.1 (62.9-71.0)	74.3 (63.5-82.8)	-2.5 (-8.0,3.0)		5.5 (-4.8,15.8)
Percent believing that few or none of their peers have used marijuana even once or twice in past 12 months (4)	75.7 (73.1-78.2)	78.8 (72.5-84.0)	75.9 (71.7-79.6)	75.1 (70.3-79.3)	75.9 (64.8-84.4)	-3.1 (-9.1,2.9)		-2.9 (-13.5,7.7)
Percent perceiving great risk of harm from occasional marijuana use	46.8 (43.7-50.0)	51.5 (44.5-58.5)	46.2 (41.8-50.6)	45.3 (40.3-50.4)	52.3 (41.4-62.9)	-4.7 (-10.9,1.5)		0.8 (-12.5,14.0)

Table 10-2A. The relationship between exposure to specific youth-targeted TV anti-drug advertising and youth cognitions among youth 12-13 years olds who have not previously tried marijuana (continued)
November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	Actual during period (C1)	Less than once per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)			
Mean attitude scale toward marijuana trial (1)							
1 = strong pro-drug / 7 = strong anti drug	6.67 (6.57-6.76)	6.63 (6.47-6.79)	6.84 (6.73-6.95)	6.66 (6.51-6.81)	6.40 (6.03-6.77)	0.04 (-0.12,0.19)	-0.23 (-0.62,0.16)
Mean self-efficacy scale for refusing marijuana offers (2)							
-2 = cannot resist / +2 = can resist	1.62 (1.57-1.67)	1.52 (1.39-1.66)	1.64 (1.56-1.72)	1.62 (1.54-1.71)	1.54 (1.28-1.80)	0.10 (-0.01,0.21)	0.02 (-0.26,0.30)
Mean belief scale about consequences of marijuana trial (3)							
-2 = strong pro-drug / +2 = strong anti-drug	0.77 (0.60-0.74)	0.76 (0.61-0.91)	0.80 (0.70-0.90)	0.74 (0.62-0.87)	0.71 (0.42-1.01)	0.01 (-0.12,0.15)	-0.05 (-0.38,0.29)

(1) See table 7-6 for full distribution. Attitude scale based on 2 questions asking the degree to which using marijuana even once or twice in the next 6 months would be good/bad (C4a), and enjoyable/unenjoyable (C5a).

(2) See table 7-23 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).

(3) See table 7-7 for full distribution. Belief scale based on 8 questions asking how likely it is that youth would: upset their parents/caregivers (C3aa); get in trouble with the law (C3ab); lose control of myself (C3ac); start using stronger drugs (C3ad); be more relaxed (C3ae); have a good time with my friends (C3af); feel better (C3ag); be like the coolest kids (C3ah); if they used marijuana even once or twice over the next 6 months.

(4) See table 7-5 for full distribution. Peers are defined as kids in their own grade at school for youth still in school and as kids their own age for others.

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 10-2B. The relationship between exposure to specific youth-targeted TV anti-drug advertising and youth cognitions among youth 14-18 years olds who have not previously tried marijuana November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	Actual during period (C1)	Less than once per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)			
Percent definitely not intending to try marijuana	84.8 (82.7-86.7)	87.1 (82.6-90.5)	85.2 (81.4-88.3)	81.0 (75.8-85.2)	s (s)	-2.3 (-6.4,1.9)		
Percent whose friends strongly disapprove of marijuana trial	56.6 (52.3-60.7)	58.3 (47.9-68.0)	56.9 (50.2-63.4)	56.6 (48.2-64.6)	s (s)	-1.7 (-11.1,7.7)		
Percent whose parents strongly disapprove of marijuana trial	94.1 (90.6-96.4)	96.5 (93.4-98.2)	92.7 (86.6-96.2)	92.7 (84.8-96.6)	s (s)	-2.4 (-5.6,0.8)		
Percent who strongly disapprove of occasional marijuana use	44.5 (41.6-47.5)	42.4 (35.6-49.5)	45.1 (40.4-49.8)	42.6 (37.4-48.0)	s (s)	2.1 (-4.5,8.7)		
Percent believing that few or none of their peers have used marijuana even once or twice in past 12 months (4)	29.1 (26.0-32.3)	31.2 (24.9-38.3)	31.5 (26.3-37.3)	24.4 (19.5-30.1)	18.7 (12.7-26.6)	-2.1 (-8.8,4.6)	*	-12.5 (-22.7,-2.3)
Percent perceiving great risk of harm from occasional marijuana use	29.6 (26.8-32.6)	30.2 (23.7-37.5)	29.4 (25.5-33.6)	26.8 (21.8-32.4)	33.1 (20.2-49.2)	-0.6 (-6.7,5.6)		2.9 (-13.5,19.4)

Table 10-2B. The relationship between exposure to specific youth-targeted TV anti-drug advertising and youth cognitions among youth 14-18 years olds who have not previously tried marijuana (continued)
November 1999 through December 2000

Cognition	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	Actual during period (C1)	Less than once per month (C2)	1-3 times per month (C3)	4-11 times per month (C4)	12 or more times per month (C5)			
Mean attitude scale toward marijuana trial (1)								
1 = strong pro-drug / 7 = strong anti drug	6.51 (6.40-6.61)	6.68 (6.49-6.88)	6.42 (6.22-6.63)	6.47 (6.27-6.67)	6.76 (6.57-6.96)	-0.17 (-0.38,0.21)		0.08 (-0.20,0.36)
Mean self-efficacy scale for refusing marijuana offers (2)								
-2 = cannot resist / +2 = can resist	1.67 (1.61-1.73)	1.62 (1.44-1.79)	1.67 (1.60-1.75)	1.71 (1.61-1.80)	1.74 (1.56-1.91)	0.05 (-0.09,0.18)		0.12 (-0.13,0.37)
Mean belief scale about consequences of marijuana trial (3)								
-2 = strong pro-drug / +2 = strong anti-drug	0.67 (0.60-0.74)	0.77 (0.61-0.94)	0.62 (0.51-0.73)	0.64 (0.49-0.78)	s (s)	-0.10 (-0.25,0.04)		

(1) See table 7-6 for full distribution. Attitude scale based on 2 questions asking the degree to which using marijuana even once or twice in the next 6 months would be good/bad (C4a), and enjoyable/unenjoyable (C5a).

(2) See table 7-23 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).

(3) See table 7-7 for full distribution. Belief scale based on 8 questions asking how likely it is that youth would: upset their parents/caregivers (C3aa); get in trouble with the law (C3ab); lose control of myself (C3ac); start using stronger drugs (C3ad); be more relaxed (C3ae); have a good time with my friends (C3af); feel better (C3ag); be like the coolest kids (C3ah); if they used marijuana even once or twice over the next 6 months.

(4) See table 7-5 for full distribution. Peers are defined as kids in their own grade at school for youth still in school and as kids their own age for others.

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 11-1. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 9-11 years old November 1999 through December 2000

Attitudes and Practices	Exposure Level (real or hypothetical) PGEIORD3			Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)			
Percent of children whose parents report having had 2 or more conversations with them about drugs in the past 6 months	71.8 (68.4-74.9)	66.0 (62.0-69.8)	71.4 (67.0-75.5)	76.8 (71.0-81.7)	5.8 (1.6,9.9)	10.8 (4.2,17.3)
Mean parental response on summary scale of intentions to talk with child(ren) about drug use -2 = very unlikely / +2 = very likely	1.05 (1.00-1.10)	0.89 (0.79-0.98)	1.02 (0.95-1.09)	1.17 (1.09-1.25)	0.16 (0.08,0.25)	0.28 (0.16,0.40)
Mean parental response on summary scale of parents general attitude toward discussing drugs with child(ren) 1= extremely bad, unpleasant and unimportant	6.26 (6.21-6.30)	6.09 (5.99-6.19)	6.21 (6.12-6.30)	6.39 (6.33-6.45)	0.17 (0.08,0.25)	0.30 (0.18,0.42)
Percent of children whose parents perceive that important others think they definitely should talk with their children about drugs over the next 6 months	57.0 (53.8-60.1)	50.9 (46.4-55.3)	54.2 (49.9-58.5)	62.2 (56.7-67.4)	6.1 (1.7,10.6)	11.3 (4.5,18.2)
Mean parental response on summary scale of perceived self-efficacy to talk with child(ren) about drugs -2 = very unsure / +2 = very sure of ability	1.52 (1.48-1.55)	1.47 (1.41-1.52)	1.52 (1.47-1.58)	1.54 (1.48-1.59)	0.05 (0.00,0.10)	0.07 (0.00,0.14)
Mean number on summary scale of parental monitoring activities performed (1) (0 to 5)	2.37 (2.31-2.43)	2.38 (2.28-2.47)	2.44 (2.35-2.52)	2.34 (2.25-2.43)	-0.01 (-0.08,0.07)	-0.04 (-0.17,0.08)

Table 11-1. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 9-11 years old (continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices							
Mean parental response on summary scale of intentions to monitor child(ren)'s activities -2 = very unlikely / +2 = very likely	1.62 (1.59-1.65)	1.59 (1.54-1.64)	1.64 (1.60-1.68)	1.62 (1.57-1.66)	0.03 (-0.01,0.08)		0.03 (-0.03,0.09)
Mean parental response on summary scale of attitudes toward monitoring child(ren)'s activities 1= extremely bad, unpleasant and unimportant 7= extremely good, pleasant and important	6.51 (6.48-6.55)	6.44 (6.37-6.52)	6.48 (6.43-6.54)	6.57 (6.53-6.61)	0.07 (0.01,0.13)	*	0.13 (0.05,0.21)
Mean parental response on summary scale of beliefs about effectiveness of monitoring child(ren)'s activities -2 = Strongly disagree / +2 = Strongly Agree on	1.26 (1.23-1.28)	1.20 (1.15-1.25)	1.28 (1.23-1.34)	1.25 (1.20-1.30)	0.06 (0.01,0.10)		0.05 (-0.02,0.12)
Percent of children whose parents report having talked to them about family rules or expectations about drug use	77.5 (75.1-79.7)	70.2 (64.7-75.1)	78.3 (73.1-82.7)	81.8 (78.5-84.6)	7.3 (2.9,11.6)	*	11.6 (5.4,17.8)
Proportion of parents reporting going someplace for fun with children at least twice in the past week (2)	68.0 (64.7-71.1)	60.9 (55.3-66.1)	69.7 (64.3-74.7)	70.2 (65.9-74.2)	7.1 (2.5,11.7)	*	9.3 (3.5,15.2)

Table 11-1. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 9-11 years old (continued)
November 1999 through December 2000

Attitudes and Practices	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C4-C2)
	PGEIORD3						
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)			
Proportion of parents reporting doing projects or activities with child at home at least twice in the past week (3)	79.7 (77.6-81.6)	76.2 (71.6-80.3)	80.6 (76.0-84.5)	80.4 (76.8-83.6)	3.5 (-0.4,7.3)		4.2 (-1.1,9.5)
Percent of children whose parents perceive them as very unlikely to try marijuana even once or twice in the next 6 months	93.5 (90.8-95.5)	93.1 (87.4-96.3)	96.8 (93.5-98.4)	92.0 (87.5-95.0)	0.4 (-3.5,4.4)		-1.1 (-6.8,4.6)

NOTE: Percent effects are estimated by comparing observed percentages given the Media Campaign (1) to percentages obtained assuming no Media Campaign (2). Data for period November 1999 - December 2000.

- (1) Monitoring activities included: knowing what the youth is doing when away from home, having a pretty good idea of the youth's plans for the coming day, and limiting the amount of free time in the afternoons that the youth has to hang out with friends without adult supervision.
- (2) Prompted activities included going to sporting events or to the mall, scout or club meetings, or outdoor activities.
- (3) Prompted activities at home included hobbies, crafts, baking, music, and games.

Table 11-2. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 9-11 years old November 1999 through December 2000

	Exposure Level (real or hypothetical) PRAEI					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices								
Percent of children whose parents report having had 2 or more conversations with them about drugs in the past 6 months	71.8 (68.4-74.9)	68.3 (63.2-72.9)	73.3 (68.6-77.6)	71.6 (66.3-76.4)	82.0 (71.7-89.2)	3.5 (-0.1,7.5)	*	13.7 (3.8,23.9)
Mean parental response on summary scale of intentions to talk with child(ren) about drug use -2 = very unlikely / +2 = very likely	1.05 (1.00-1.10)	0.96 (0.89-1.04)	1.08 (1.01-1.16)	1.02 (0.94-1.11)	1.36 (1.21-1.51)	0.09 (0.02,0.15)	*	0.40 (-0.03,0.85)
Mean parental response on summary scale of parents general attitude toward discussing drugs with child(ren) 1 = extremely bad, unpleasant and unimportant	6.26 (6.21-6.30)	6.15 (6.04-6.26)	6.26 (6.19-6.33)	6.33 (6.26-6.41)	6.51 (6.33-6.69)	0.11 (0.02,0.20)	*	0.36 (0.14,0.58)
Percent of children whose parents perceive that important others think they definitely should talk with their children about drugs over the next 6 months	57.0 (53.8-60.1)	51.5 (46.5-56.5)	57.2 (52.6-61.7)	59.8 (54.0-65.3)	73.1 (63.0-81.3)	5.5 (1.3,9.7)	*	21.6 (11.3,31.9)
Mean parental response on summary scale of perceived self-efficacy to talk with child(ren) about drugs -2 = very unsure / +2 = very sure of ability	1.52 (1.48-1.55)	1.52 (1.46-1.58)	1.49 (1.44-1.55)	1.53 (1.48-1.59)	1.62 (1.51-1.73)	0.00 (-0.05,0.04)		0.10 (-0.03,0.22)
Mean number on summary scale of parental monitoring activities performed (1) (0 to 5)	2.37 (2.31-2.43)	2.43 (2.34-2.52)	2.35 (2.27-2.43)	2.30 (2.2-2.4)	2.38 (2.22-2.53)	-0.06 (-0.13,0.01)		-0.05 (-0.21,0.10)

Table 11-2. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 9-11 years old
(continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical) PRAEI					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices								
Mean parental response on summary scale of intentions to monitor child(ren)'s activities -2 = very unlikely / +2 = very likely	1.62 (1.59-1.65)	1.66 (1.61-1.70)	1.60 (1.56-1.64)	1.57 (1.52-1.62)	1.74 (1.67-1.81)	-0.04 (-0.08,0.00)		0.08 (0.00,0.17)
Mean parental response on summary scale of attitudes toward monitoring child(ren)'s activities 1= extremely bad, unpleasant and unimportant 7= extremely good, pleasant and important	6.51 (6.48-6.55)	6.50 (6.44-6.56)	6.50 (6.45-6.55)	6.52 (6.45-6.59)	6.65 (6.56-6.74)	0.01 (-0.04,0.07)	*	0.15 (0.05,0.25)
Mean parental response on summary scale of beliefs about effectiveness of monitoring child(ren)'s activities -2 = Strongly disagree / +2 = Strongly Agree on	1.26 (1.23-1.28)	1.28 (1.22-1.33)	1.24 (1.18-1.30)	1.25 (1.21-1.29)	1.30 (1.17-1.43)	-0.02 (-0.07,0.03)		0.02 (-0.12,0.17)
Percent of children whose parents report having talked to them about family rules or expectations about drug use	77.5 (75.1-79.7)	72.3 (67.2-76.9)	80.0 (76.4-83.2)	76.9 (72.8-80.6)	89.5 (79.1-95.1)	5.2 (1.3,8.9)		17.2 (7.8,26.6)
Proportion of parents reporting going someplace for fun with children at least twice in the past week (2)	68.0 (64.7-71.1)	67.0 (60.9-72.6)	67.4 (62.8-71.6)	68.4 (62.8-73.6)	74.4 (64.5-82.2)	1.0 (-4.1,6.0)		7.4 (-4.2,18.9)
Proportion of parents reporting doing projects or activities with child at home at least twice in the past week (3)	79.7 (77.6-81.6)	79.6 (74.8-83.7)	79.0 (75.3-82.4)	79.3 (74.1-83.7)	77.0 (66.6-85.0)	0.1 (-3.9,4.0)		-2.6 (-13.0,7.8)

Table 11-2. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 9-11 years old
(continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical) PRAEI				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices							
Percent of children whose parents perceive them as very unlikely to try marijuana even once or twice in the next 6 months	93.5 (90.8-95.5)	93.1 (85.9-96.8)	94.0 (90.2-96.4)	92.0 (84.9-96.0)	94.5 (86.8-97.8)	0.4 (-3.6,4.5)	1.4 (-5.0,7.7)

NOTE: Percent effects are estimated by comparing observed percentages given the Media Campaign (1) to percentages obtained assuming no Media Campaign (2). Data for period November 1999 - December 2000.

(1) Monitoring activities included: knowing what the youth is doing when away from home, having a pretty good idea of the youth's plans for the coming day, and limiting the amount of free time in the afternoons that the youth has to hang out with friends without adult supervision.

(2) Prompted activities included going to sporting events or to the mall, scout or club meetings, or outdoor activities.

(3) Prompted activities at home included hobbies, crafts, baking, music, and games.

Table 11-3. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 12-13 years old November 1999 through December 2000

	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices							
Percent of children whose parents report having had 2 or more conversations with them about drugs in the past 6 months	79.2 (76.5-81.7)	75.3 (70.7-79.4)	79.5 (74.8-83.6)	83.0 (78.4-86.8)	3.9 (0.1,7.8)	*	7.7 (1.9,13.5)
Mean parental response on summary scale of intentions to talk with child(ren) about drug use -2 = very unlikely / +2 = very likely	1.15 (1.10-1.20)	0.99 (0.90-1.08)	1.09 (1.01-1.17)	1.31 (1.23-1.38)	0.2 (0.09,0.23)	*	0.32 (0.21,0.43)
Mean parental response on summary scale of parents general attitude toward discussing drugs with child(ren) 1 = extremely bad, unpleasant and unimportant 7 = extremely good, pleasant and important	6.29 (6.24-6.34)	6.20 (6.09-6.30)	6.22 (6.15-6.30)	6.38 (6.32-6.45)	0.09 (0.01,0.18)	*	0.18 (0.07,0.30)
Percent of children whose parents perceive that important others think they definitely should talk with their children about drugs over the next 6 months	61.1 (57.6-64.4)	57.2 (51.8-62.4)	57.4 (52.2-62.5)	66.3 (60.8-71.5)	3.9 (-0.3,8.0)	*	9.1 (2.6,15.7)
Mean parental response on summary scale of perceived self-efficacy to talk with child(ren) about drugs -2 = very unsure / +2 = very sure of ability	1.53 (1.49-1.57)	1.46 (1.40-1.53)	1.50 (1.45-1.55)	1.57 (1.51-1.64)	0.07 (0.01,0.13)	*	0.11 (0.02,0.20)
Mean number on summary scale of parental monitoring activities performed (1) (0 to 5)	2.10 (2.04-2.16)	2.05 (1.95-2.15)	2.07 (1.97-2.16)	2.13 (2.03-2.23)	0.05 (-0.04,0.15)		0.08 (-0.05,0.22)

Table 11-3. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 12-13 years old
(continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C4-C2)
	PGEIORD						
Attitudes and Practices	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)	12 or more times per month (C4)			
Mean parental response on summary scale of intentions to monitor child(ren)'s activities -2 = very unlikely / +2 = very likely	1.53 (1.50-1.55)	1.45 (1.39-1.51)	1.52 (1.47-1.58)	1.56 (1.51-1.60)	0.08 (0.02,0.13)	*	0.11 (0.02,0.19)
Mean parental response on summary scale of attitudes toward monitoring child(ren)'s activities 1= extremely bad, unpleasant and unimportant 7= extremely good, pleasant and important	6.36 (6.31-6.40)	6.32 (6.25-6.40)	6.34 (6.26-6.43)	6.35 (6.27-6.44)	0.04 (-0.03,0.10)		0.03 (-0.08,0.14)
Mean parental response on summary scale of beliefs about effectiveness of monitoring child(ren)'s activities -2 = Strongly disagree / +2 = Strongly Agree on	1.14 (1.11-1.17)	1.05 (0.99-1.12)	1.15 (1.09-1.21)	1.17 (1.12-1.22)	0.09 (0.03,0.14)	*	0.12 (0.04,0.20)
Percent of children whose parents report having talked to them about family rules or expectations about drug use	79.1 (76.2-81.6)	74.5 (68.8-79.5)	78.2 (73.9-82.0)	83.7 (79.3-87.3)	4.6 (0.3,8.8)	*	9.2 (2.6,15.8)
Proportion of parents reporting going someplace for fun with children at least twice in the past week (2)	60.6 (57.8-63.4)	61.7 (56.5-66.7)	62.4 (57.1-67.4)	59.0 (54.9-62.9)	-1.1 (-5.5,3.3)		-2.7 (-9.6,4.0)
Proportion of parents reporting doing projects or activities with child at home at least twice in the past week (3)	69.5 (66.8-72.0)	63.9 (58.4-69.0)	72.1 (67.6-76.2)	70.9 (66.8-74.8)	5.6 (0.9,10.3)	*	7.0 (0.0,14.1)

Table 11-3. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 12-13 years old
(continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)			Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)			
Attitudes and Practices			12 or more times per month (C4)			
Percent of children whose parents perceive them as very unlikely to try marijuana even once or twice in the next 6 months	87.8 (85.6-89.7)	88.0 (83.5-91.4)	89.1 (84.8-92.4)	86.2 (82.9-89.0)	-0.2 (-3.5,3.1)	-1.8 (-6.7,3.2)

NOTE: Percent effects are estimated by comparing observed percentages given the Media Campaign (1) to percentages obtained assuming no Media Campaign (2). Data for period November 1999 - December 2000.

(1) Monitoring activities included: knowing what the youth is doing when away from home, having a pretty good idea of the youth's plans for the coming day, and limiting the amount of free time in the afternoons that the youth has to hang out with friends without adult supervision.

(2) Prompted activities included going to sporting events or to the mall, scout or club meetings, or outdoor activities.

(3) Prompted activities at home included hobbies, crafts, baking, music, and games.

Table 11-4. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 12-13 years old November 1999 through December 2000

	Exposure Level (real or hypothetical) PRAEI					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices								
Percent of children whose parents report having had 2 or more conversations with them about drugs in the past 6 months	79.2 (76.5-81.7)	75.9 (71.8-79.5)	80.3 (75.9-84.1)	80.8 (74.4-86.0)	87.7 (78.0-93.4)	3.3 (-0.3,7.0)	*	11.8 (3.0,20.6)
Mean parental response on summary scale of intentions to talk with child(ren) about drug use -2 = very unlikely / +2 = very likely	1.15 (1.10-1.20)	1.09 (1.02-1.17)	1.13 (1.05-1.21)	1.21 (1.12-1.29)	1.27 (1.11-1.43)	0.06 (0.00,0.11)	*	0.18 (0.01,0.35)
Mean parental response on summary scale of parents general attitude toward discussing drugs with child(ren) 1 = extremely bad, unpleasant and unimportant	6.29 (6.24-6.34)	6.23 (6.15-6.30)	6.31 (6.23-6.39)	6.32 (6.24-6.40)	6.48 (6.32-6.63)	0.06 (0.00,0.13)	*	0.25 (0.10,0.40)
Percent of children whose parents perceive that important others think they definitely should talk with their children about drugs over the next 6 months	61.1 (57.6-64.4)	57.3 (52.2-62.4)	60.4 (56.1-64.6)	62.8 (56.5-68.6)	70.9 (58.0-81.1)	3.8 (-0.3,7.7)	*	13.6 (1.5,25.6)
Mean parental response on summary scale of perceived self-efficacy to talk with child(ren) about drugs -2 = very unsure / +2 = very sure of ability	1.53 (1.49-1.57)	1.50 (1.44-1.56)	1.55 (1.50-1.60)	1.51 (1.45-1.57)	1.54 (1.41-1.67)	0.03 (-0.01,0.07)		0.04 (-0.11,0.18)
Mean number on summary scale of parental monitoring activities performed (1) (0 to 5)	2.10 (2.04-2.16)	2.14 (2.02-2.25)	2.10 (2.00-2.20)	2.06 (1.94-2.17)	1.91 (1.68-2.15)	-0.04 (-0.14,0.07)		-0.23 (-0.47,0.03)

Table 11-4. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 12-13 years old
(continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	PRAEI							
Attitudes and Practices	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)			
Mean parental response on summary scale of intentions to monitor child(ren)'s activities -2 = very unlikely / +2 = very likely	1.53 (1.50-1.55)	1.51 (1.46-1.56)	1.54 (1.49-1.58)	1.53 (1.47-1.59)	1.44 (1.33-1.54)	0.02 (-0.03,0.07)		-0.07 (-0.19,0.05)
Mean parental response on summary scale of attitudes toward monitoring child(ren)'s activities 1 = extremely bad, unpleasant and unimportant 7 = extremely good, pleasant and important	6.36 (6.31-6.40)	6.40 (6.32-6.48)	6.32 (6.25-6.39)	6.33 (6.25-6.42)	6.42 (6.30-6.53)	-0.04 (-0.11,0.03)		0.02 (-0.12,0.16)
Mean parental response on summary scale of beliefs about effectiveness of monitoring child(ren)'s activities -2 = Strongly disagree / +2 = Strongly Agree on	1.14 (1.11-1.17)	1.13 (1.07-1.20)	1.13 (1.08-1.19)	1.2 (1.1-1.2)	1.15 (1.02-1.29)	0.01 (-0.05,0.06)		0.02 (-0.13,0.17)
Percent of children whose parents report having talked to them about family rules or expectations about drug use	79.1 (76.2-81.6)	73.7 (68.8-78.0)	82.0 (77.8-85.6)	79.9 (74.1-84.7)	84.2 (70.1-92.3)	5.4 (1.5,9.2)	*	10.5 (-0.9,21.8)
Proportion of parents reporting going someplace for fun with children at least twice in the past week (2)	60.6 (57.8-63.4)	64.1 (59.4-68.5)	58.2 (53.3-62.9)	62.0 (56.9-66.8)	56.0 (42.5-68.7)	-3.5 (-7.4,4.9)		-8.1 (-22.2,6.0)

Table 11-4. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 12-13 years old
(continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices								
Proportion of parents reporting doing projects or activities with child at home at least twice in the past week (3)	69.5 (66.8-72.0)	66.4 (61.7-70.9)	68.0 (63.2-72.5)	74.9 (70.6-78.8)	63.1 (50.6-74.1)	3.1 (-1.0,7.1)		-3.3 (-16.1,9.4)
Percent of children whose parents perceive them as very unlikely to try marijuana even once or twice in the next 6 months	87.8 (85.6-89.7)	87.4 (83.7-90.3)	87.4 (83.9-90.2)	87.7 (83.2-91.2)	87.9 (76.8-94.1)	0.4 (-2.2,3.1)		0.5 (-8.9,9.9)

NOTE: Percent effects are estimated by comparing observed percentages given the Media Campaign (1) to percentages obtained assuming no Media Campaign (2). Data for period November 1999 - December 2000.

- (1) Monitoring activities included: knowing what the youth is doing when away from home, having a pretty good idea of the youth's plans for the coming day, and limiting the amount of free time in the afternoons that the youth has to hang out with friends without adult supervision.
- (2) Prompted activities included going to sporting events or to the mall, scout or club meetings, or outdoor activities.
- (3) Prompted activities at home included hobbies, crafts, baking, music, and games.

Table 11-5. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 14-18 years old November 1999 through December 2000

	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices							
Percent of children whose parents report having had 2 or more conversations with them about drugs in the past 6 months	79.7 (76.7-82.4)	72.9 (67.4-77.8)	80.0 (74.7-84.4)	83.0 (78.6-86.6)	6.8 (2.3,11.2)	*	10.1 (3.3,16.8)
Mean parental response on summary scale of intentions to talk with child(ren) about drug use -2 = very unlikely / +2 = very likely	1.03 (0.98-1.08)	0.84 (0.74-0.95)	0.97 (0.87-1.07)	1.16 (1.09-1.23)	0.19 (0.08,0.28)	*	0.32 (0.19,0.45)
Mean parental response on summary scale of parents general attitude toward discussing drugs with child(ren) 1 = extremely bad, unpleasant and unimportant	6.11 (6.06-6.16)	5.98 (5.85-6.10)	6.05 (5.95-6.16)	6.21 (6.13-6.29)	0.13 (0.02,0.25)	*	0.23 (0.07,0.39)
Percent of children whose parents perceive that important others think they definitely should talk with their children about drugs over the next 6 months	63.4 (60.1-66.7)	56.9 (51.6-62.0)	63.2 (57.2-68.8)	67.6 (62.4-72.5)	6.5 (1.6,11.4)	*	10.7 (3.3,18.2)
Mean parental response on summary scale of perceived self-efficacy to talk with child(ren) about drugs -2 = very unsure / +2 = very sure of ability	1.53 (1.49-1.57)	1.47 (1.39-1.55)	1.50 (1.44-1.56)	1.56 (1.51-1.62)	0.06 (-0.01,0.13)		0.09 (0.00,0.19)
Mean number on summary scale of parental monitoring activities performed (1) (0 to 5)	1.77 (1.70-1.83)	1.70 (1.55-1.82)	1.80 (1.68-1.92)	1.80 (1.70-1.89)	0.07 (-0.04,0.21)		0.10 (-0.06,0.29)

Table 11-5. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 14-18 years old (continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)				Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	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)			
Attitudes and Practices							
Mean parental response on summary scale of intentions to monitor child(ren)'s activities -2 = very unlikely / +2 = very likely	1.23 (1.20-1.27)	1.13 (1.04-1.21)	1.23 (1.16-1.30)	1.28 (1.23-1.33)	0.10 (0.03,0.18)	*	0.15 (0.05,0.25)
Mean parental response on summary scale of attitudes toward monitoring child(ren)'s activities 1 = extremely bad, unpleasant and unimportant 7 = extremely good, pleasant and important	6.04 (5.99-6.09)	5.86 (5.71-6.00)	6.04 (5.93-6.14)	6.09 (6.01-6.17)	0.18 (0.06,0.31)	*	0.23 (0.07,0.40)
Mean parental response on summary scale of beliefs about effectiveness of monitoring child(ren)'s activities -2 = Strongly disagree / +2 = Strongly Agree on	0.96 (0.92-1.00)	0.83 (0.74-0.91)	1.0 (0.93-1.08)	0.98 (0.92-1.04)	0.13 (0.06,0.21)	*	0.15 (0.06,0.25)
Percent of children whose parents report having talked to them about family rules or expectations about drug use	78.7 (75.6-81.6)	73.9 (67.1-79.6)	77.5 (71.5-82.5)	83.5 (80.1-86.4)	4.8 (-0.1,9.8)	*	9.6 (2.6,16.7)
Proportion of parents reporting going someplace for fun with children at least twice in the past week (2)	45.0 (41.7-48.2)	39.4 (34.4-44.7)	48.5 (43.1-54.0)	45.3 (40.9-49.7)	5.6 (1.3,9.8)		5.9 (-0.7,12.3)

Table 11-5. The relationship between parental exposure to general anti-drug advertising and parent cognitions among youth 14-18 years old (continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)			Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C4-C2)
	Actual during period (C1)	Less than 4 times per month (C2)	4-11 times per month (C3)			
Attitudes and Practices			12 or more times per month (C4)			
Proportion of parents reporting doing projects or activities with child at home at least twice in the past week (3)	55.6 (52.4-58.7)	48.7 (43.4-54.1)	56.2 (49.7-62.5)	56.8 (52.1-61.4)	6.9 (2.0,11.7)	8.1 (1.0,15.1)
Percent of children whose parents perceive them as very unlikely to try marijuana even once or twice in the next 6 months	74.4 (72.0-76.6)	77.3 (71.8-82.0)	75.9 (71.6-79.8)	70.8 (67.3-74.1)	-2.9 (-7.5,1.7)	-6.5 (-12.7,-0.3)

NOTE: Percent effects are estimated by comparing observed percentages given the Media Campaign (1) to percentages obtained assuming no Media Campaign (2). Data for period November 1999 - December 2000.

(1) Monitoring activities included: knowing what the youth is doing when away from home, having a pretty good idea of the youth's plans for the coming day, and limiting the amount of free time in the afternoons that the youth has to hang out with friends without adult supervision.

(2) Prompted activities included going to sporting events or to the mall, scout or club meetings, or outdoor activities.

(3) Prompted activities at home included hobbies, crafts, baking, music, and games.

Table 11-6. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 14-18 years old November 1999 through December 2000

	Exposure Level (real or hypothetical) PRAEI					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	Less than 1 time per month (C2)		4-11 times per month (C4)		12 or more times per month (C5)			
	Actual during period (C1)	79.8 (75.9-83.2)	77.3 (71.7-82.1)	80.6 (76.6-84.1)	83.1 (72.7-90.1)			
Attitudes and Practices								
Percent of children whose parents report having had 2 or more conversations with them about drugs in the past 6 months	79.7 (76.7-82.4)	79.8 (75.9-83.2)	77.3 (71.7-82.1)	80.6 (76.6-84.1)	83.1 (72.7-90.1)	-0.10 (-3.5,3.1)		3.3 (-6.9,12.8)
Mean parental response on summary scale of intentions to talk with child(ren) about drug use -2 = very unlikely / +2 = very likely	1.03 (0.98-1.08)	1.04 (0.96-1.12)	0.99 (0.91-1.07)	1.09 (1.01-1.17)	1.06 (0.88-1.24)	-0.01 (-0.83,0.54)		0.02 (-0.18,0.21)
Mean parental response on summary scale of parents general attitude toward discussing drugs with child(ren) 1 = extremely bad, unpleasant and unimportant	6.11 (6.06-6.16)	6.09 (6.00-6.18)	6.05 (5.97-6.14)	6.20 (6.1-6.3)	6.20 (6.00-6.40)	0.02 (-0.05,0.09)		0.11 (-0.10,0.32)
Percent of children whose parents perceive that important others think they definitely should talk with their children about drugs over the next 6 months	63.4 (60.1-66.7)	61.2 (54.9-67.1)	63.8 (58.8-68.5)	63.7 (58.9-68.2)	71.1 (60.4-79.8)	2.2 (-2.7,7.1)		9.9 (-1.7,21.5)
Mean parental response on summary scale of perceived self-efficacy to talk with child(ren) about drugs -2 = very unsure / +2 = very sure of ability	1.53 (1.49-1.57)	1.52 (1.45-1.58)	1.51 (1.45-1.57)	1.54 (1.49-1.59)	1.63 (1.56-1.70)	0.01 (-0.04-0.06)		0.11 (0.02,0.21)
Mean number on summary scale of parental monitoring activities performed (1) (0 to 5)	1.77 (1.70-1.83)	1.70 (1.56-1.83)	1.77 (1.67-1.88)	1.82 (1.68-1.96)	1.87 (1.6-2.1)	0.07 (-0.04,0.19)		0.17 (-0.14,0.49)

Table 11-6. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 14-18 years old
(continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	PRAEI							
	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)			
Attitudes and Practices								
Mean parental response on summary scale of intentions to monitor child(ren)'s activities -2 = very unlikely / +2 = very likely	1.23 (1.20-1.27)	1.17 (1.09-1.26)	1.23 (1.17-1.29)	1.29 (1.22-1.35)	1.34 (1.23-1.44)	0.06 (-0.01,0.14)	*	0.17 (0.02,0.31)
Mean parental response on summary scale of attitudes toward monitoring child(ren)'s activities 1= extremely bad, unpleasant and unimportant 7= extremely good, pleasant and important	6.04 (5.99-6.09)	5.96 (5.83-6.08)	6.07 (5.98-6.16)	6.06 (5.97-6.16)	6.10 (5.90-6.30)	0.08 (-0.02,0.19)		0.14 (-0.08,0.37)
Mean parental response on summary scale of beliefs about effectiveness of monitoring child(ren)'s activities -2 = Strongly disagree / +2 = Strongly Agree on	0.96 (0.92-1.00)	0.97 (0.90-1.05)	0.93 (0.89-0.98)	0.98 (0.91-1.05)	0.97 (0.84-1.09)	-0.01 (-0.07,0.04)		0.00 (-0.15,0.14)
Percent of children whose parents report having talked to them about family rules or expectations about drug use	78.7 (75.6-81.6)	78.7 (74.3-82.5)	78.1 (73.3-82.2)	80.2 (74.4-84.9)	78.5 (68.9-85.8)	0.0 (-3.7,3.8)		-0.2 (-9.9,9.6)
Proportion of parents reporting going someplace for fun with children at least twice in the past week (2)	45.0 (41.7-48.2)	44.5 (38.9-50.2)	44.6 (39.5-49.9)	46.1 (40.4-51.9)	49.6 (38.9-60.4)	0.5 (-4.5,5.5)		5.1 (-6.7,17.0)
Proportion of parents reporting doing projects or activities with child at home at least twice in the past week (3)	55.6 (52.4-58.7)	52.1 (46.6-57.5)	55.2 (50.5-59.8)	57.3 (51.7-62.7)	64.7 (52.3-75.4)	3.5 (-0.7,7.6)		12.6 (-0.4,25.7)

Table 11-6. The relationship between parental exposure to specific parent-targeted TV anti-drug advertising and parental cognitions among youth 14-18 years old
(continued)
November 1999 through December 2000

	Exposure Level (real or hypothetical)					Direct Campaign Effect (C1-C2)	Monotone dose-response relationship?	Potential Maximum Campaign Effect (C5-C2)
	PRAEI							
	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)			
Attitudes and Practices								
Percent of children whose parents perceive them as very unlikely to try marijuana even once or twice in the next 6 months	74.4 (72.0-76.6)	73.0 (68.1-77.3)	72.5 (68.0-76.6)	77.4 (71.9-82.0)	65.8 (52.1-77.2)	1.4 (-2.8,5.6)		-7.2 (-21.0,6.6)

NOTE: Percent effects are estimated by comparing observed percentages given the Media Campaign (1) to percentages obtained assuming no Media Campaign (2). Data for period November 1999 - December 2000.

(1) Monitoring activities included: knowing what the youth is doing when away from home, having a pretty good idea of the youth's plans for the coming day, and limiting the amount of free time in the afternoons that the youth has to hang out with friends without adult supervision.

(2) Prompted activities included going to sporting events or to the mall, scout or club meetings, or outdoor activities.

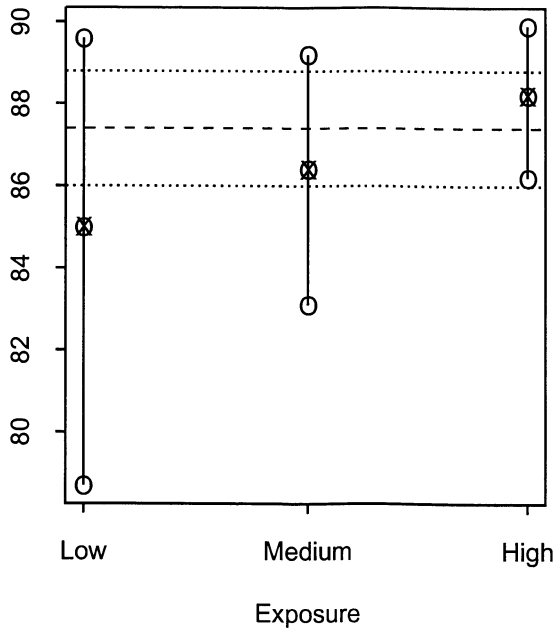
(3) Prompted activities at home included hobbies, crafts, baking, music, and games.

Detail Figures

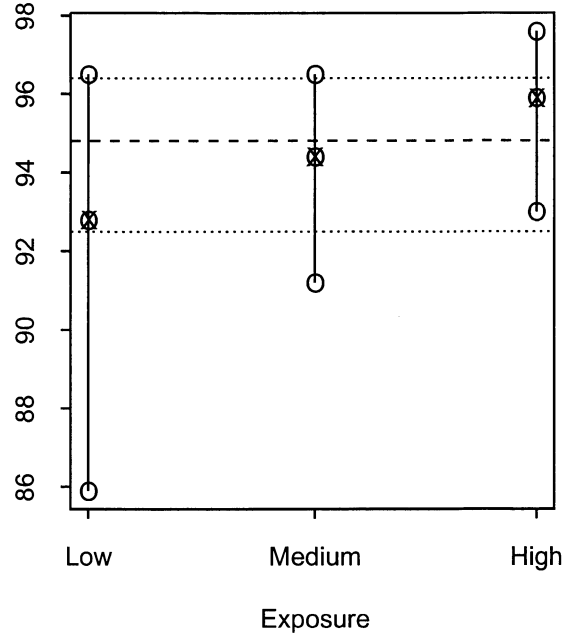
National Survey of Parents and Youth:
Waves 1 and 2, November 1999-December 2000

Relation between exposure to general anti-drug advertising and cognitions about marijuana among youth (12-18) who have not previously tried marijuana

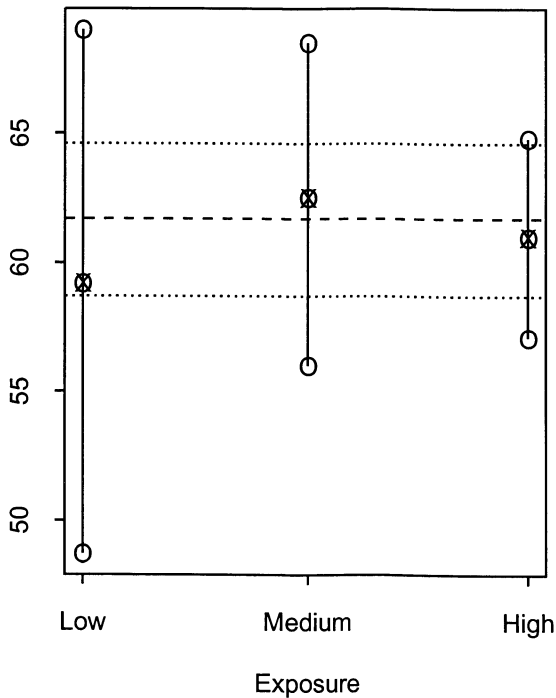
%Youth not intending to try



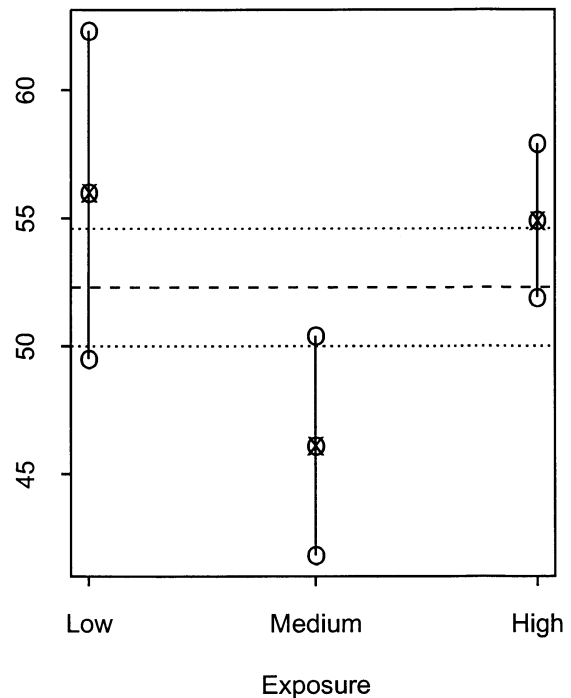
%Youth say parents strongly disapprove trial



%Youth say friends strongly disapprove trial



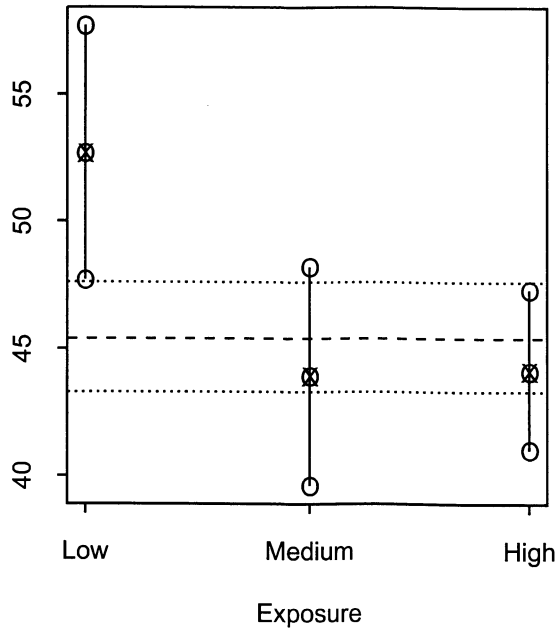
%Youth strongly disapprove of occasional use



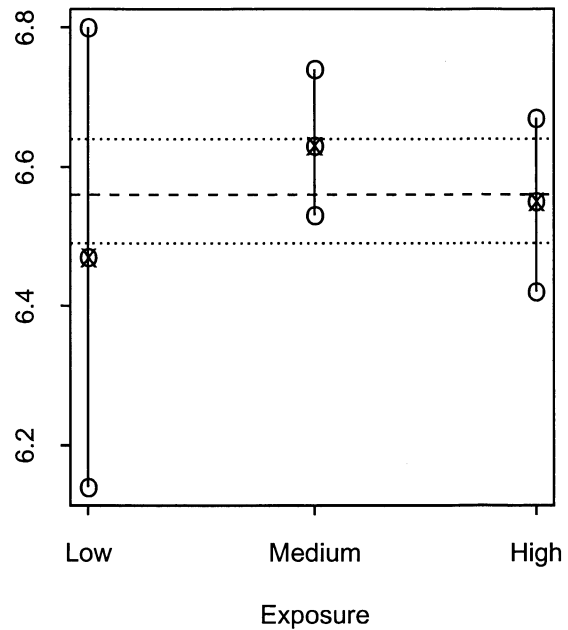
Detail Figure 10-1

Relation between exposure to general anti-drug advertising and cognitions about marijuana among youth (12-18) who have not previously tried marijuana

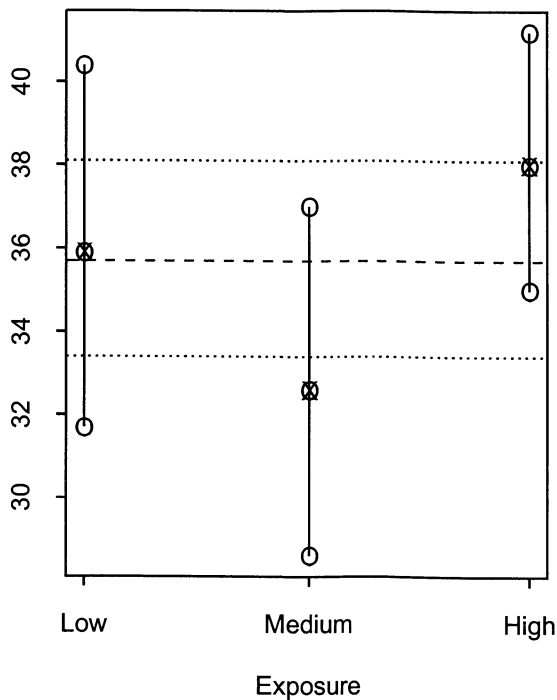
% Youth who believe few peers have tried



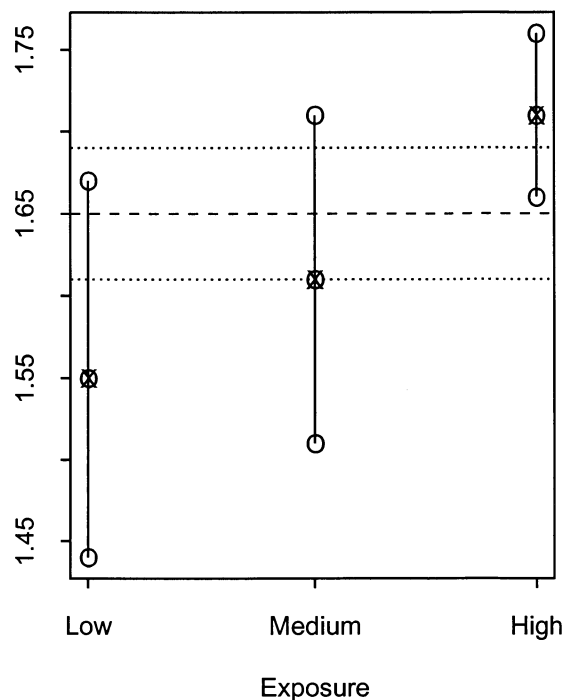
Youth mean attitude to trial
1=strongly pro 7=strongly anti drug



% Youth who perceive great risk from occasional use



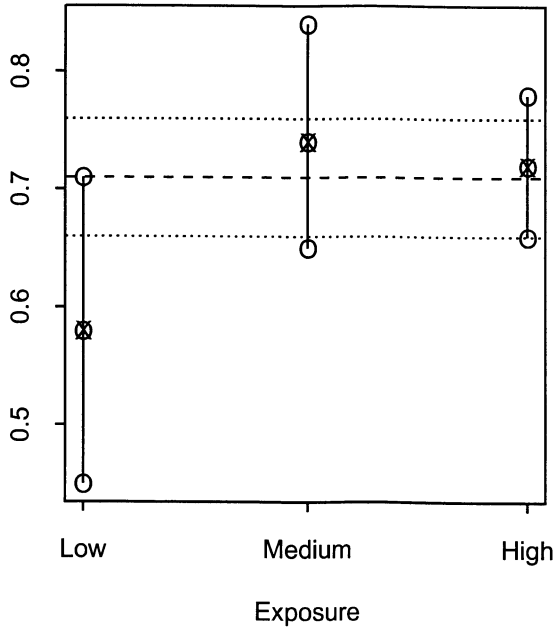
Youth mean efficacy in refusal
-2=cannot 2=can resist



Detail Figure 10-1 (continued)

Relation between exposure to general anti-drug advertising and cognitions about marijuana among youth (12-18) who have not previously tried marijuana

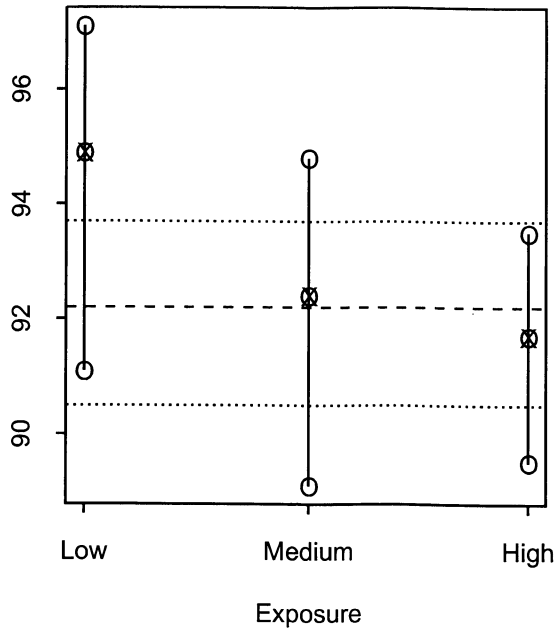
Youth mean beliefs of consequences of trial -2=strong pro 2=strong anti drug



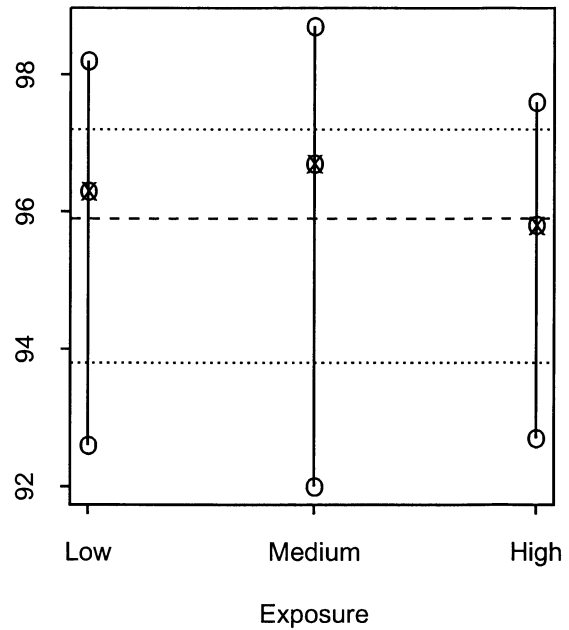
Detail Figure 10-1 (continued)

Relationship between exposure to general anti-drug advertising and cognitions about marijuana among youth(12-13) who have not previously tried marijuana

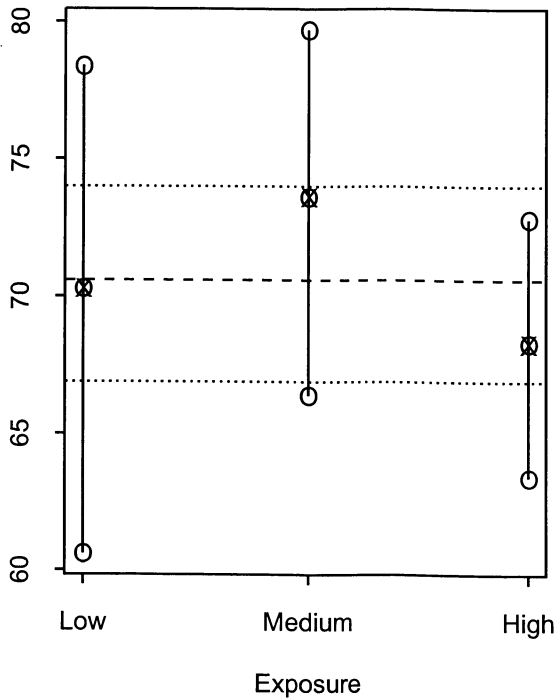
%Youth not intending to try



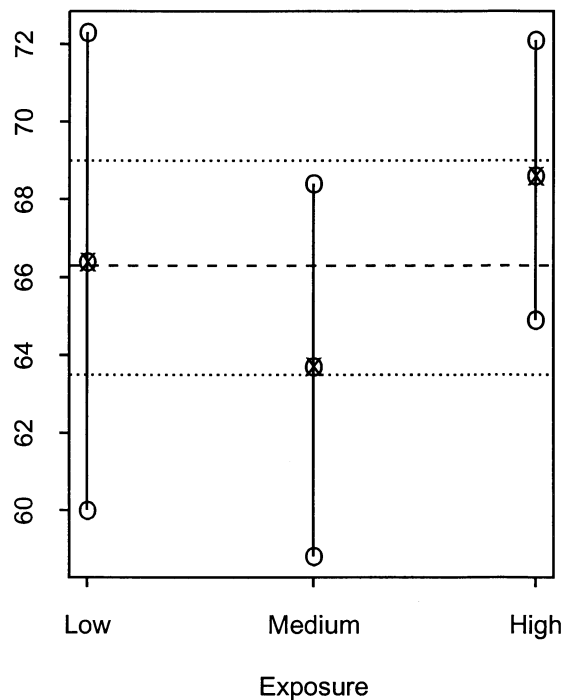
%Youth say parents strongly disapprove trial



%Youth say friends strongly disapprove trial



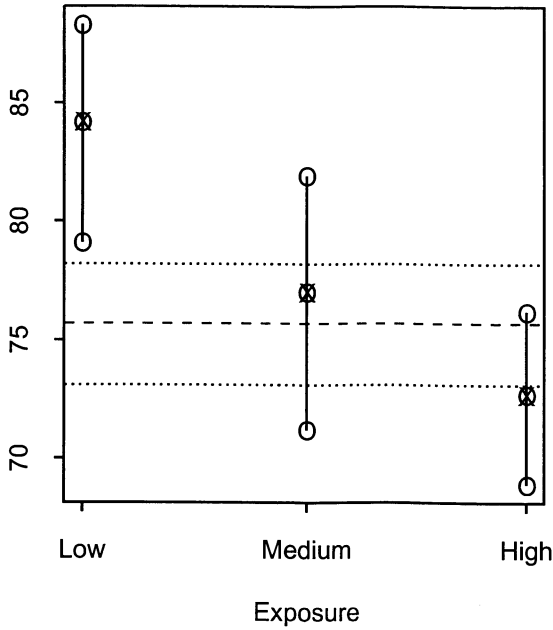
%Youth strongly disapprove of occasional use



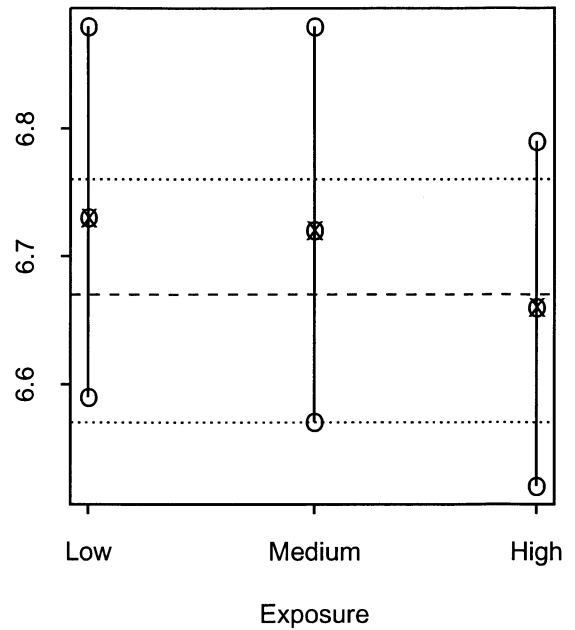
Detail Figure 10-1a

Relationship between exposure to general anti-drug advertising and cognitions about marijuana among youth(12-13) who have not previously tried marijuana

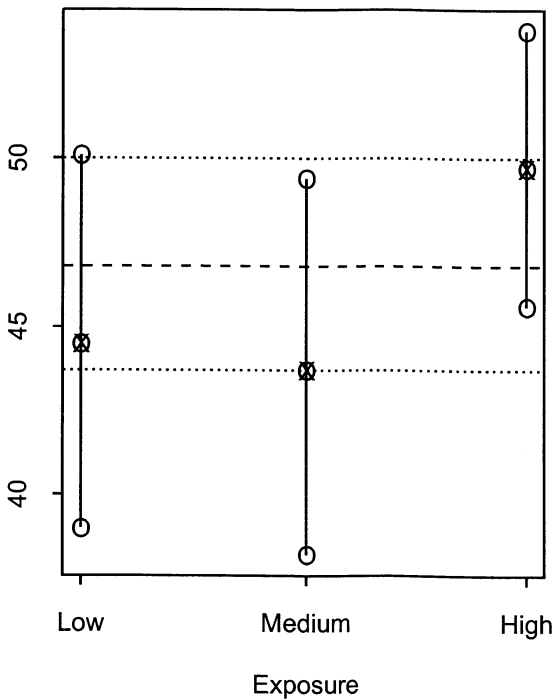
%Youth who believe few peers have tried



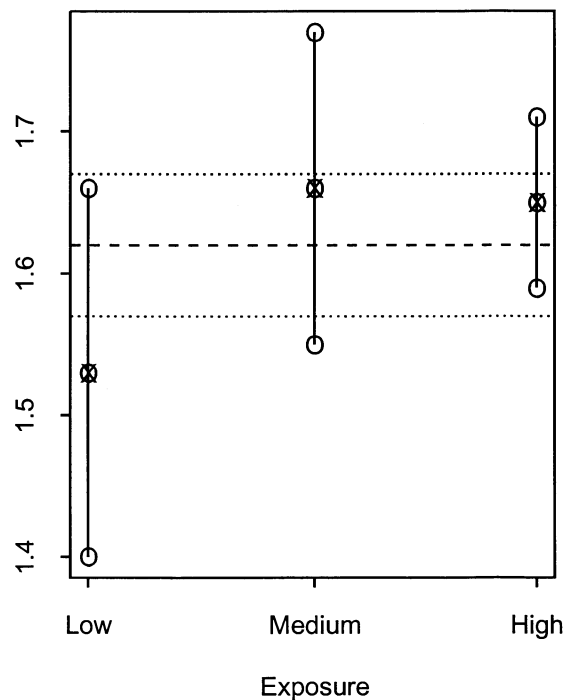
Youth mean attitude to trial
1=strongly pro 7=strongly anti drug



%Youth who perceive great risk from occasional use



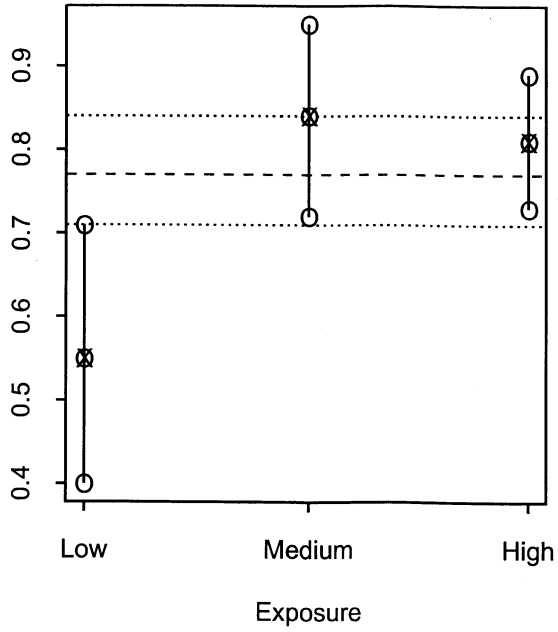
Youth mean efficacy in refusal
-2=cannot 2=can resist



Detail Figure 10-1a (continued)

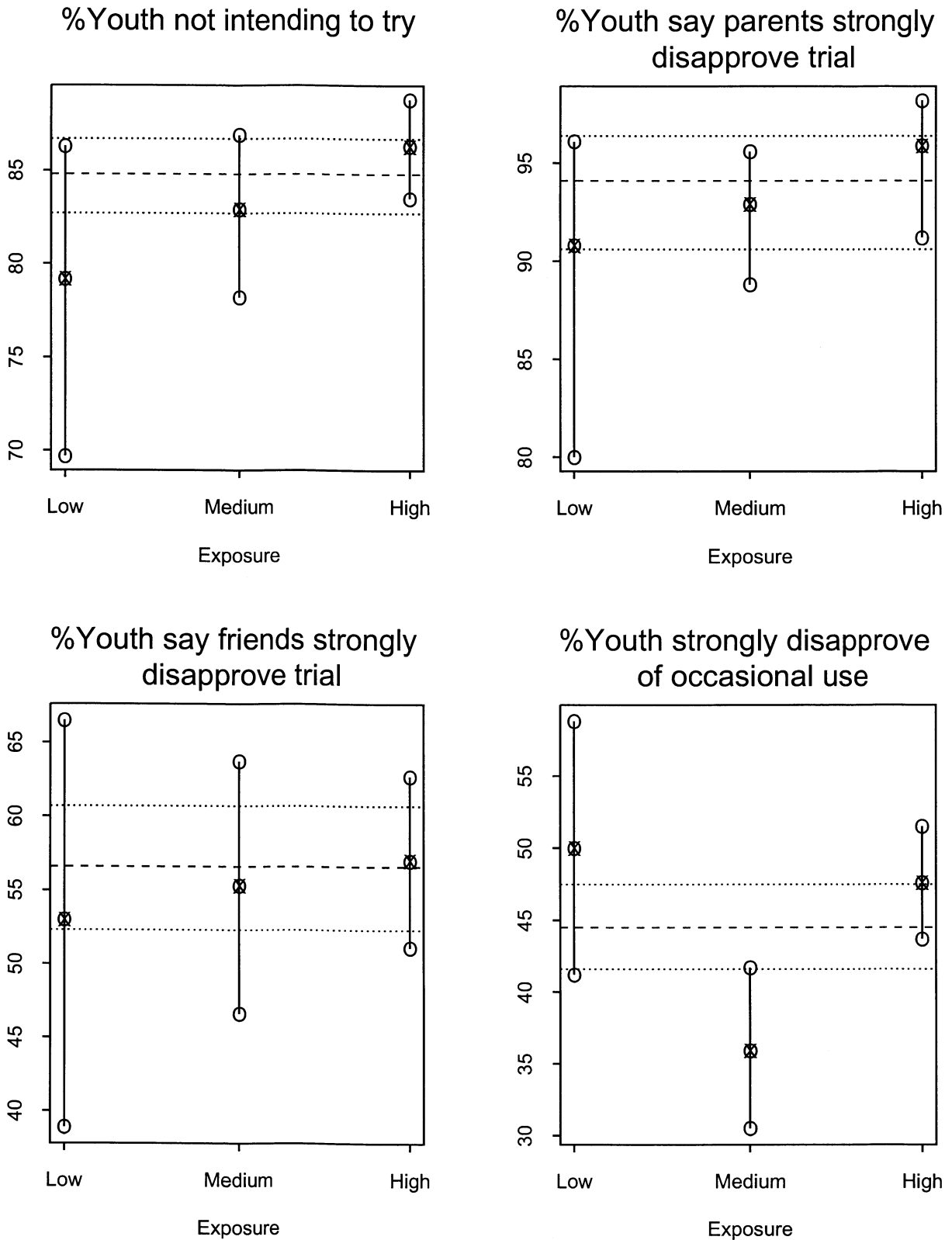
Relationship between exposure to general anti-drug advertising and cognitions about marijuana among youth(12-13) who have not previously tried marijuana

Youth mean beliefs of consequences of trial -2=strong pro 2=strong anti drug



Detail Figure 10-1a (continued)

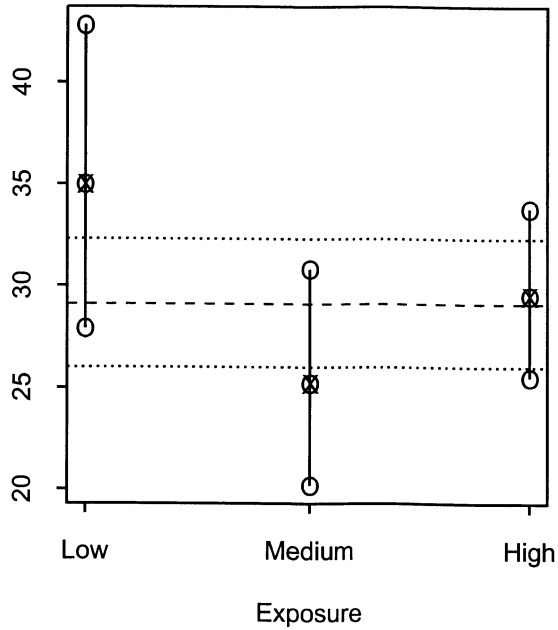
Relationship between exposure to general anti-drug advertising and cognitions about marijuana among youth(14-18) who have not previously tried marijuana



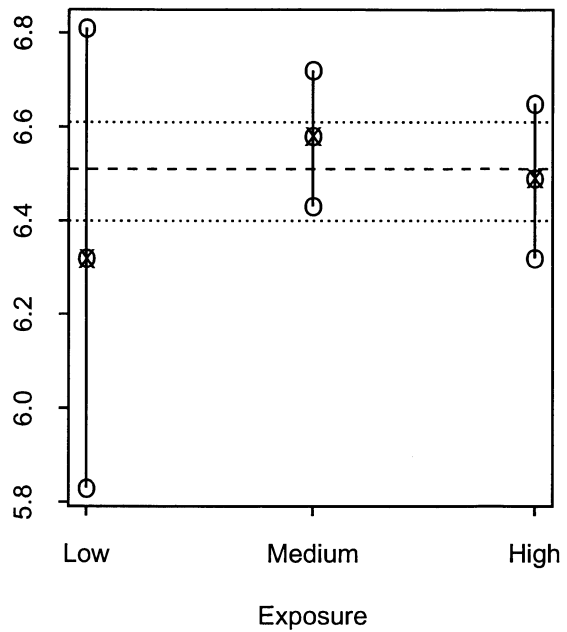
Detail Figure 10-1b

Relationship between exposure to general anti-drug advertising and cognitions about marijuana among youth(14-18) who have not previously tried marijuana

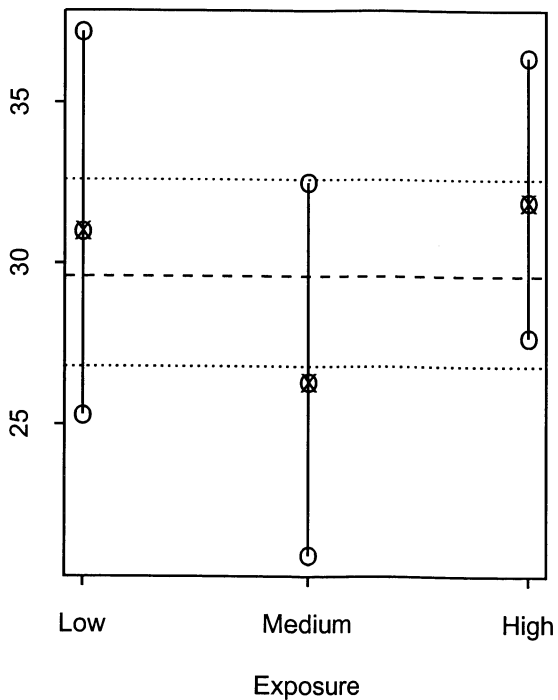
%Youth who believe few peers have tried



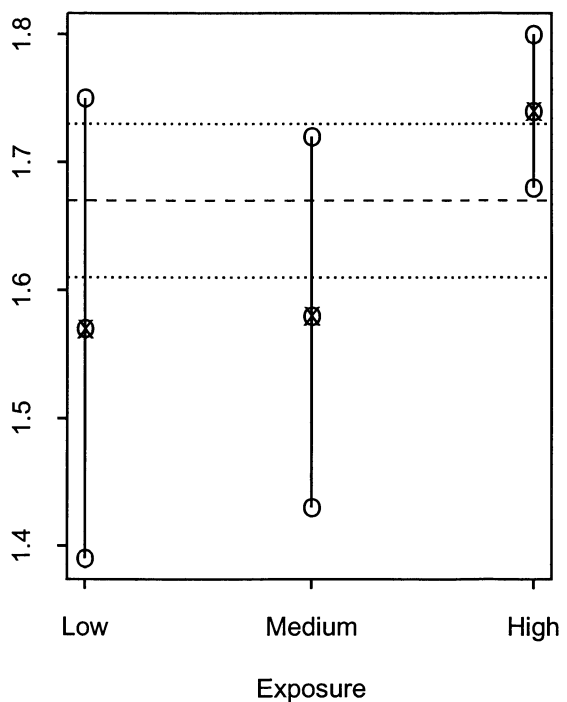
Youth mean attitude to trial
1=strongly pro 7=strongly anti drug



%Youth who perceive great risk from occasional use



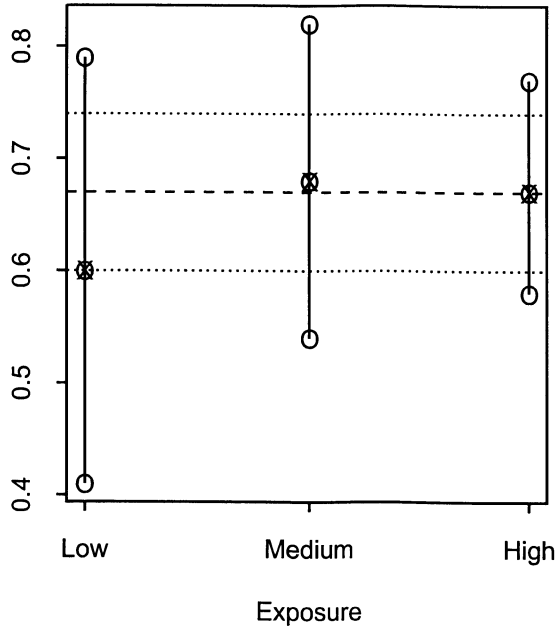
Youth mean efficacy in refusal
-2=cannot 2=can resist



Detail Figure 10-1b (continued)

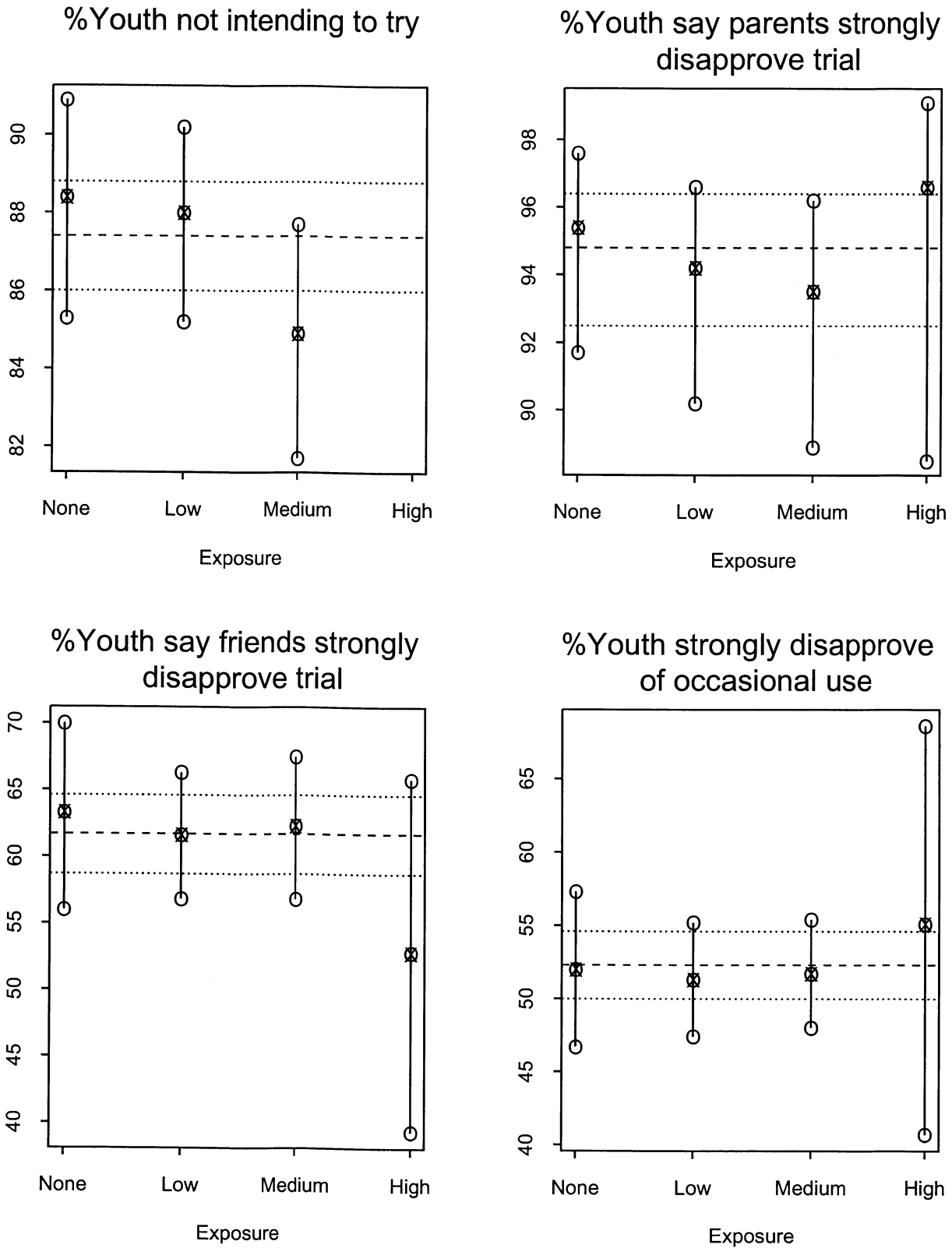
Relationship between exposure to general anti-drug advertising and cognitions about marijuana among youth(14-18) who have not previously tried marijuana

Youth mean beliefs of consequences of trial -2=strong pro 2=strong anti drug



Detail Figure 10-1b (continued)

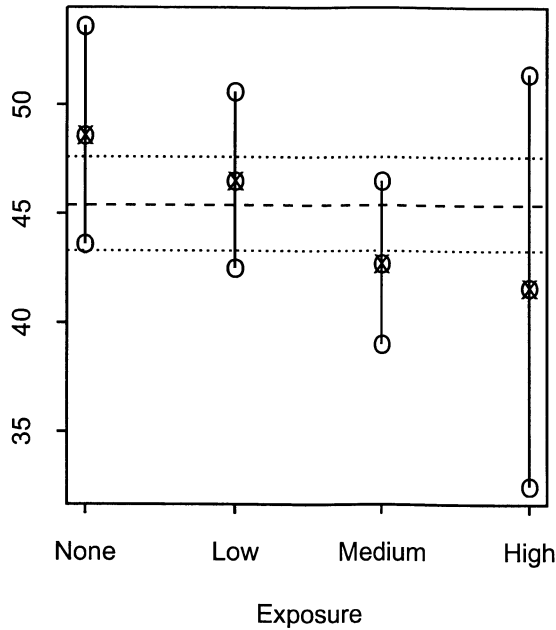
Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions about marijuana in youth(12-18) who have not tried marijuana before



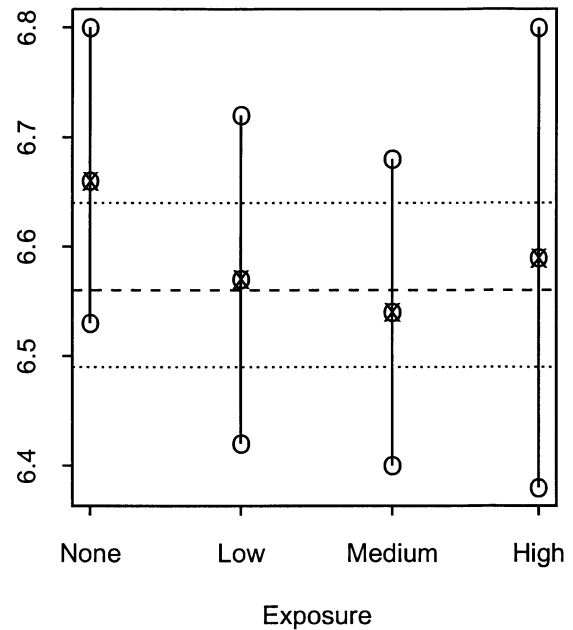
Detail Figure 10-2

Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions about marijuana in youth(12-18) who have not tried marijuana before

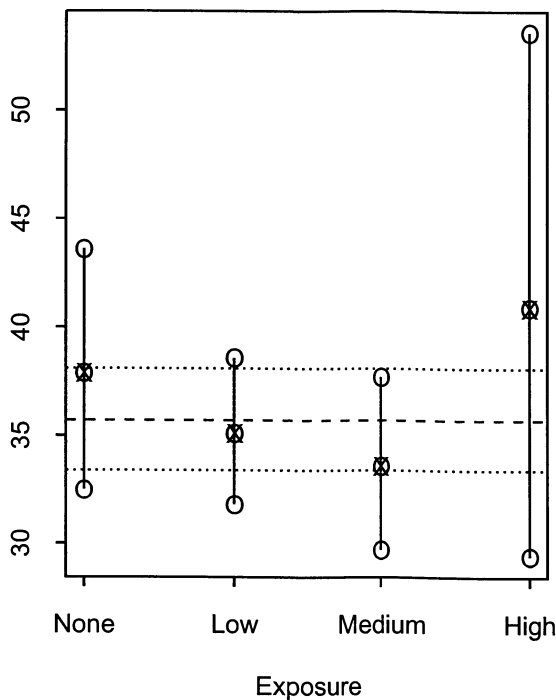
%Youth who believe few peers have tried



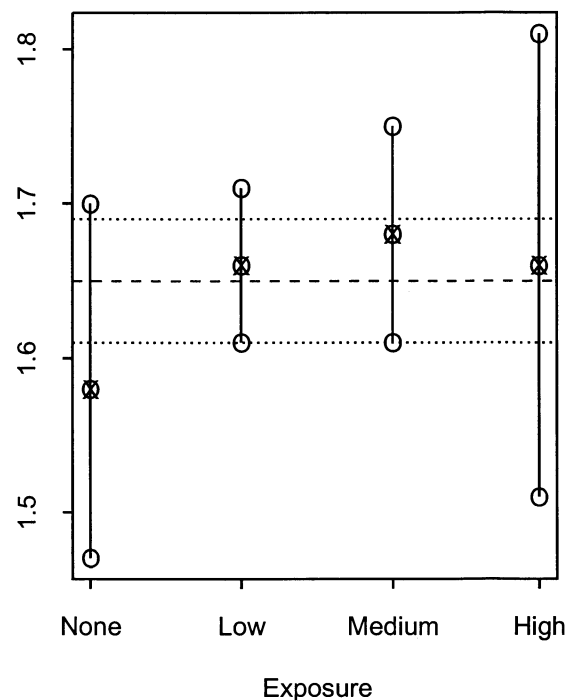
Youth mean attitude to trial
1=strongly pro 7=strongly anti drug



%Youth who perceive great risk from occasional use



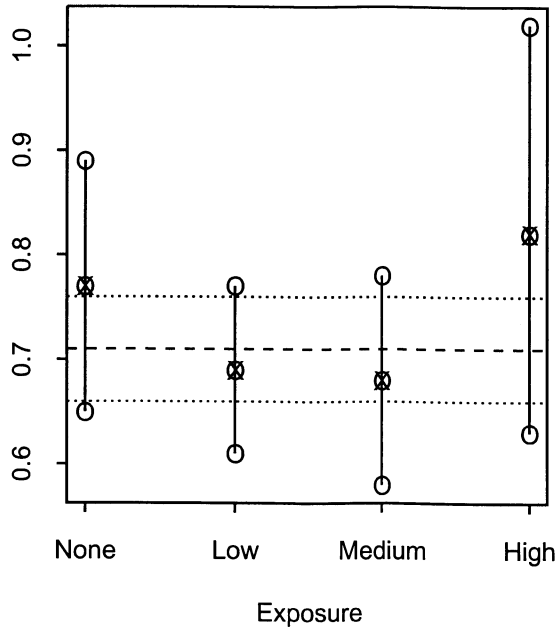
Youth mean efficacy in refusal
-2=cannot 2=can resist



Detail Figure 10-2 (continued)

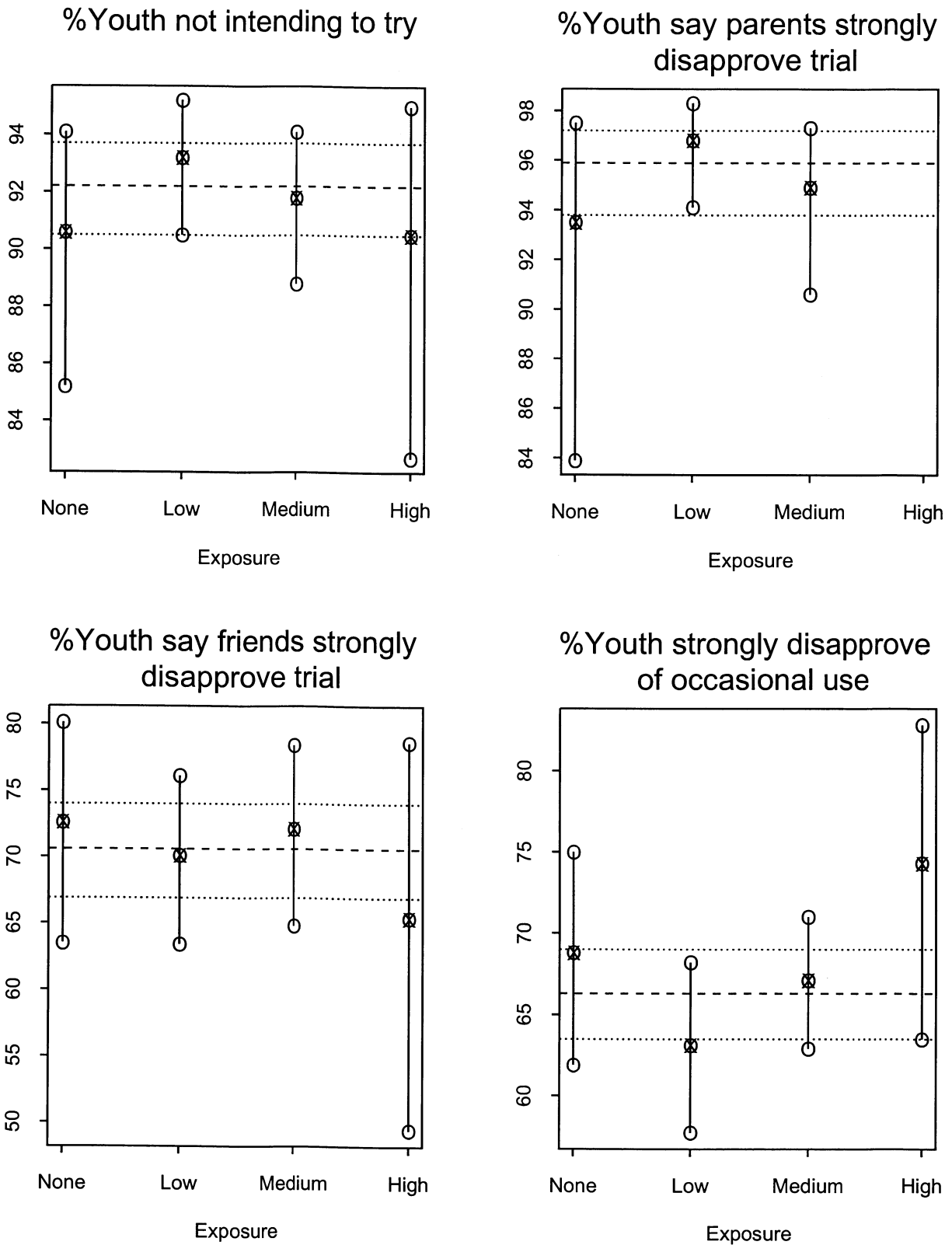
Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions about marijuana in youth(12-18) who have not tried marijuana before

Youth mean beliefs of consequences of trial -2=strong pro 2=strong anti drug



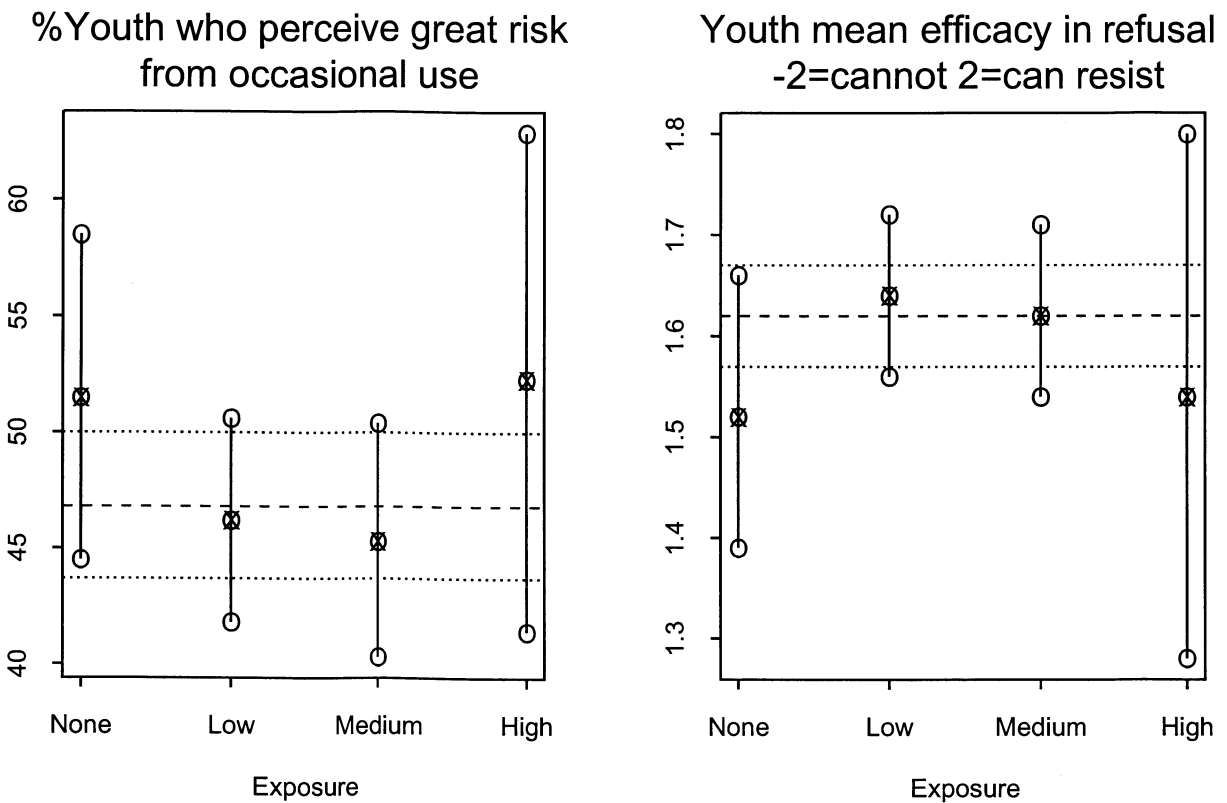
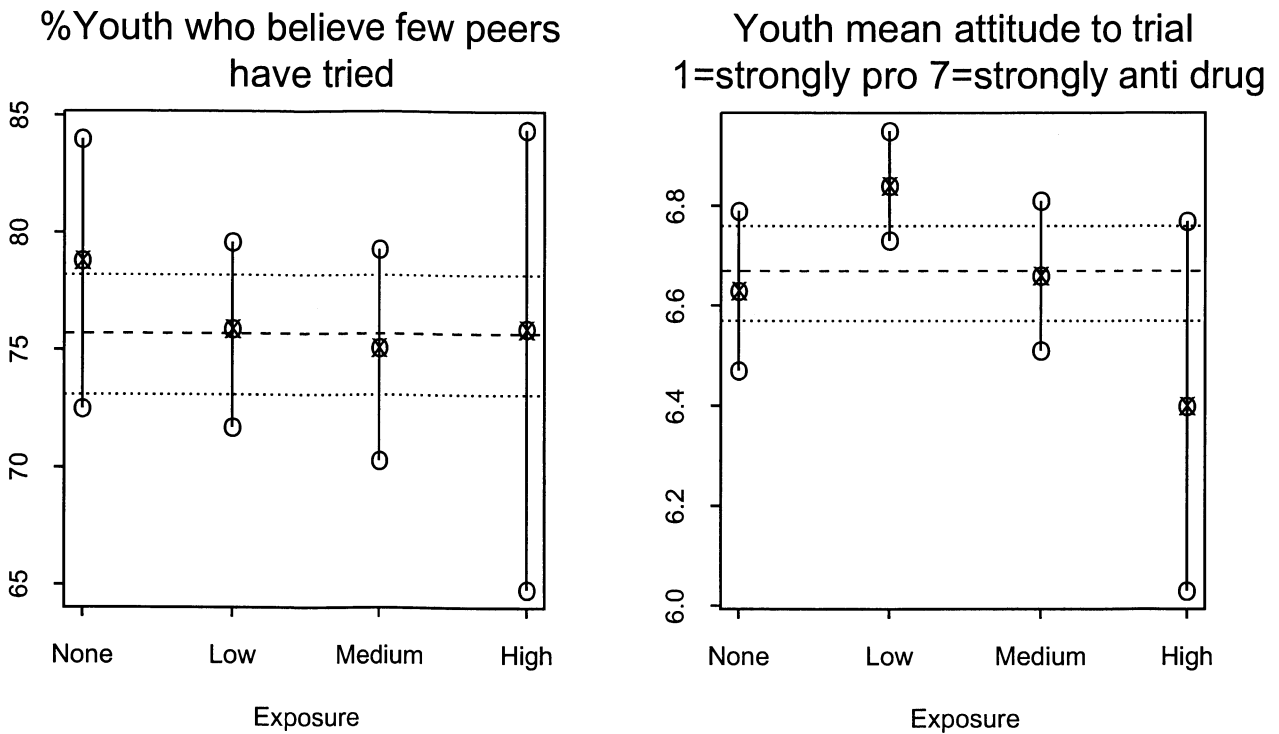
Detail Figure 10-2 (continued)

Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions about marijuana in youth(12-13) who have not tried marijuana before



Detail Figure 10-2a

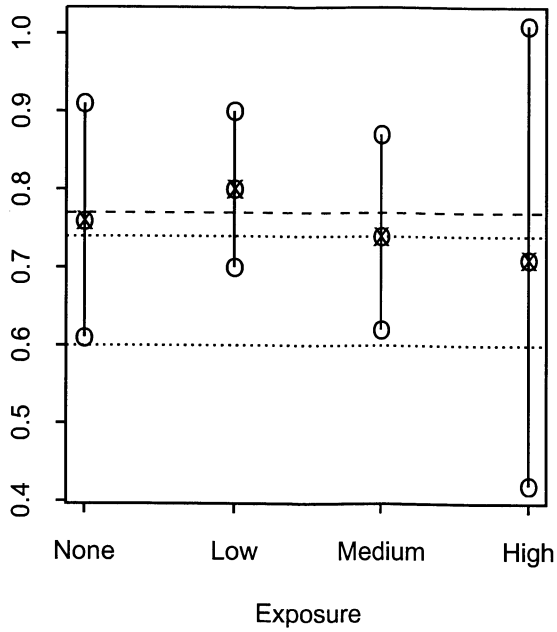
Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions about marijuana in youth(12-13) who have not tried marijuana before



Detail Figure 10-2a (continued)

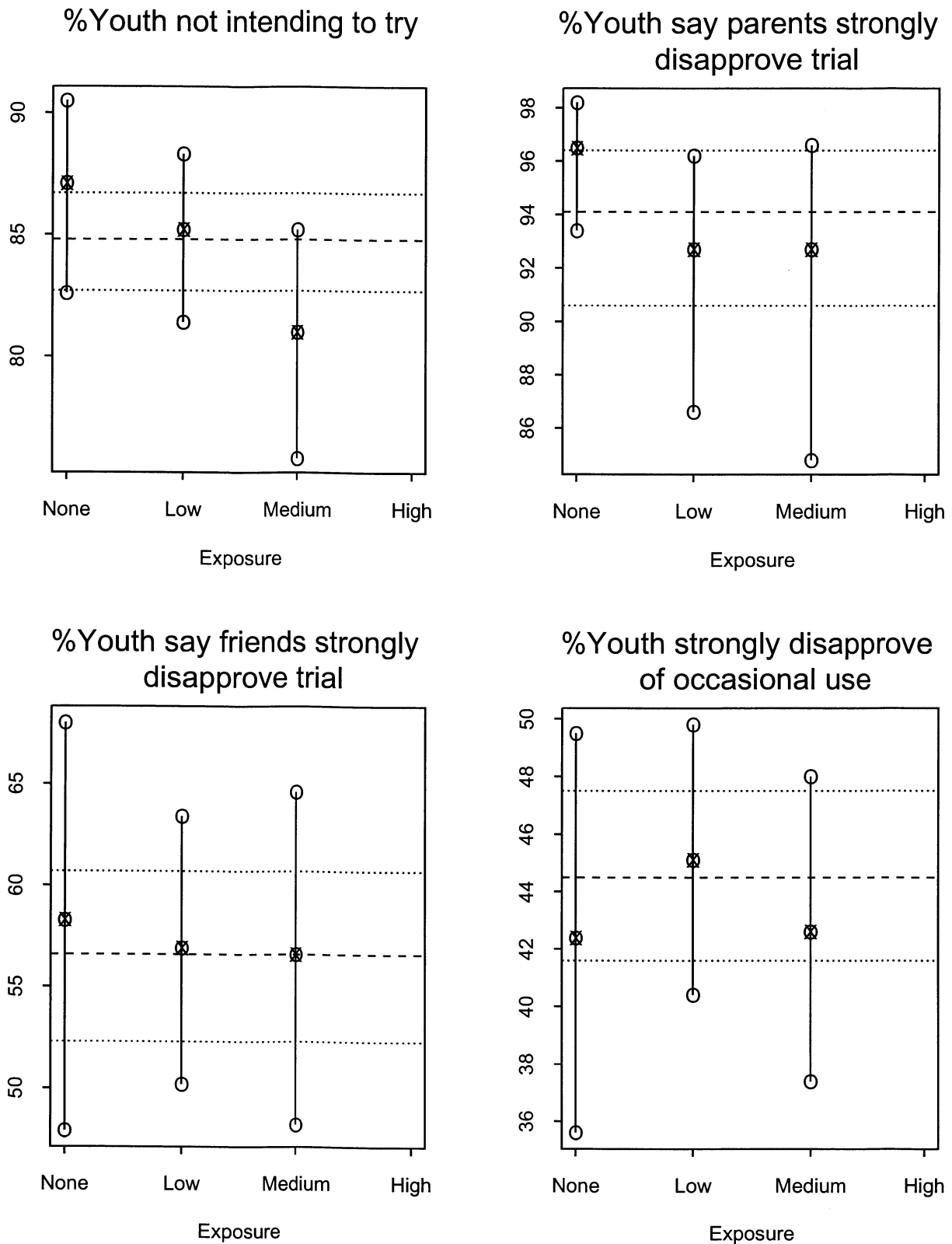
Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions about marijuana in youth(12-13) who have not tried marijuana before

Youth mean beliefs of consequences of trial -2=strong pro 2=strong anti drug



Detail Figure 10-2a (continued)

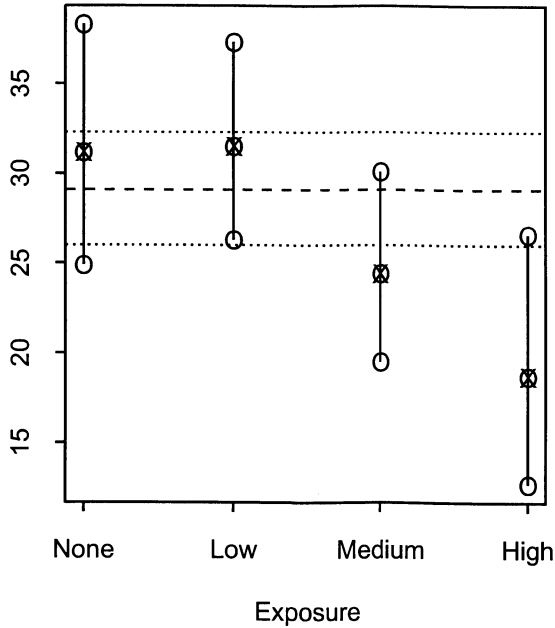
Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions in youth(14-18) who have not tried marijuana before



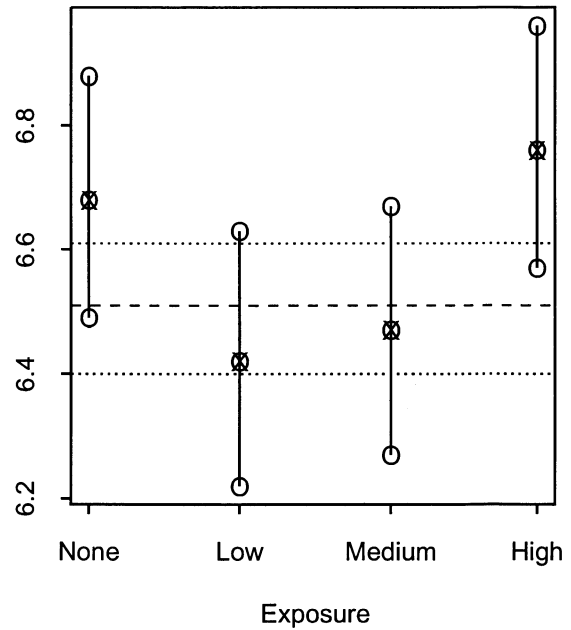
Detail Figure 10-2b

Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions in youth(14-18) who have not tried marijuana before

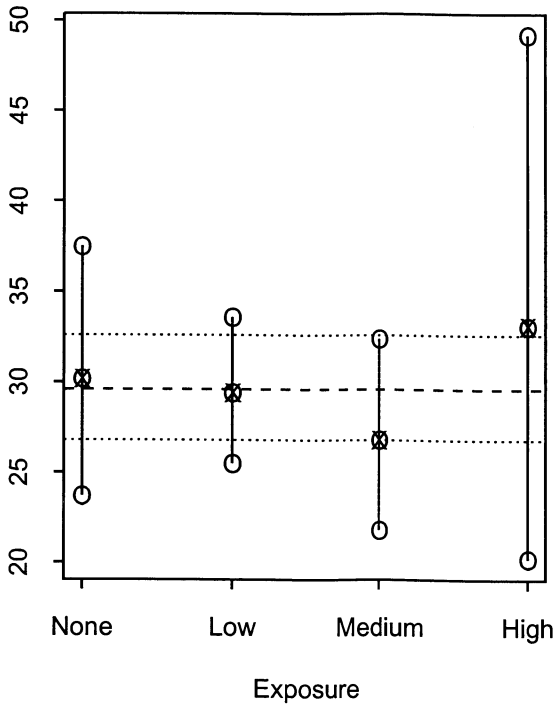
% Youth who believe few peers have tried



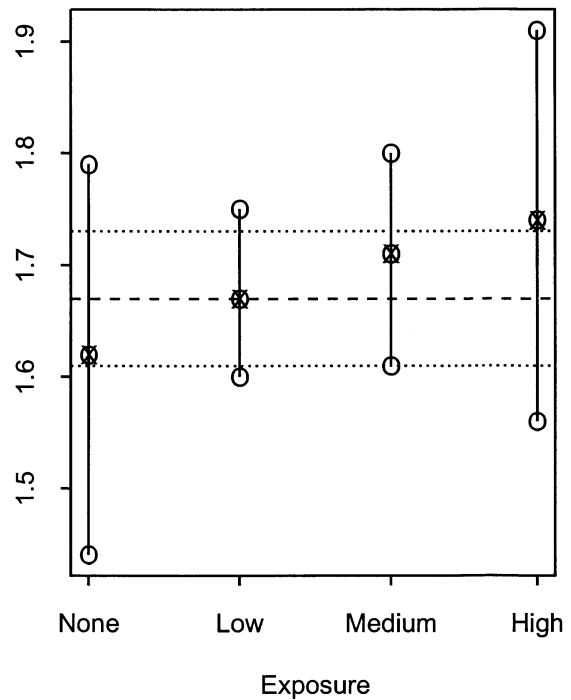
Youth mean attitude to trial
1=strongly pro 7=strongly anti drug



% Youth who perceive great risk from occasional use



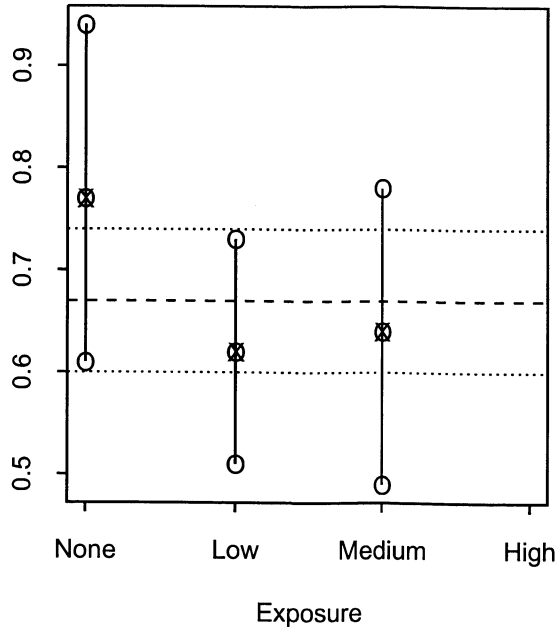
Youth mean efficacy in refusal
-2=cannot 2=can resist



Detail Figure 10-2b (continued)

Relation between exposure to specific youth-targeted TV anti-drug advertising and cognitions in youth(14-18) who have not tried marijuana before

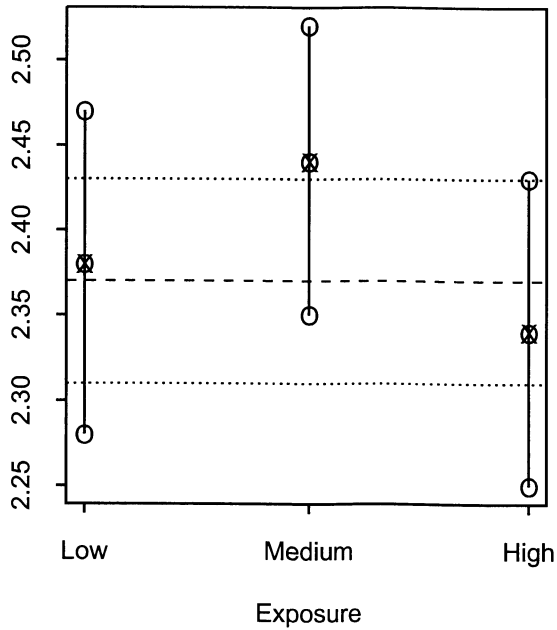
Youth mean beliefs of consequences of trial -2=strong pro 2=strong anti drug



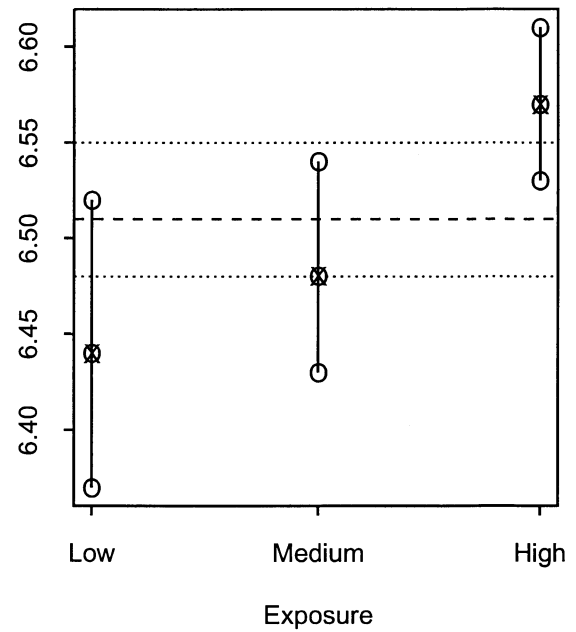
Detail Figure 10-2b (continued)

Parental exposure to general anti-drug advertising and parental monitoring of youth(9-11)

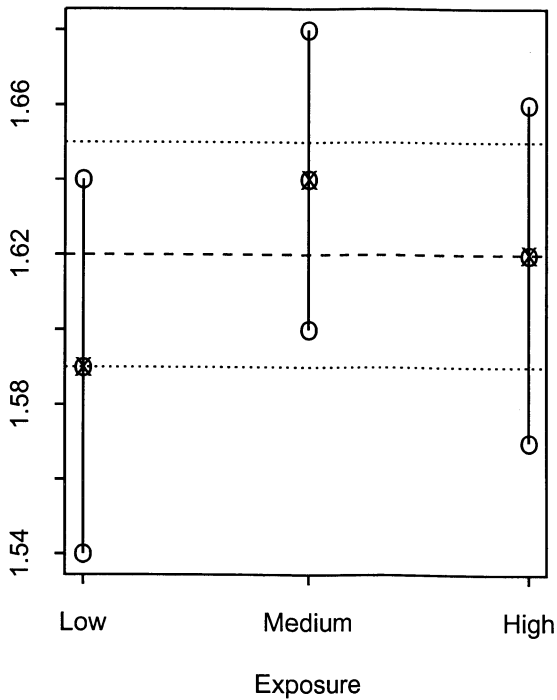
Number of parental monitoring activities done (0 to 5)



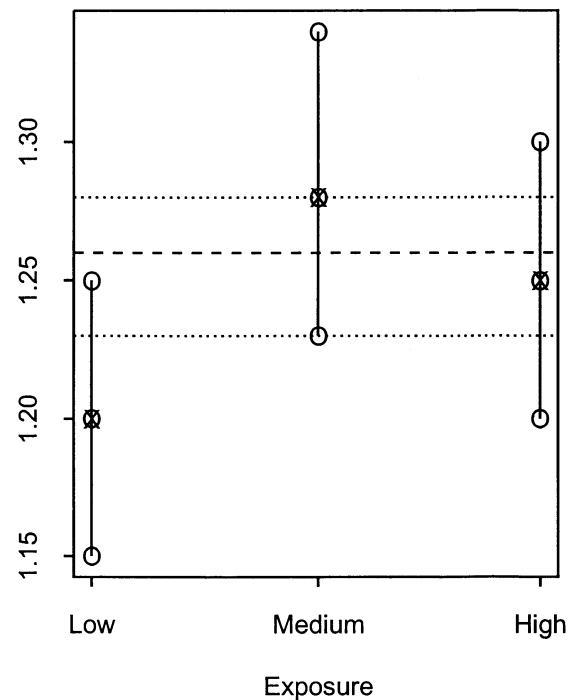
Parental attitude to monitoring
1=very bad 7=very good



Parental monitoring intent
-2=very unlikely 2=very likely

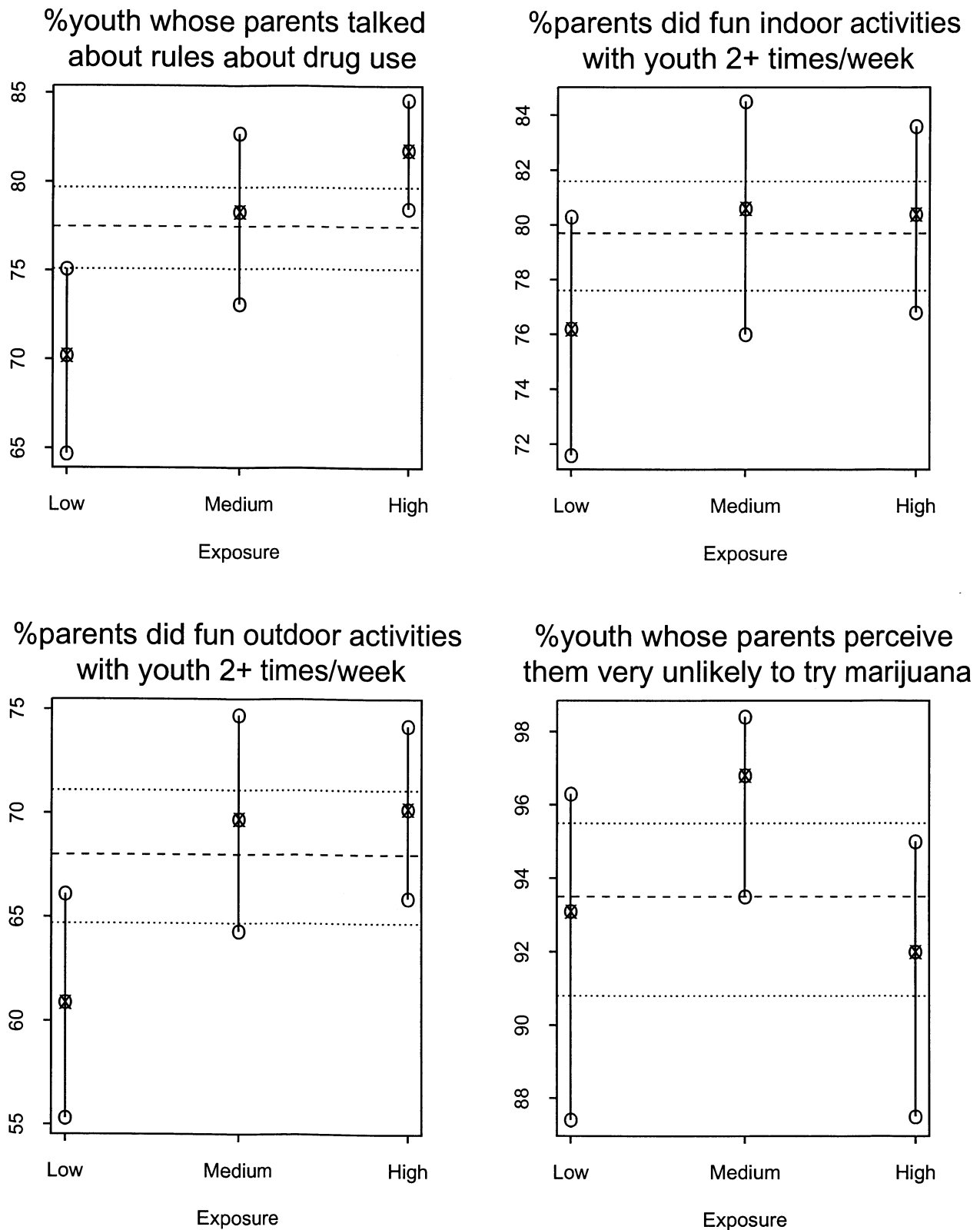


Parent's belief in efficacy of monitoring
-2=Strong disagree 2=Strong agree



Detail Figure 11-1

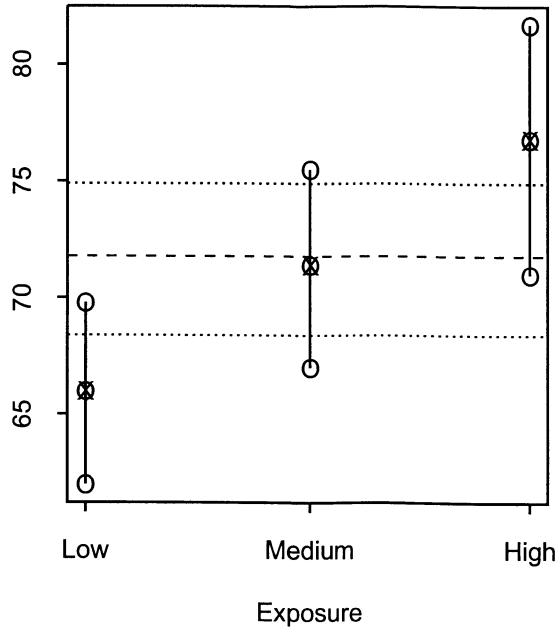
Parental exposure to general anti-drug advertising and child-rearing attributes for youth(9-11)



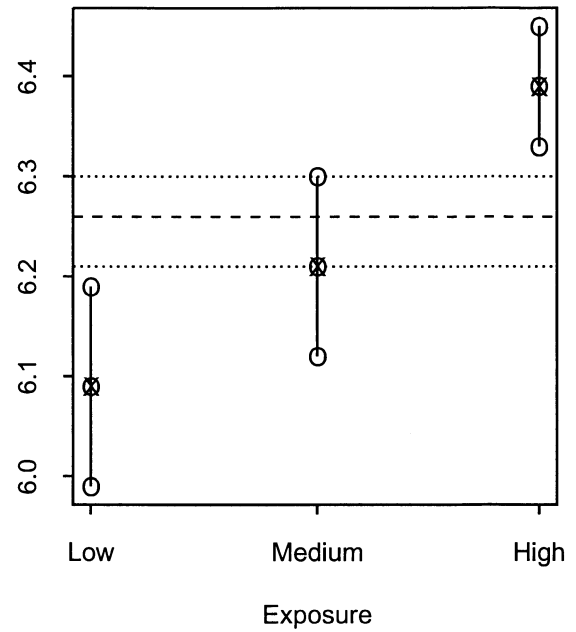
Detail Figure 11-1 (continued)

Parental exposure to general anti-drug advertising and family drug conversations with youth(9-11)

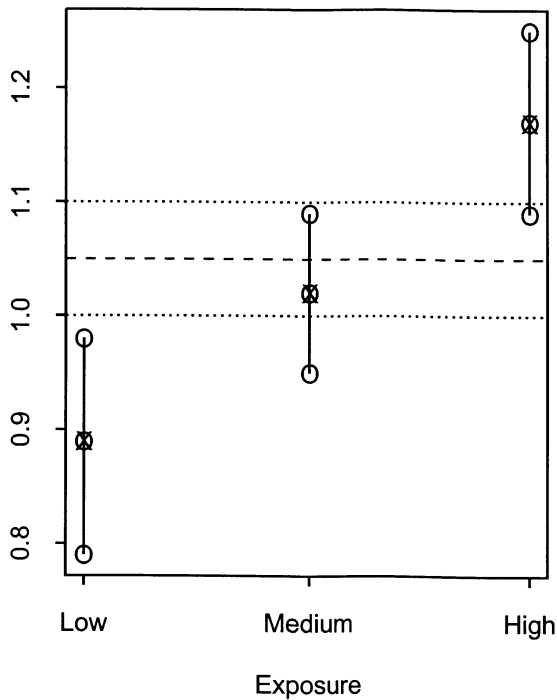
%youth whose parents had 2 or more conversations



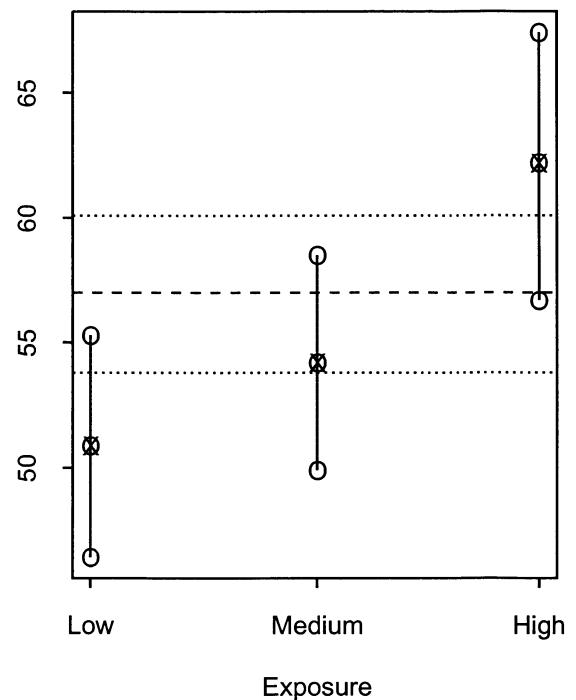
Parental attitude to talk
1=very bad 7=very good



Parental intent to talk
-2=very unlikely 2=very likely



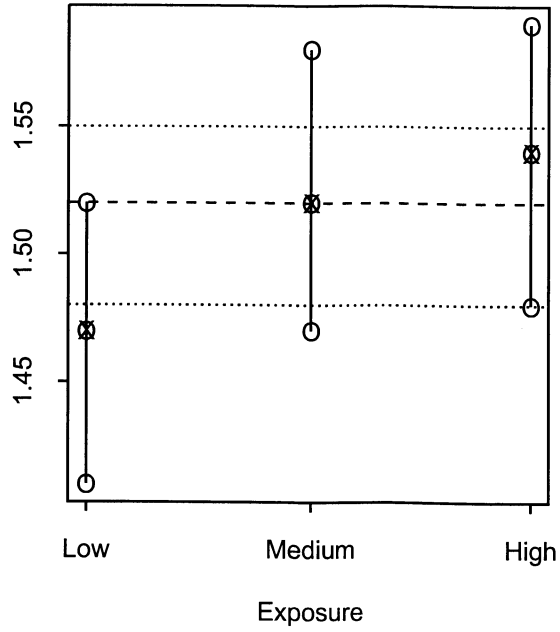
%youth with parents whose important others support talk



Detail Figure 11-1 (continued)

Parental exposure to general anti-drug advertising and family drug conversations with youth(9-11)

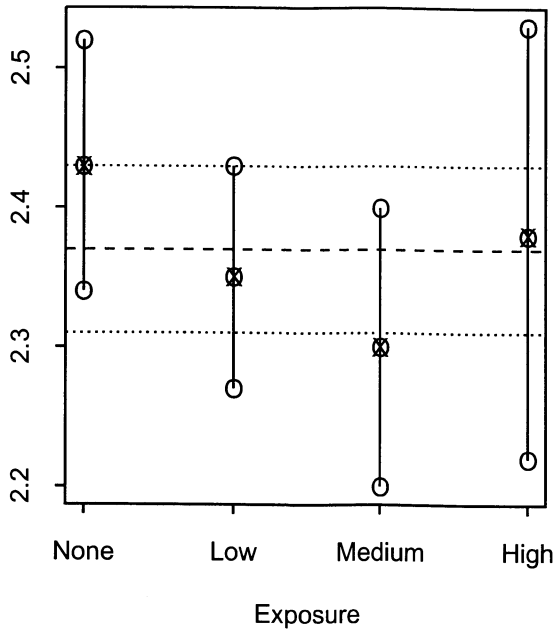
Parental self-efficacy for talk
-2=very unsure 2=very sure



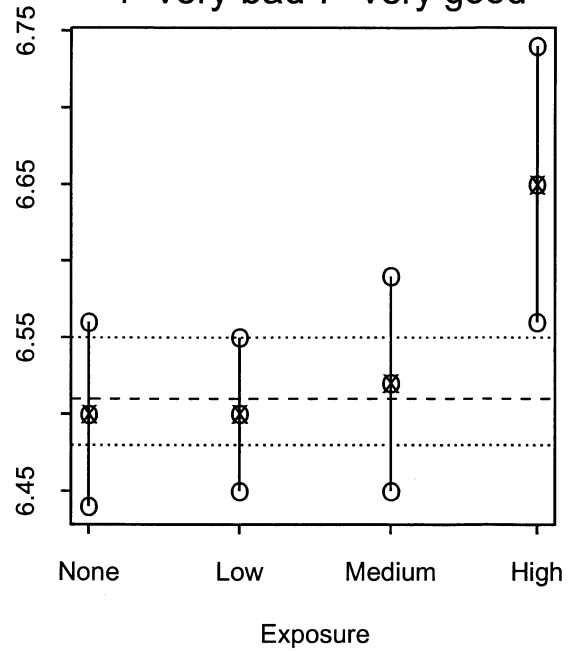
Detail Figure 11-1 (continued)

Parental exposure to specific parent-targeted
TV anti-drug advertising and parental monitoring of youth(9-11)

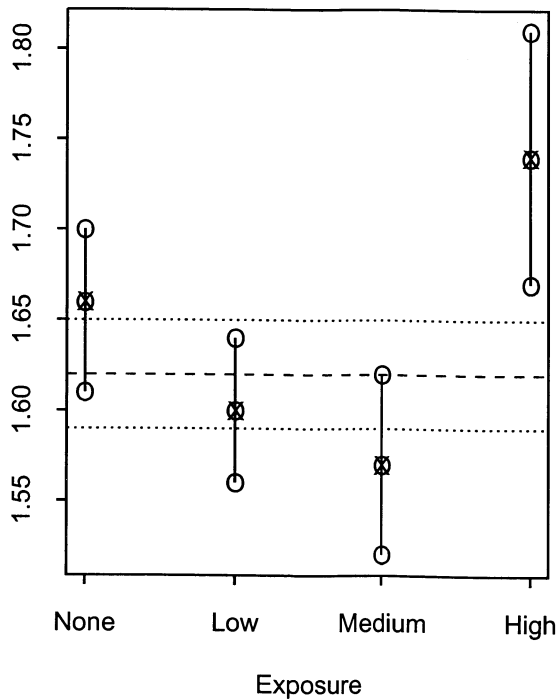
Number of parental monitoring activities done (0 to 5)



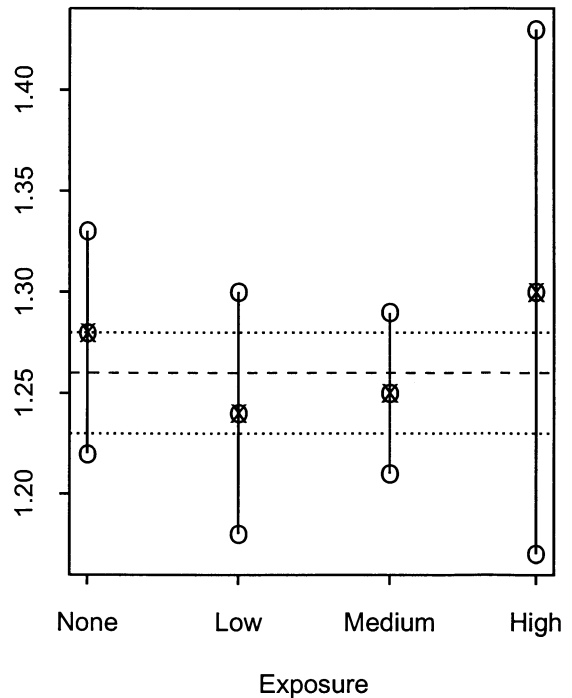
Parental attitude to monitoring
1=very bad 7=very good



Parental monitoring intent
-2=very unlikely 2=very likely

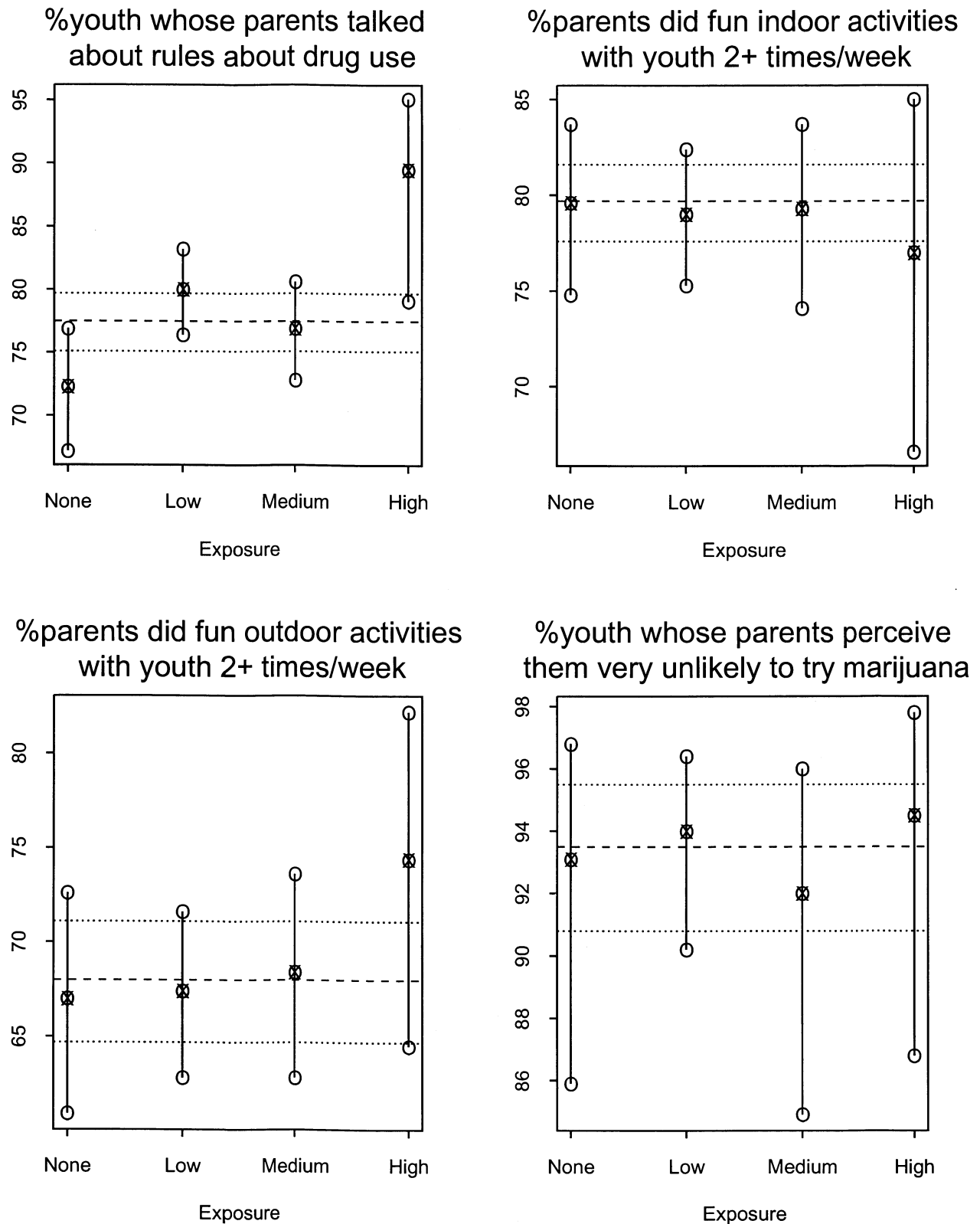


Parent's belief in efficacy of monitoring
-2=Strong disagree 2=Strong agree



Detail Figure 11-2

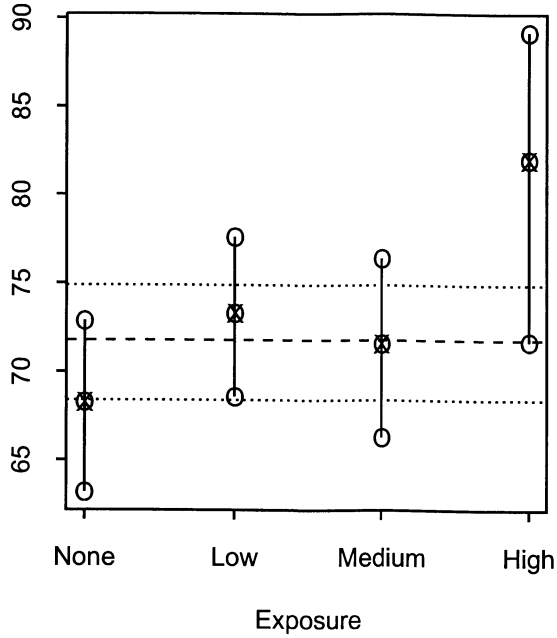
Parental exposure to specific parent-targeted TV anti-drug advertising and child-rearing attributes for youth(9-11)



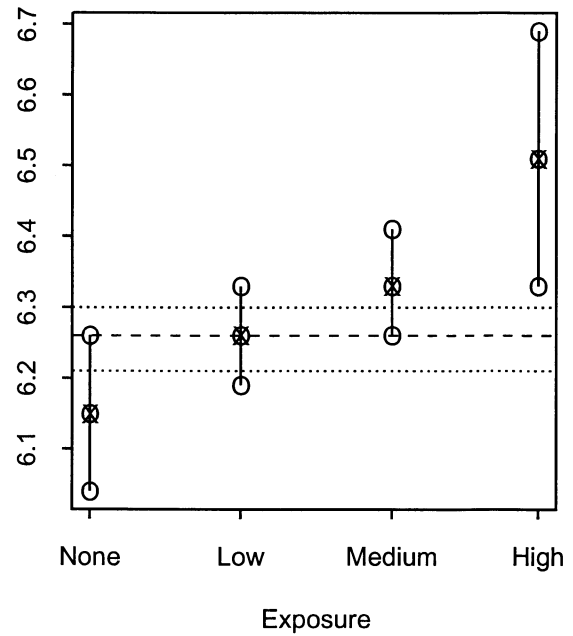
Detail Figure 11-2 (continued)

Parental exposure to specific parent-targeted TV anti-drug advertising and family drug conversations with youth(9-11)

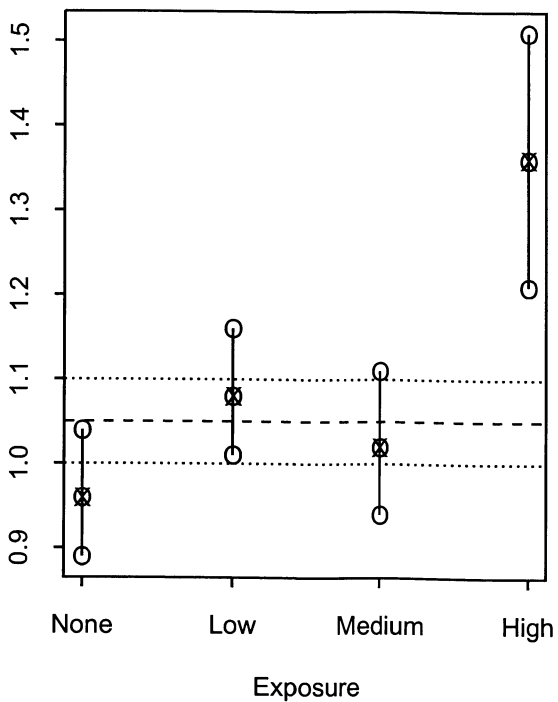
%youth whose parents had 2 or more conversations



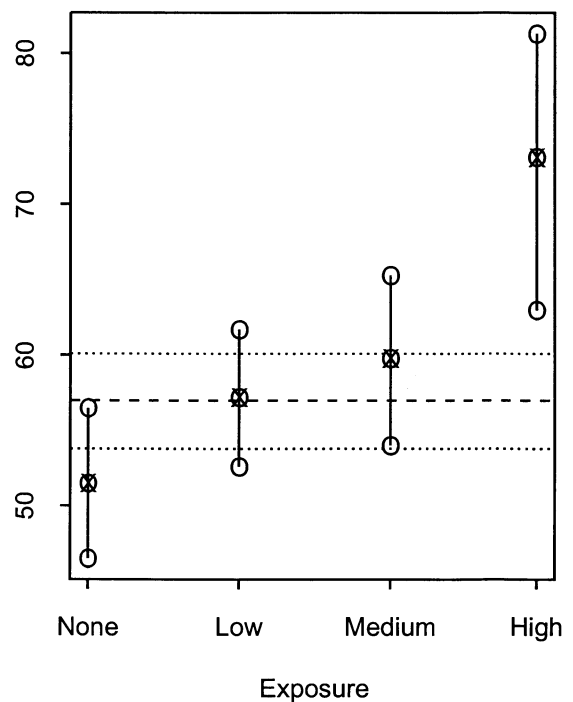
Parental attitude to talk
1=very bad 7=very good



Parental intent to talk
-2=very unlikely 2=very likely



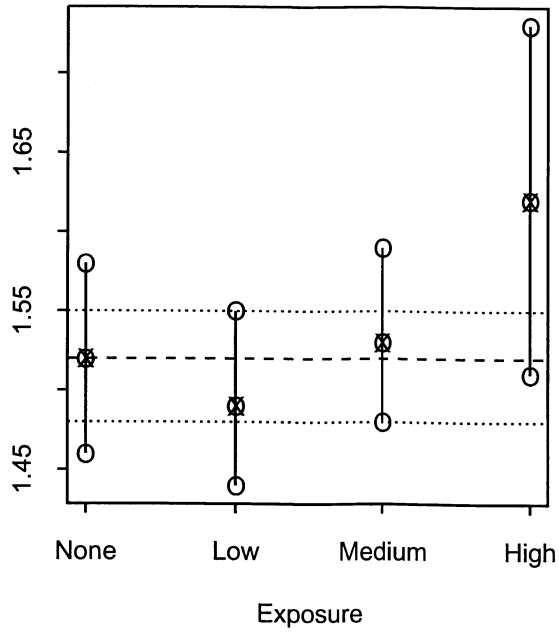
%youth with parents whose important others support talk



Detail Figure 11-2 (continued)

Parental exposure to specific parent-targeted
TV anti-drug advertising and family drug conversations with youth(9-11)

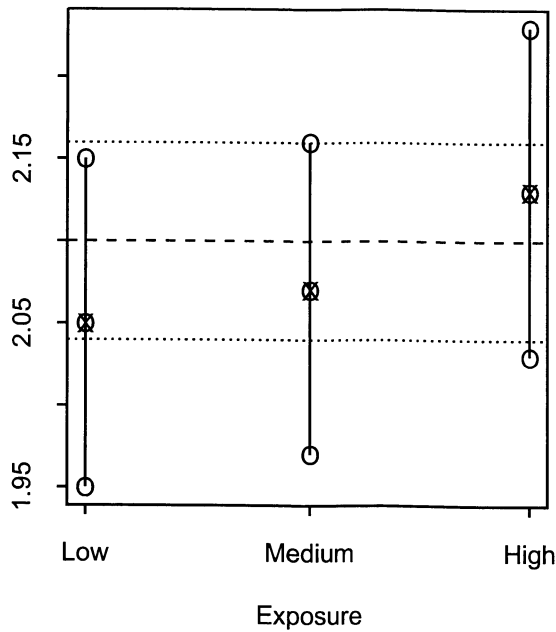
Parental self-efficacy for talk
-2=very unsure 2=very sure



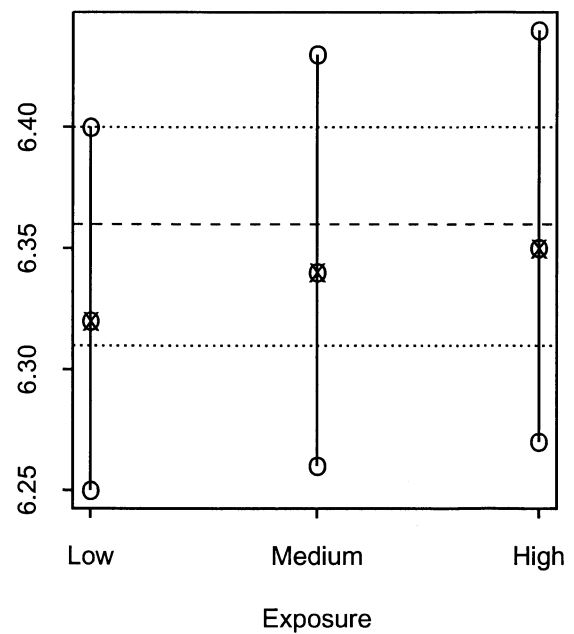
Detail Figure 11-2 (continued)

Parental exposure to general anti-drug advertising and parental monitoring of youth(12-13)

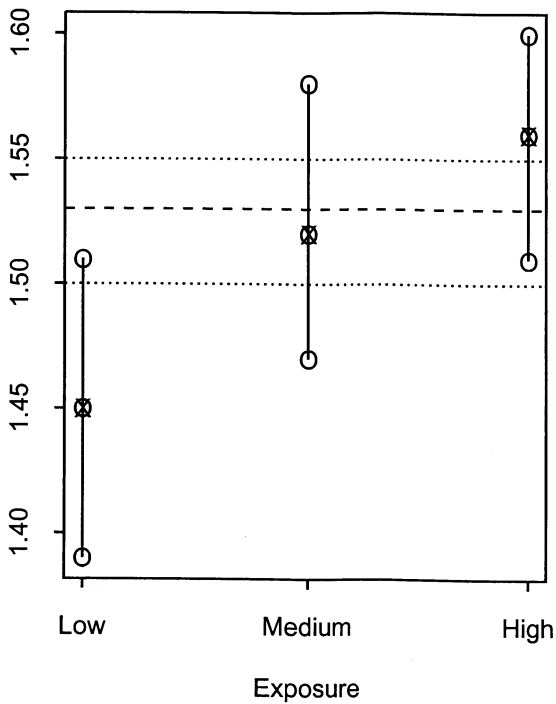
Number of parental monitoring activities done (0 to 5)



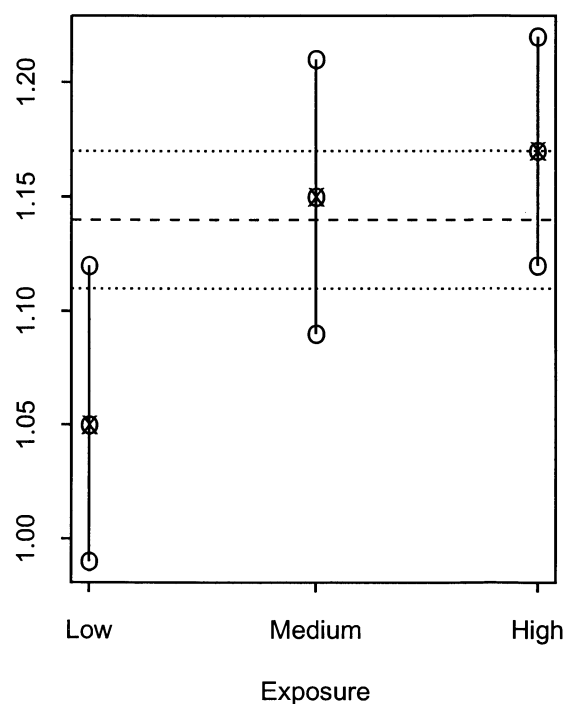
Parental attitude to monitoring
1=very bad 7=very good



Parental monitoring intent
-2=very unlikely 2=very likely



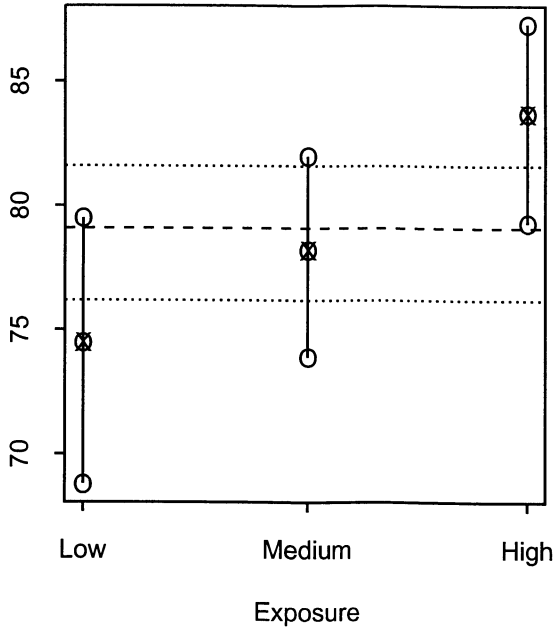
Parent's belief in efficacy of monitoring
-2=Strong disagree 2=Strong agree



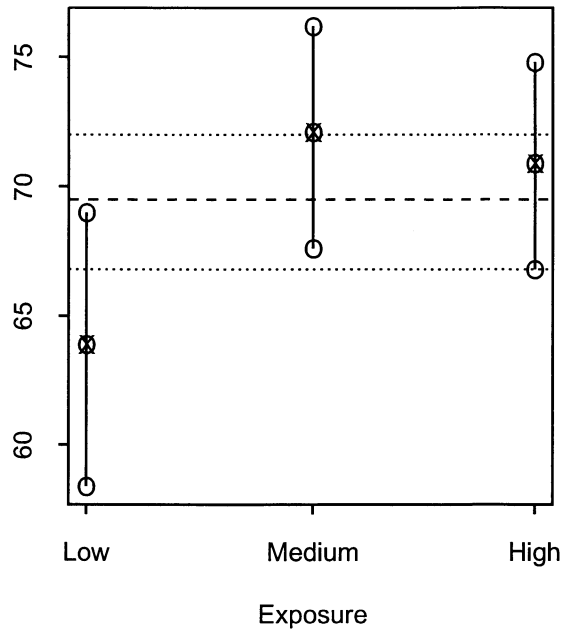
Detail Figure 11-3

Parental exposure to general anti-drug advertising and child-rearing attributes for youth(12-13)

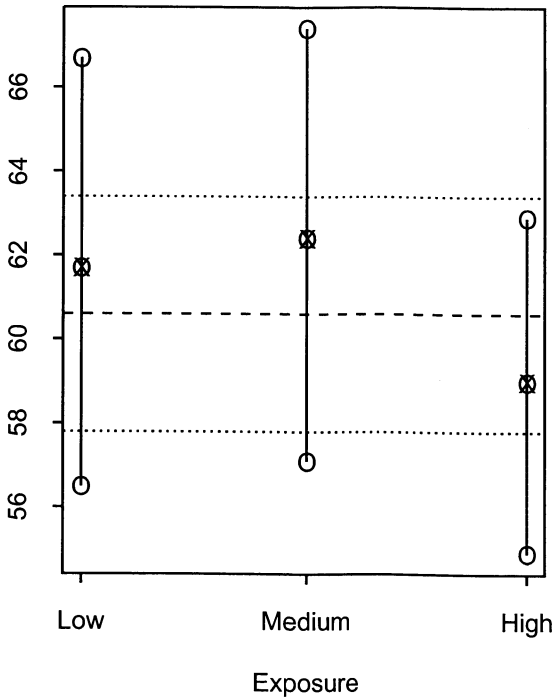
%youth whose parents talked about rules about drug use



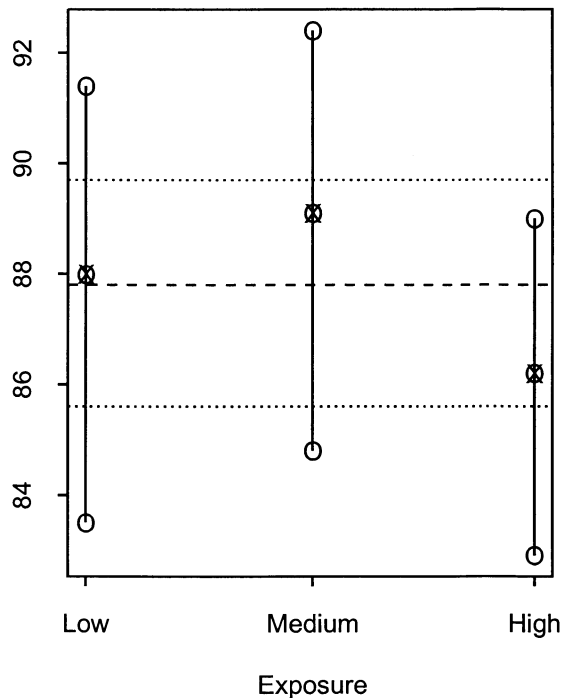
%parents did fun indoor activities with youth 2+ times/week



%parents did fun outdoor activities with youth 2+ times/week



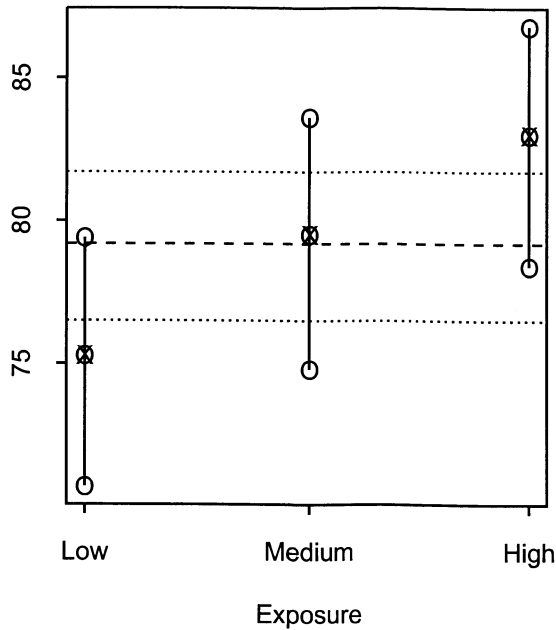
%youth whose parents perceive them very unlikely to try marijuana



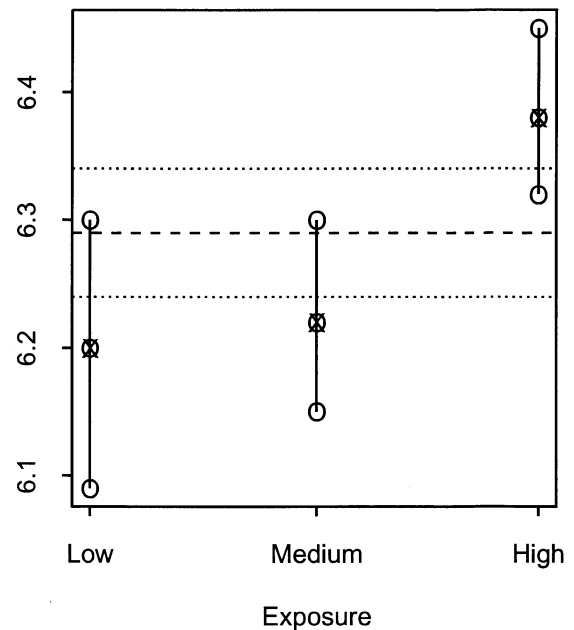
Detail Figure 11-3 (continued)

Parental exposure to general anti-drug advertising and family drug conversations with youth(12-13)

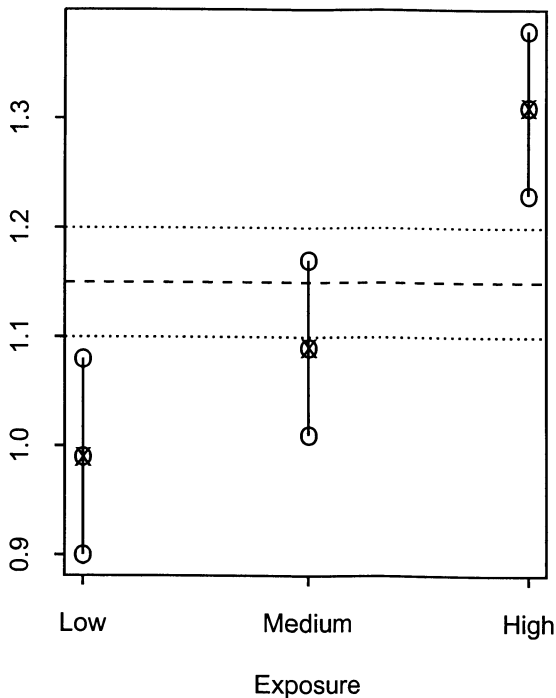
%youth whose parents had 2 or more conversations



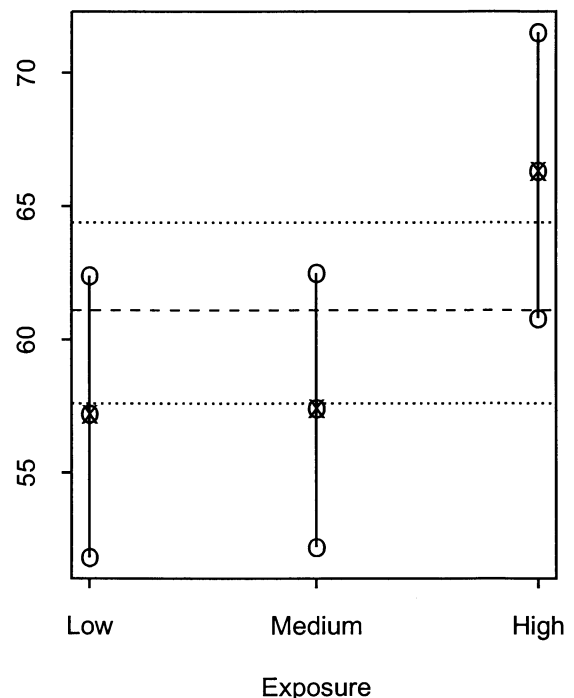
Parental attitude to talk
1=very bad 7=very good



Parental intent to talk
-2=very unlikely 2=very likely



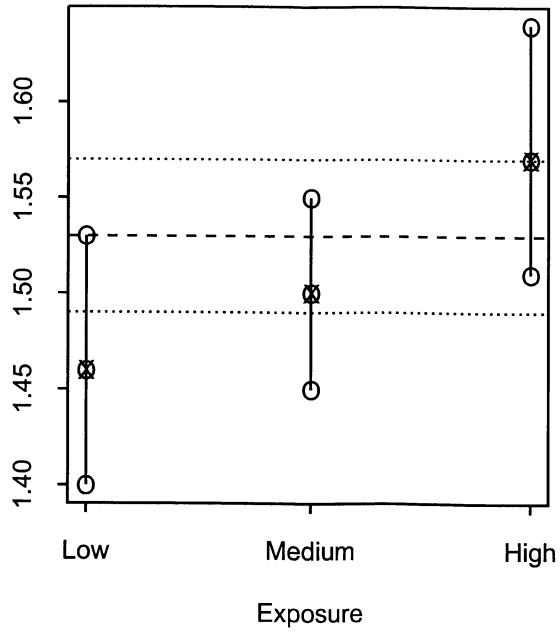
%youth with parents whose important others support talk



Detail Figure 11-3 (continued)

Parental exposure to general anti-drug advertising and family drug conversations with youth(12-13)

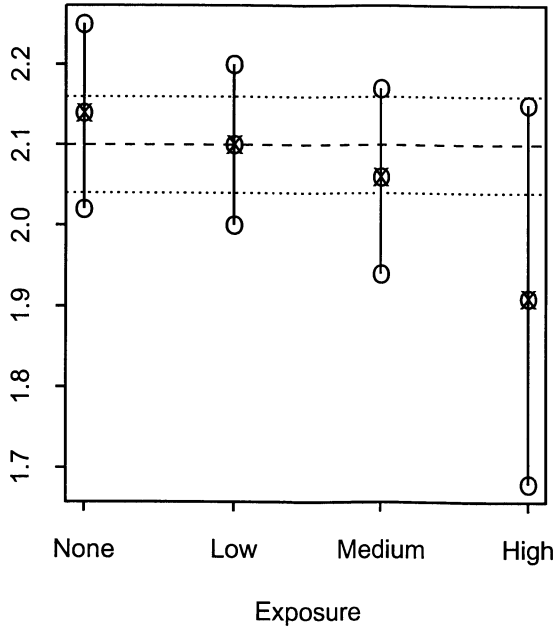
Parental self-efficacy for talk
-2=very unsure 2=very sure



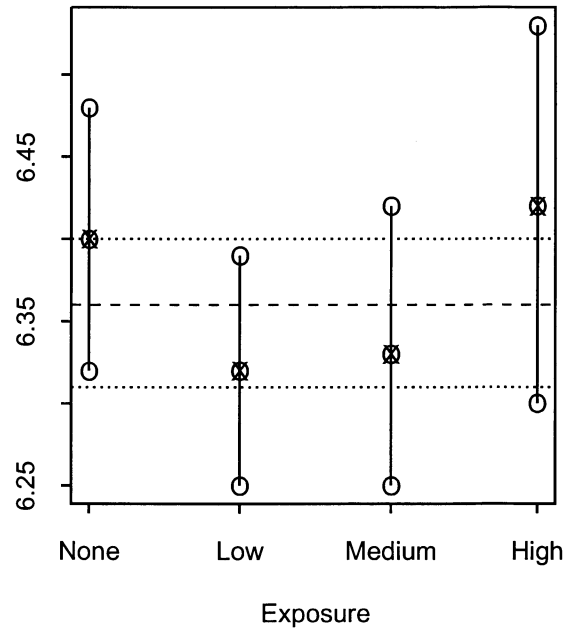
Detail Figure 11-3 (continued)

Parental exposure to specific parent-targeted TV anti-drug advertising and parental monitoring of youth(12-13)

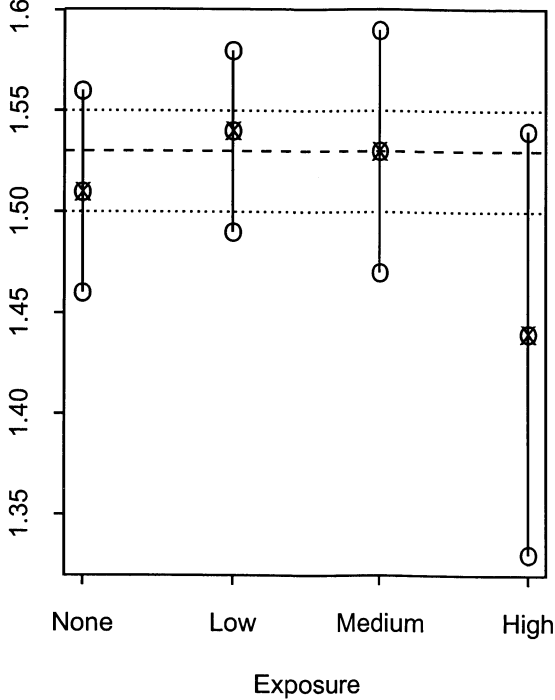
Number of parental monitoring activities done (0 to 5)



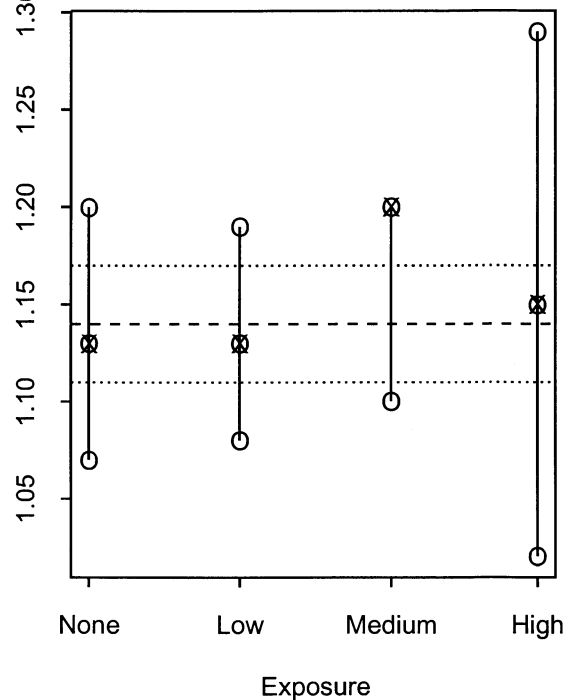
Parental attitude to monitoring 1=very bad 7=very good



Parental monitoring intent -2=very unlikely 2=very likely



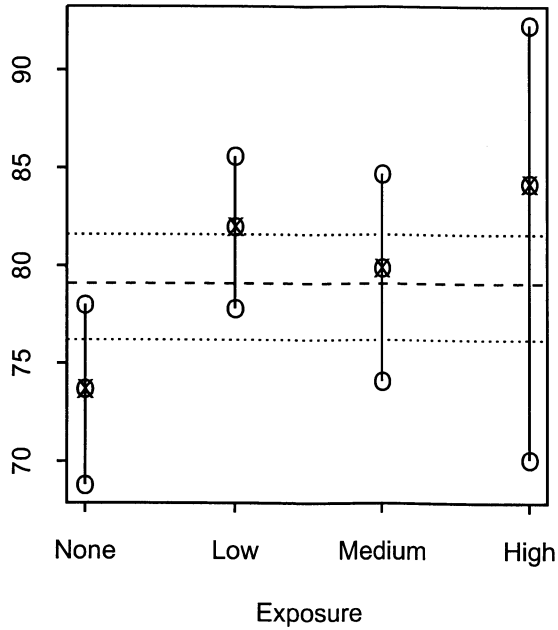
Parent's belief in efficacy of monitoring -2=Strong disagree 2=Strong agree



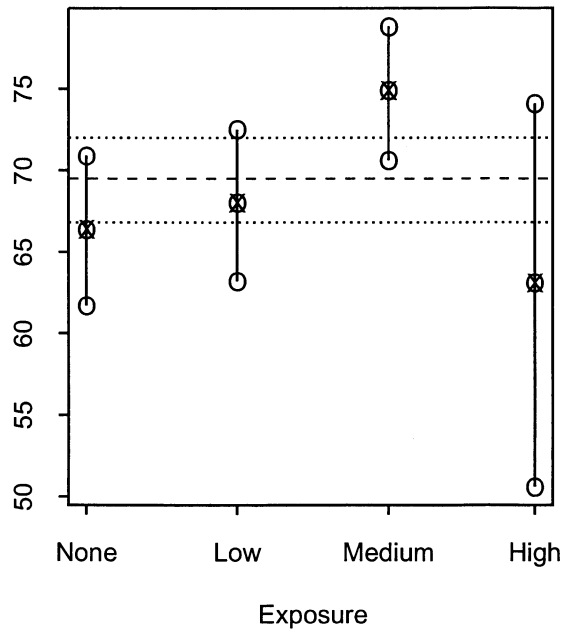
Detail Figure 11-4

Parental exposure to specific parent-targeted
TV anti-drug advertising and child-rearing attributes for youth(12-13)

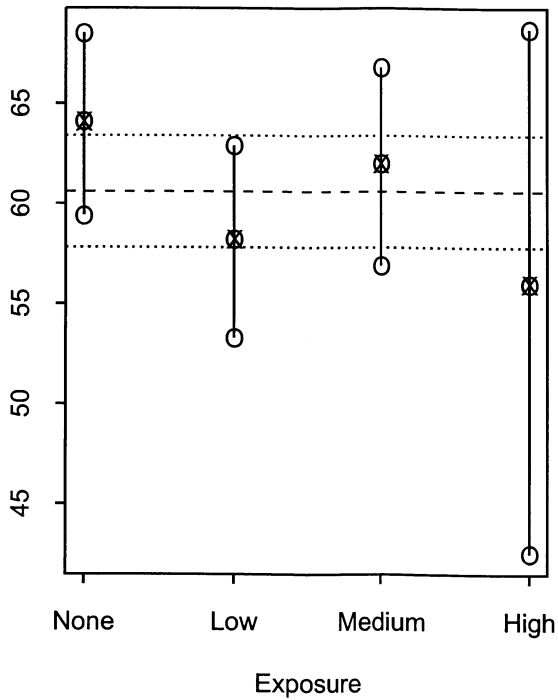
%youth whose parents talked
about rules about drug use



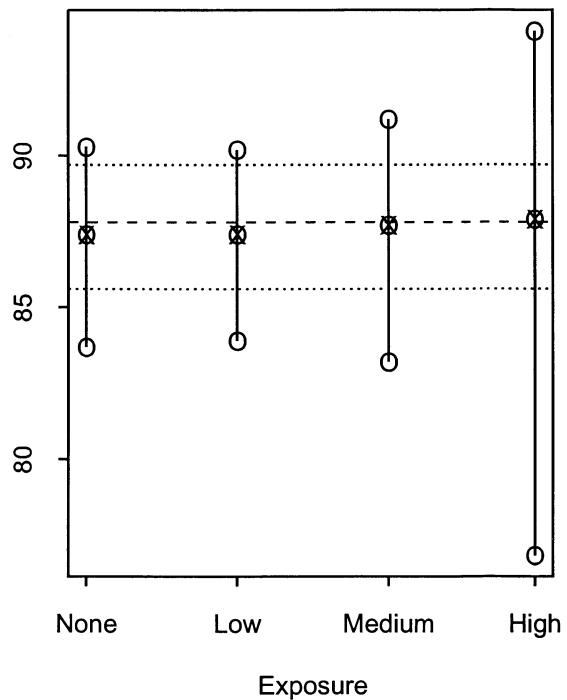
%parents did fun indoor activities
with youth 2+ times/week



%parents did fun outdoor activities
with youth 2+ times/week



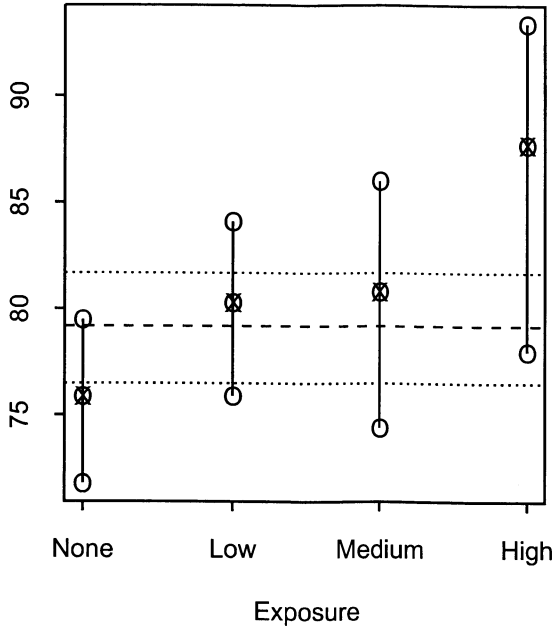
%youth whose parents perceive
them very unlikely to try marijuana



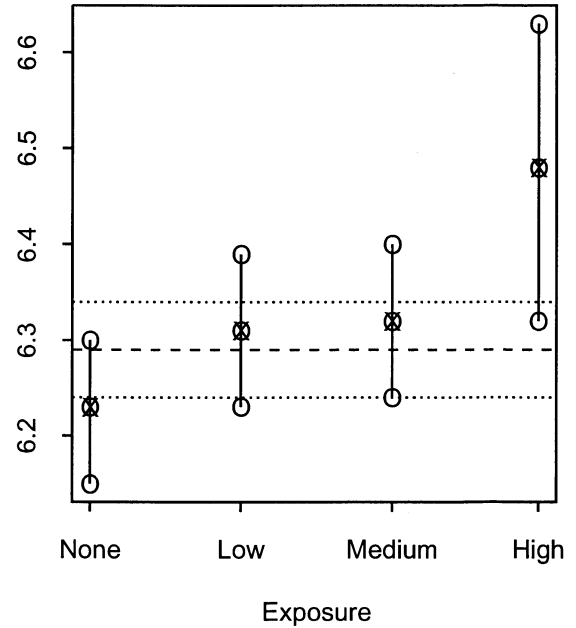
Detail Figure 11-4 (continued)

Parental exposure to specific parent-targeted TV anti-drug advertising and family drug conversations with youth(12-13)

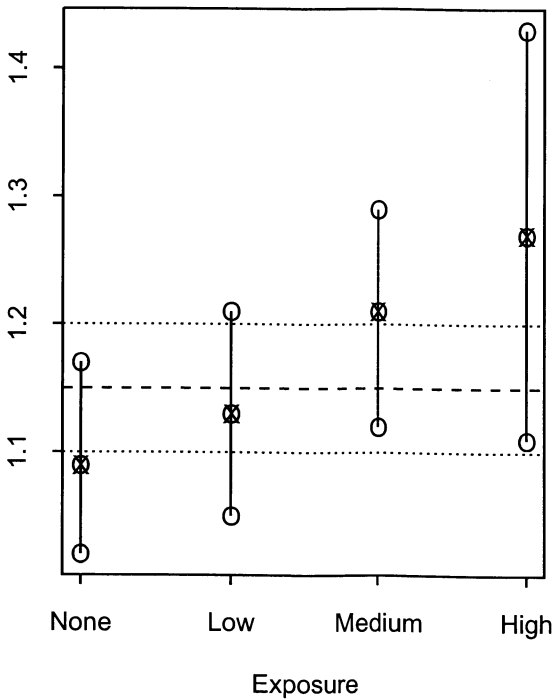
%youth whose parents had 2 or more conversations



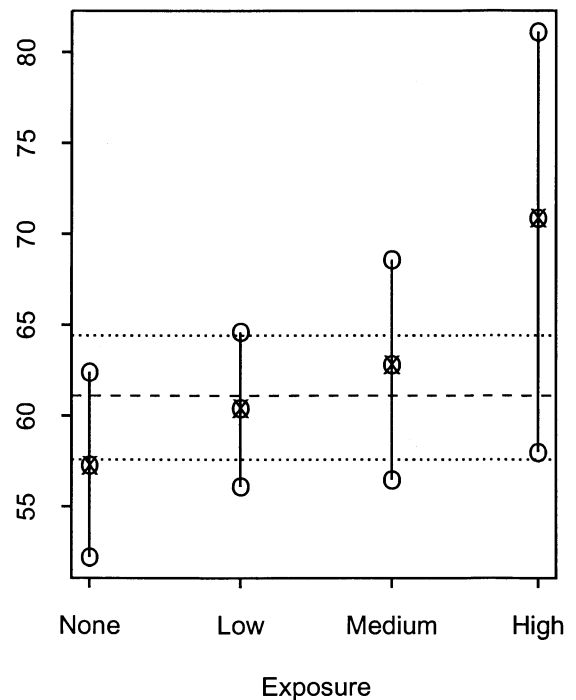
Parental attitude to talk
1=very bad 7=very good



Parental intent to talk
-2=very unlikely 2=very likely

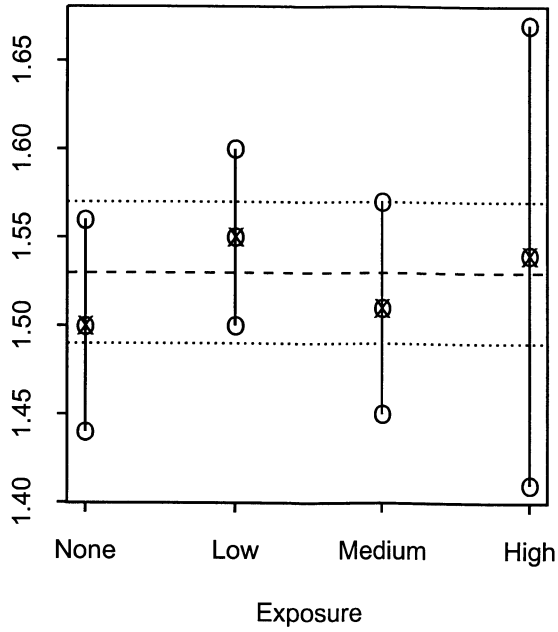


%youth with parents whose important others support talk



Detail Figure 11-4 (continued)

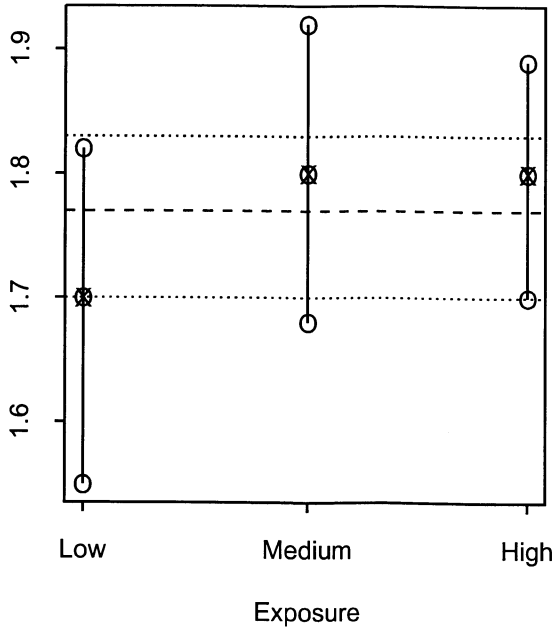
Parental exposure to specific parent-targeted
TV anti-drug advertising and family drug conversations with youth(12-13)
Parental self-efficacy for talk
-2=very unsure 2=very sure



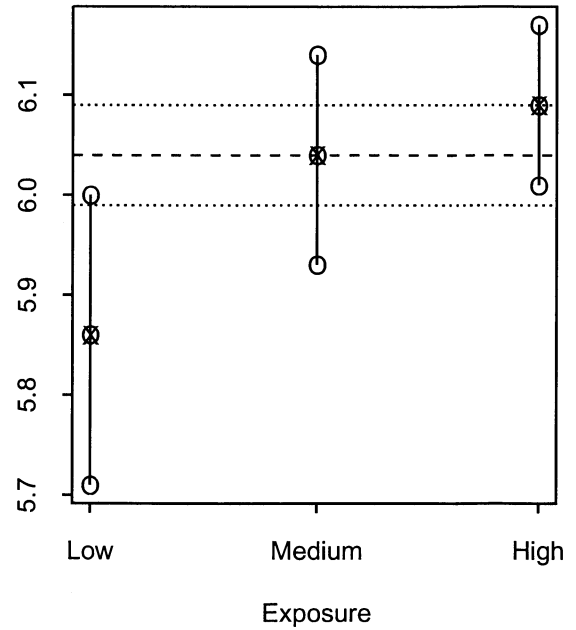
Detail Figure 11-4 (continued)

Parental exposure to general anti-drug advertising and parental monitoring of youth(14-18)

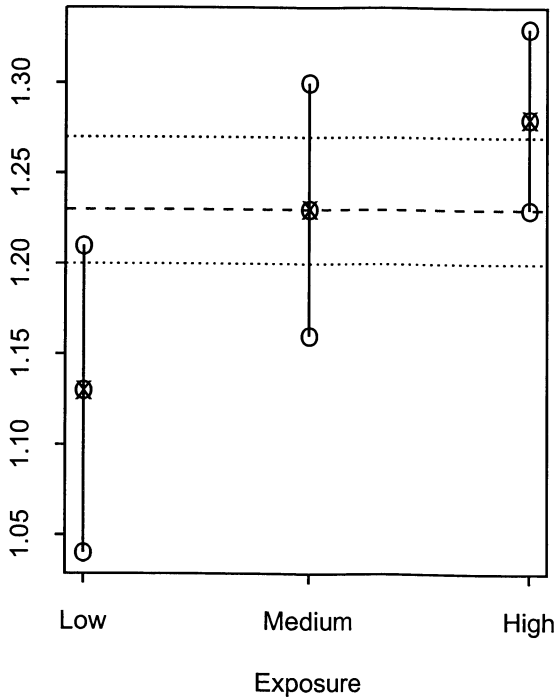
Number of parental monitoring activities done (0 to 5)



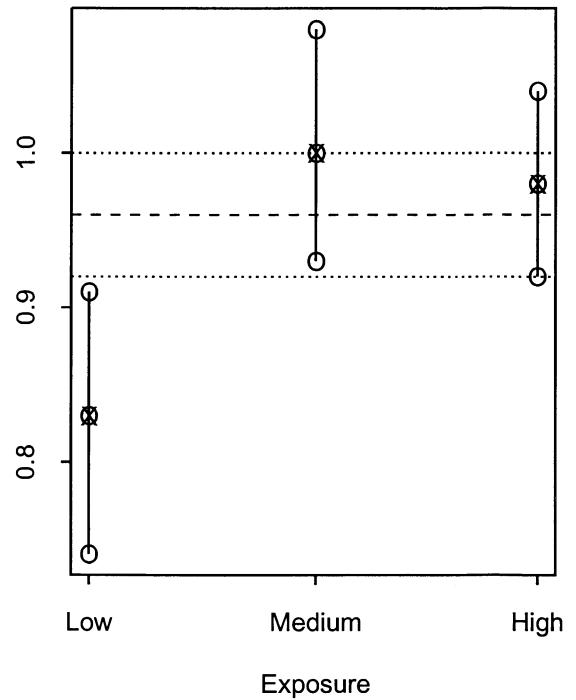
Parental attitude to monitoring 1=very bad 7=very good



Parental monitoring intent -2=very unlikely 2=very likely



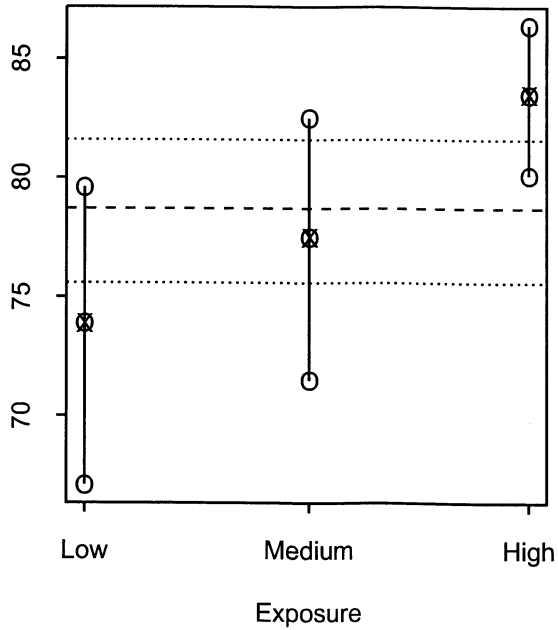
Parent's belief in efficacy of monitoring -2=Strong disagree 2=Strong agree



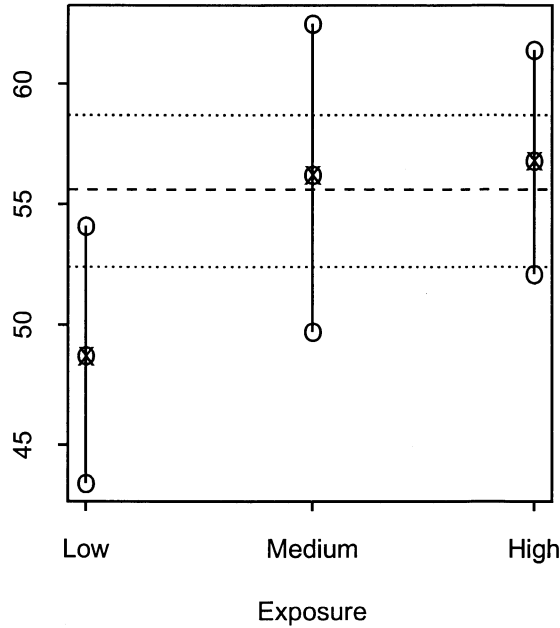
Detail Figure 11-5

Parental exposure to general anti-drug advertising and child-rearing attributes for youth(14-18)

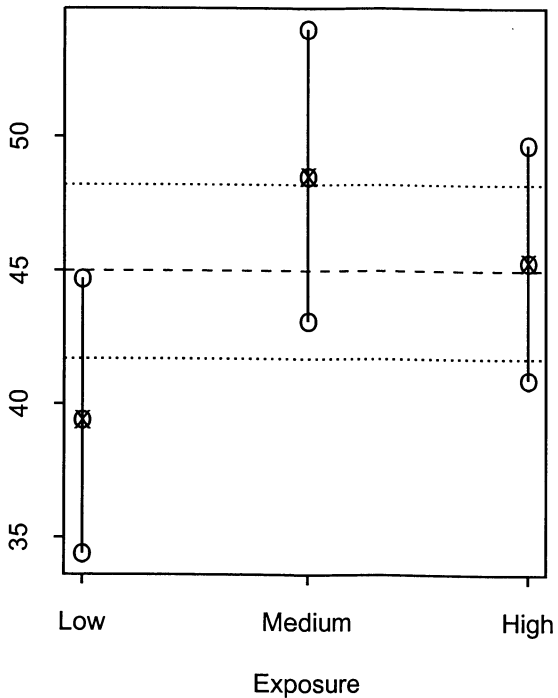
%youth whose parents talked about rules about drug use



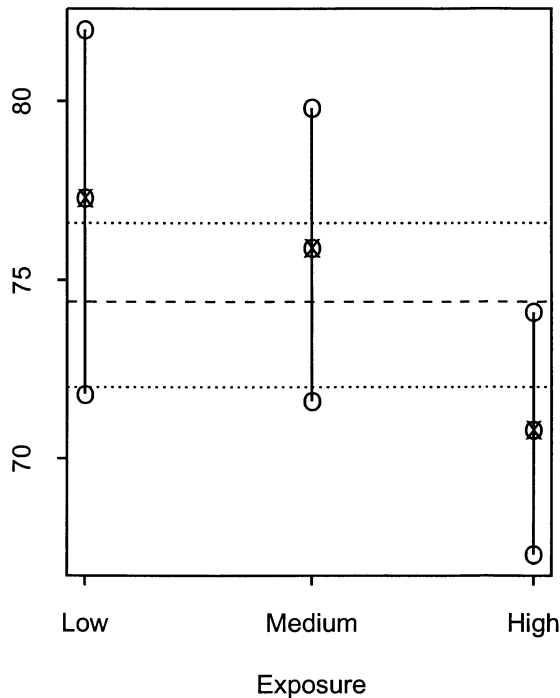
%parents did fun indoor activities with youth 2+ times/week



%parents did fun outdoor activities with youth 2+ times/week

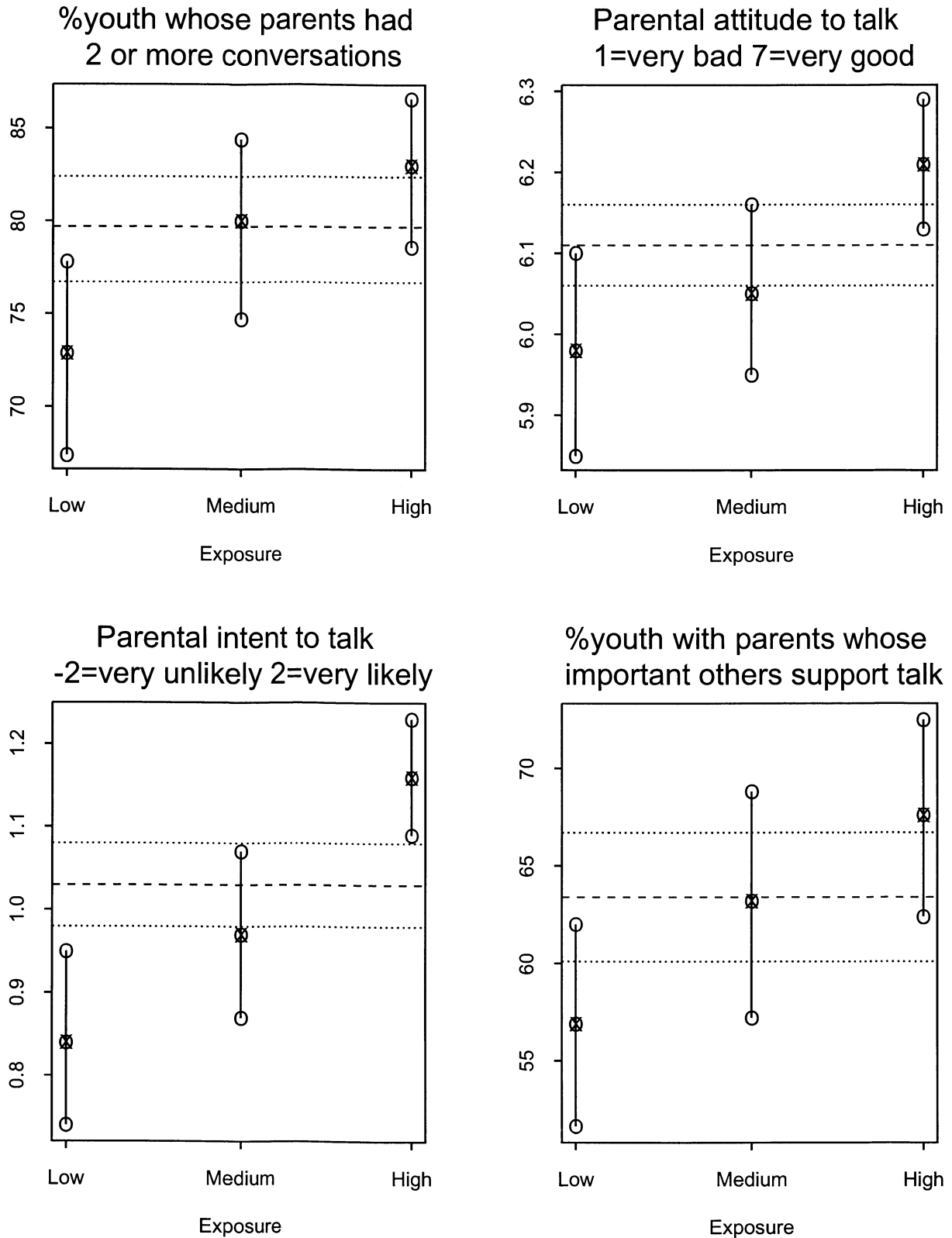


%youth whose parents perceive them very unlikely to try marijuana



Detail Figure 11-5 (continued)

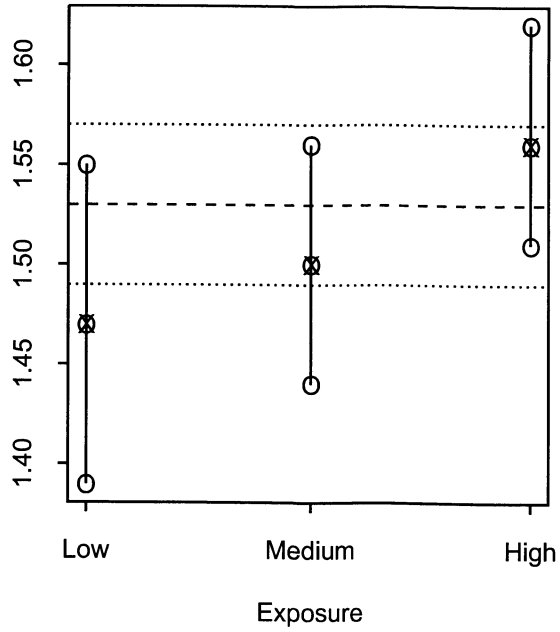
Parental exposure to general anti-drug advertising and family drug conversations with youth(14-18)



Detail Figure 11-5 (continued)

Parental exposure to general anti-drug advertising and family drug conversations with youth(14-18)

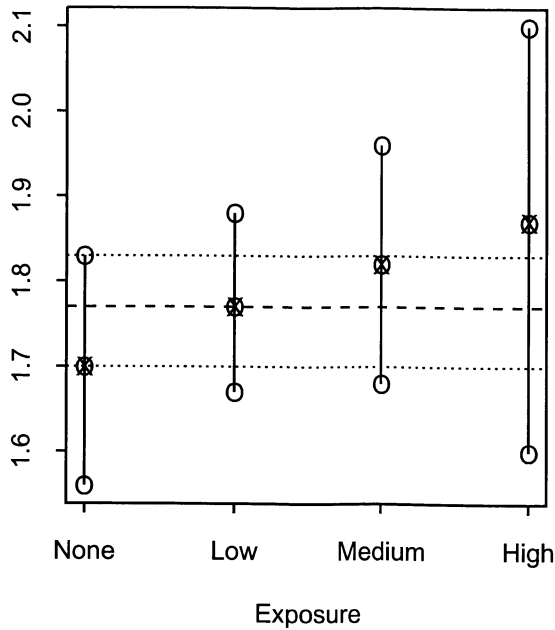
Parental self-efficacy for talk
-2=very unsure 2=very sure



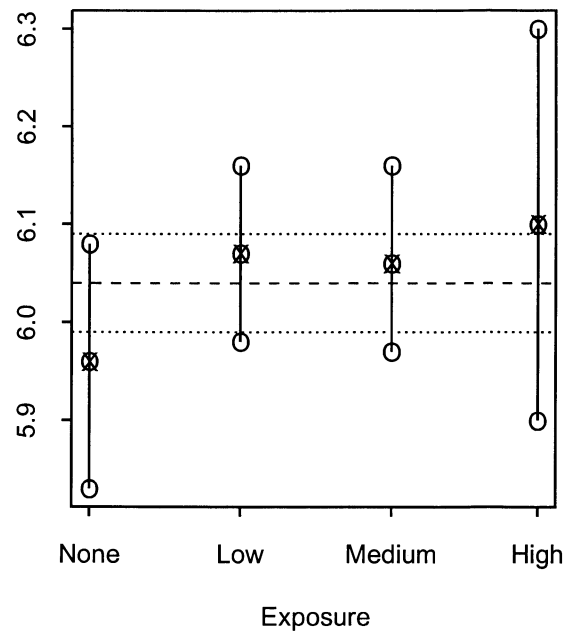
Detail Figure 11-5 (continued)

Parental exposure to specific parent-targeted TV anti-drug advertising and parental monitoring of youth(14-18)

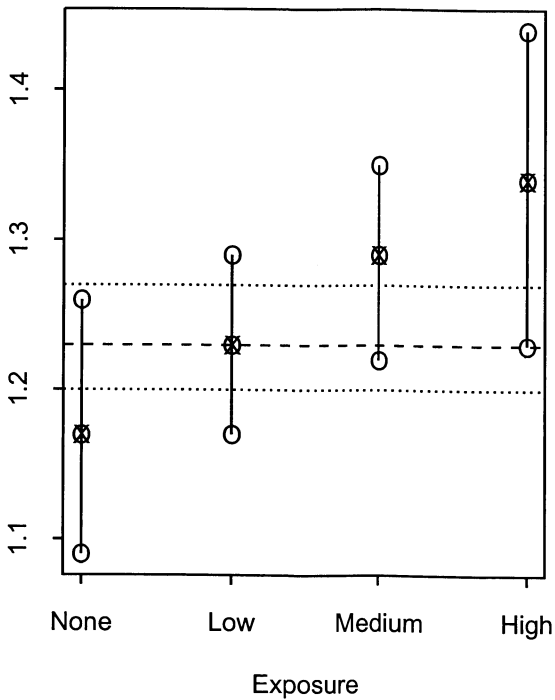
Number of parental monitoring activities done (0 to 5)



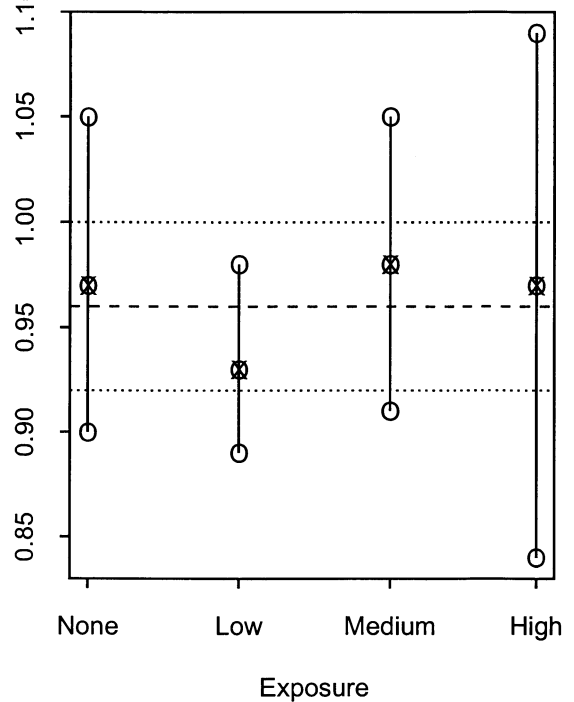
Parental attitude to monitoring
1=very bad 7=very good



Parental monitoring intent
-2=very unlikely 2=very likely



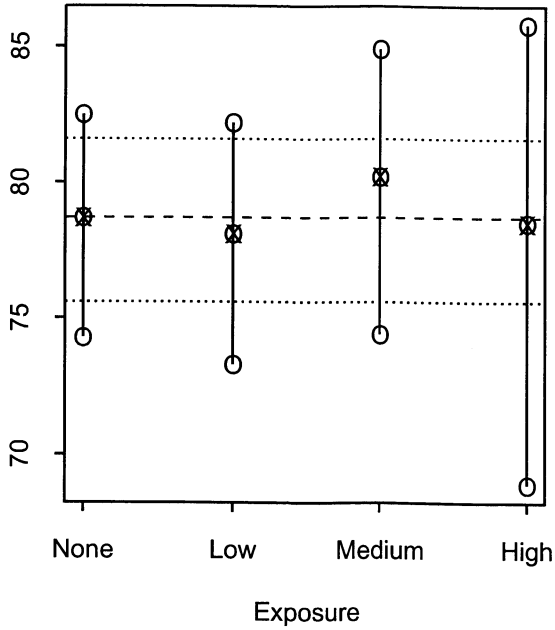
Parent's belief in efficacy of monitoring
-2=Strong disagree 2=Strong agree



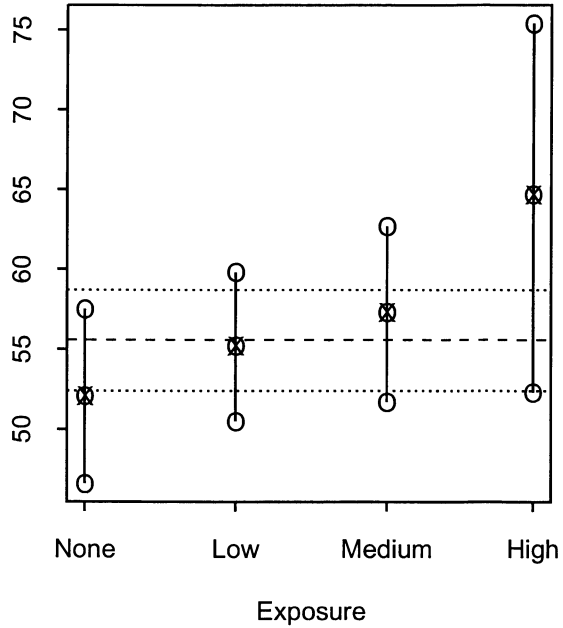
Detail Figure 11-6

Parental exposure to specific parent-targeted TV anti-drug advertising and child-rearing attributes for youth(14-18)

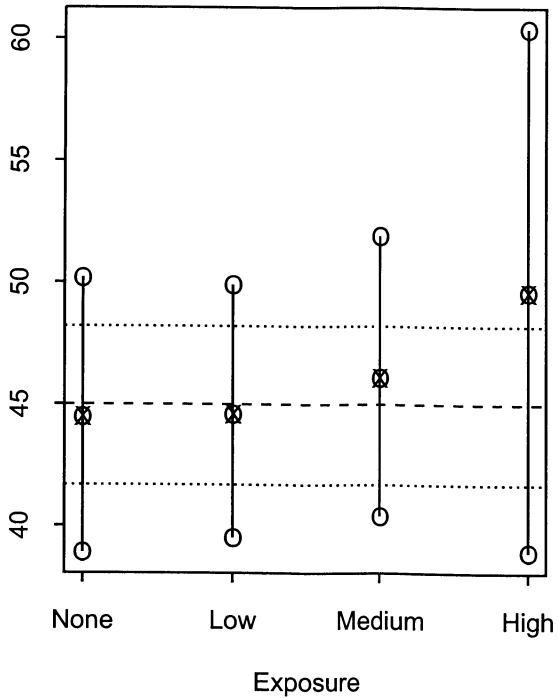
%youth whose parents talked about rules about drug use



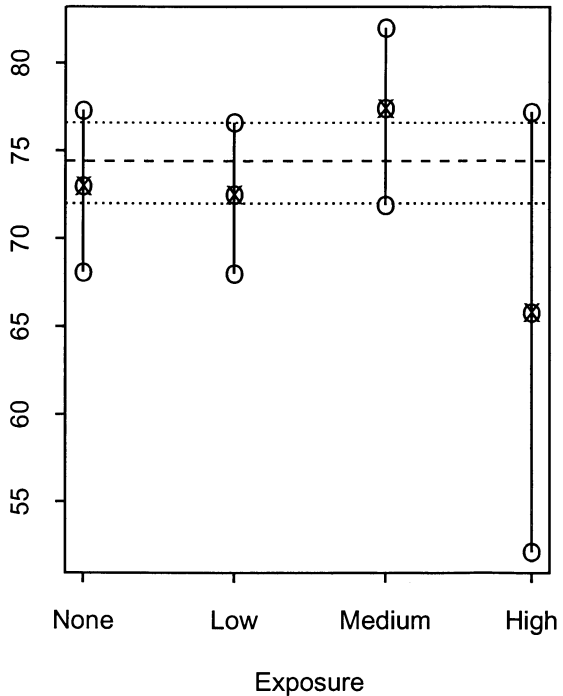
%parents did fun indoor activities with youth 2+ times/week



%parents did fun outdoor activities with youth 2+ times/week

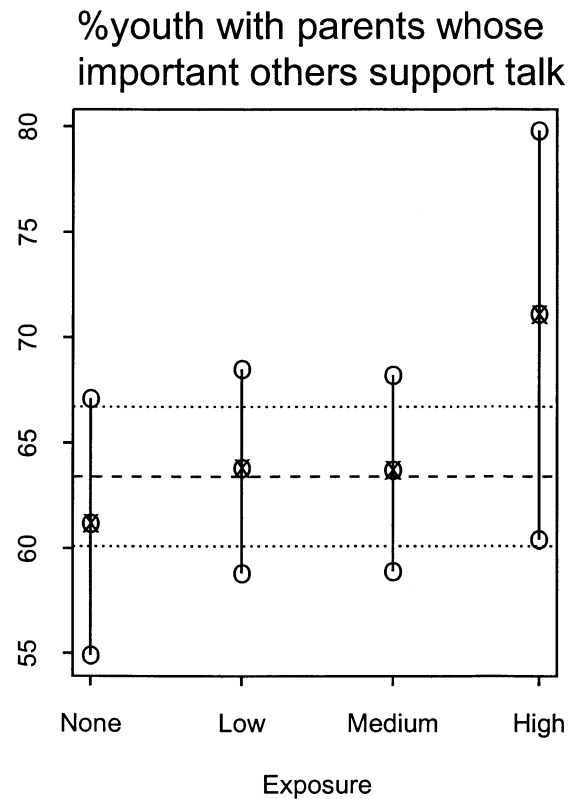
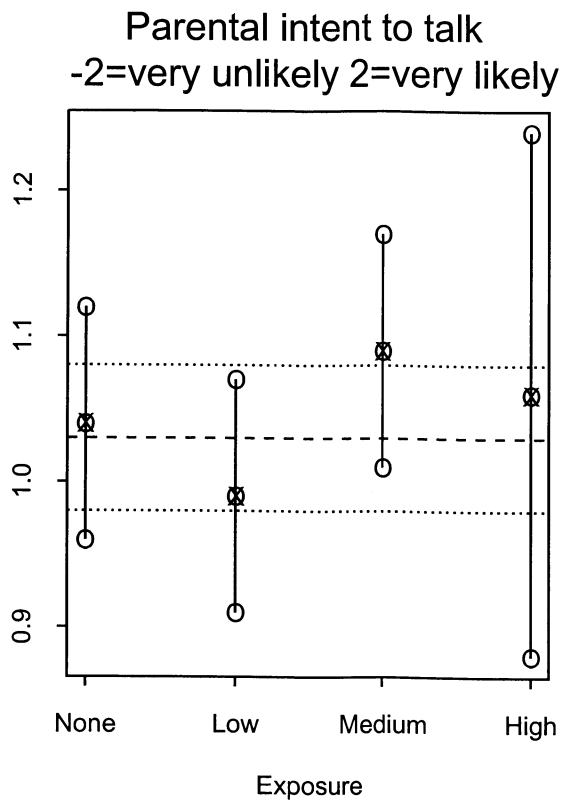
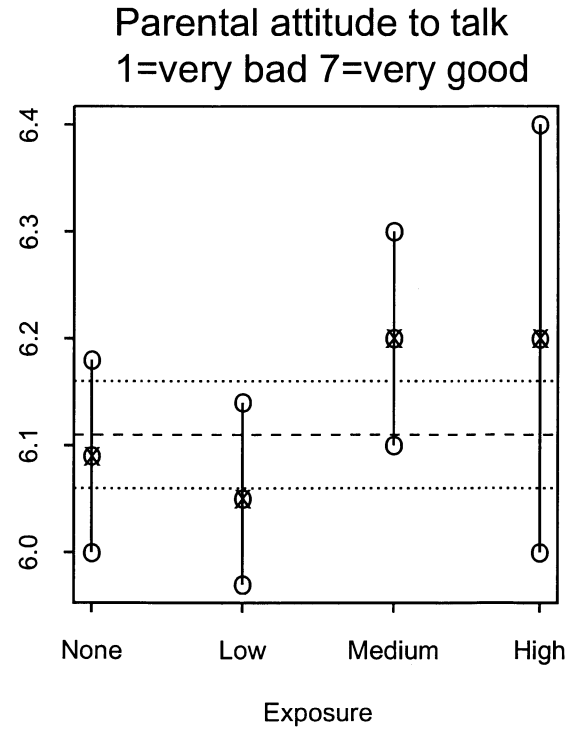
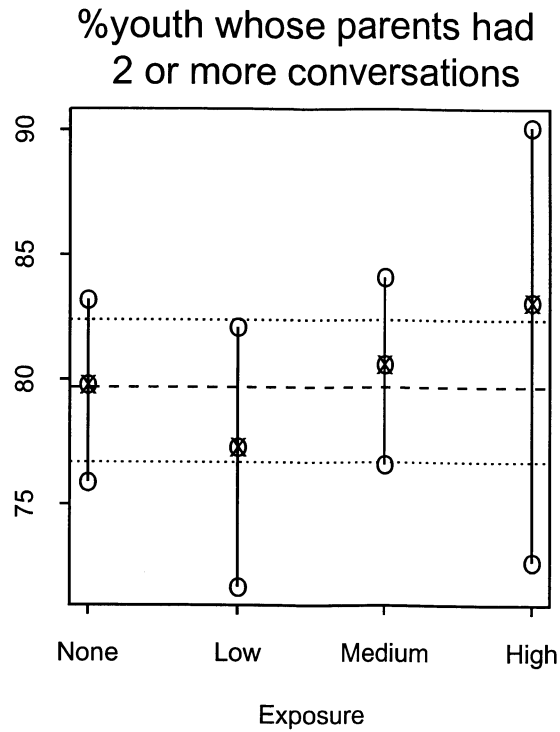


%youth whose parents perceive them very unlikely to try marijuana



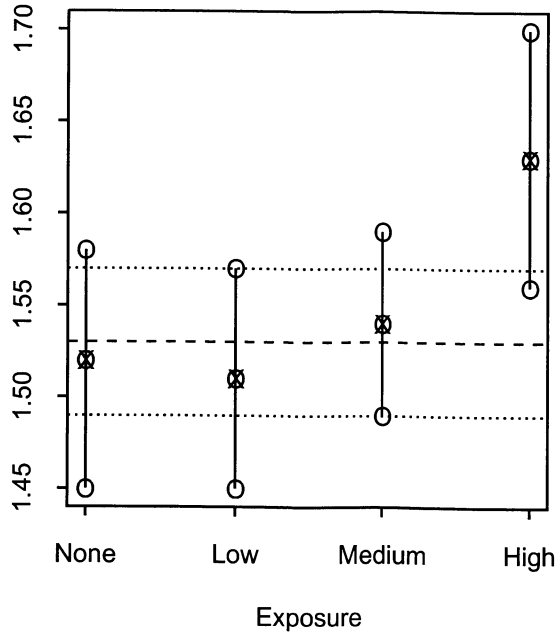
Detail Figure 11-6 (continued)

Parental exposure to specific parent-targeted TV anti-drug advertising and family drug conversations with youth(14-18)



Detail Figure 11-6 (continued)

Parental exposure to specific parent-targeted TV anti-drug advertising and family drug conversations with youth(14-18)
Parental self-efficacy for talk
-2=very unsure 2=very sure



Detail Figure 11-6 (continued)

Appendix

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). The 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 and 23,000 dwelling units for Wave 2. These dwelling units were spread across about 1,300 neighborhoods in 90 primary sampling units (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 there was more than one parent or caregiver 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. When there were two sample youth who were not siblings living in the same household, a parent figure was selected for each.

The detail on sample selection is split into two major subsections. The first is on the selection of the screening sample. The second is on the selection of youth and parents.

A.1.2 Selection of Screening Sample

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 is called the area frame. The second frame consists 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 results in improved reliability (Judkins, Cadell, and Sczerba, 2000). Housing built in 1990 and 1991 had two chances of selection since it appears in both frames. To correct for this overcoverage, the screening questionnaire instructs the interviewers to ask the age of the housing for sample selected from the area frame. Any housing in the area frame built after April 1, 1990, is ineligible for the survey. Housing built in the first 3 months of 1990 is kept under the assumption that there is some lag between the issuance of a permit and the construction of the building. Housing built after 1998 had no chance of selection in either frame. Also, a house has no chance of selection if built during the 1990s in jurisdictions where no permit is required. Finally, modular housing built during the 1990s was inadvertently omitted from the permit sample. These three factors imply 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, 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.1.2.1 Selection of the Area Screening Sample

The area screening sample was selected in three stages. The first stage consisted of selecting a sample of PSUs. The PSUs are generally metropolitan areas and groups of nonmetropolitan counties. The second stage consisted of segments. Each segment is a block or group of contiguous blocks with a minimum housing count in 1990 of about 60. The third stage consists of individual dwelling units.

A.1.2.1.1 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 comprises 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 has experienced interviewers in these PSUs. In addition, it made it 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 consists of a single county, a group of counties, or a metropolitan statistical area (MSA).
- The PSUs are geographically contiguous, are mutually exclusive, and cover the United States.

- Nonmetropolitan PSUs do not cross state boundaries.
- Each PSU had at least 15,000 total population as of 1990.
- Each PSU is designed to be as easily traversable by an interviewer or lister as is possible given population density, minimum size constraints, and natural topography.

This constructed frame includes 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 represents a 1990 population of roughly 4 to 5 million persons.
- The 38 strata nest within 8 primary strata were 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 is 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 contains eight sample PSUs, each of which represents 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 has a number of strata that is a multiple of four and higher priority was given to avoiding grouping across metropolitan status. This approach added some variance to regional estimates. To counteract this increased variance, a special set of weights was built for regional analyses. For this special set of weights, 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 reduces variance on regional analyses but increase bias and variances for other statistics. Therefore, the regional weights are only used for regional analyses.

A.1.2.1.2 Area Segment Selection

NSPY segments consist 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 is reduced. However, some blocks have 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 are smaller for Waves 2 and 3 with 689 segments selected for Wave 2. For the Wave 2 segments, all dwelling units were screened for date of construction. The average sample size for each segment was about 27 dwelling units in Wave 1 with a slightly larger average of 29 dwelling units per segment in Wave 2. The large minimum size of 60 dwelling units was used to ensure that next door neighbors would not generally both be in the sample. This has the advantage of reducing contamination of interviews by prior interviews in neighboring houses.

The segments for Wave 1 are a subset of segments originally selected and listed for another survey in late 1991. (The listing process consists of sending a field worker out to every segment with a map and having them prepare a list of housing 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 be a drawback for another survey, but the NSPY has a separate sample of building permits to cover 1990s construction. Any dwelling units built in the 1990s in area segments must be screened out. So using an old list actually makes the total data collection more efficient. The 689 segments for Wave 2 are from the same 1991 frame but were listed in a separate process in fall of 1999. The Wave 2 segments listed in 1999 were not listed as close to the census year of 1990 and so had to be more carefully screened on year built. However, the listing process did not require the special screening process for missed units.

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 represents. From the earlier survey, a total of 2,065 segments were 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 of selection became proportional to total households without any special emphasis on minority households. This was done by using a measure of size (MOS) defined proportionally to the ratio of desired overall probability to the original probability:

$$SEGMOS = \frac{1990 \text{ households in segment}}{\text{old MOS for original survey}}.$$

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.

A.1.2.1.3 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 has 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 2875 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 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 Wave 2 segments were listed in the fall of 1999 this process was not employed for Wave 2.

A.1.2.1.4 Selection of the Permit Screening Sample

A separate building permit sample was drawn for Wave 1 and Wave 2 of NSPY to prevent problems caused by outdated information on block sizes. The procedures for selecting the area segment involve sampling with PPS in the 1990 Census. PPS sampling with 1990 data strongly reduces between-segment variation to the extent that there is a strong correlation between total population in 1990 and eligible population in 1999. New construction weakens that correlation. To avoid the potentially high between-segment variance caused by a weakened correlation, we interviewed only pre-1990 census housing from the area segments. 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 post-census 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 is possible because most localities require that a permit be obtained before building a residential structure and because the U.S. Census Bureau conducts a regular census of permit activity. This census of local governments is conducted every month for active offices and annually for less active offices. A benefit of the census is that it can 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 are similar to those in the area frame, but there were five instead of three. First, only permits issued within the 90 sample PSUs may be selected. Next, a sample of building permit offices (BPOs) was selected. These are 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 is 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 are 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 is no coverage of new housing units which were permitted and built in 1999 or in 2000.

A.2 DEVELOPMENT OF WEIGHTS

A.2.1 Introduction

An analysis weight was calculated for each completed interview. Different weights were prepared for different types of analyses. There were six final weights in all, three for national analyses and three for regional analyses. There are national weights for youth, for parents, and for youth-parent dyads. These repeat for regional analyses. These weights are used to reflect selection probabilities and to compensate for nonresponse and undercoverage. The adjustments for undercoverage involve a process called raking. In the raking process, the weights are adjusted in such a manner that the sums of weights for important domains agree 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 represents.

A.2.2 Baseweights

Baseweights are used to reflect a person's probability of selection into the sample. A baseweight is defined as one over 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 is fairly straightforward. However, since the person selection can only be carried out in

households where the screener is completed, the person-level baseweight also reflects nonresponse adjustment and, in the case of the parent weights, an adjustment for household undercoverage.

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 are 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 are not required. These adjustments were based on statistics from the Census Bureau's reports on construction starts. Also, in Wave 2, due to other problems, 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 pre-assigned to three screening groups: *A*, *AB*, and *ABC*. However, for Wave 2 dwelling units were only assigned to screening groups *AB* and *ABC*. Dwelling units in the *A* screening group were only retained in sample if there was a youth aged 12 to 13 present in the dwelling unit. Dwelling units in the *AB* screening group were only retained in sample if there was a youth aged 9 to 13 present. Dwelling units in the *ABC* screening group were only retained in sample 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 both waves with youth aged 12 to 13 were retained with certainty so no adjustment was required to their weights. Also in Wave 2, 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 Wave 2, 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 but from this point on, the two waves treated youth and parent selection the same. The youth path is described first.

There were three age classes for youth sampling purposes: 9-11, 12-13, and 14-18. 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 12-13 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 9-11 or 14-18 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 four youth present in an age range, then 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 contain nephews and nieces of the householder where the householder or his/her spouse is reported as the caregiver for the nephew or niece, but not both are so reported. Sometimes, one or two parents of the nephew or niece are present. Sometimes a grandparent is considered the caregiver of the nephew or niece. Other households contain couples who are not married but each have their own children. Some households contain boarders, housekeepers, or nannies who have 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, then one parent/caregiver was selected from the “pool” of parents and caregivers for each. If these pools overlapped, then it might still be the case that just one parent figure was selected. The parent’s probabilities of selection, therefore, 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.

A.2.3 Nonresponse Adjustments

In general, it is hoped that there are groups of households where the decision to respond to a survey is unrelated to substantive characteristics of interest such as substance abuse. Complex modeling techniques were employed to find groups of households with difference 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 is 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 means that those hard-to-reach households that are interviewed despite being hard to reach end up receiving larger weights than households that are easy to reach. If the groups are formed well, then this procedure can eliminate nonresponse bias. If too many are formed, however, the variation in weights caused by groups with low response rates can 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.

Screener Nonresponse Adjustment

This adjustment was done in two phases. 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, then 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 and 95.7 percent for Wave 2. The adjustment factors for screener nonresponse varied from 1.0 to 1.7 for both waves.

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, then 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 and 74.6 percent for Wave 2. The adjustment factors for roster nonresponse varied from 1.1 to 1.6 for both waves.

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 one reason or another. 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 is 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 are young people who have 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 90.7 percent for Wave 1 and 91.6 percent for Wave 2. The adjustment factors for youth nonresponse varied from 1.0 to 1.5 for Wave 1 and 1.1 to 1.7.

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 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. As mentioned in Appendix B, the parent response rate was 88.4 percent for Wave 1 and 87.6 percent for Wave 2. The adjustment factors for parent nonresponse varied from 1.0 to 1.5 for Wave 1 and 1.0 to 1.7 for Wave 2.

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 interviews (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 and 86.4 percent for Wave 2. The adjustment factors for dyad nonresponse varied from 1.1 to 1.6 for Wave 1 and 1.1 to 1.5 for Wave 2.

A.2.4 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 October 2000 CPS data was available. Marginal household control totals were obtained from the CPS for the following four raking dimensions:

- (1) 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),
- (2) Youth Age Group Composition of Household (any age 12-13 present, age 9-11 present but no age 12-13, age 14-18 present but no age 9-13)
- (3) Household Race/Ethnicity (Non-Hispanic-White, Non-Hispanic-Black, Other Non-Hispanic, Hispanic)
- (4) 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. Convergence was obtained in Wave 2 after four iterations for the national household weights and six iterations for the regional.

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. From these control totals the civilian non-institutional 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:

- (1) Gender (M, F) x Age Group (ages 9-11, 12-13, and 14-18),
- (2) Race/Ethnicity (Non-Hispanic-White, Non-Hispanic-Black, Other Non-Hispanic, Hispanic) x Age Group (ages 9-11, 12-13, and 14-18),
- (3) Census Region (Northeast, Midwest, South, West) x Age Group (ages 9-11, 12-13, and 14-18).

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 and six iterations for the regional for both waves.

Coverage rates are given in Table A-A for youth by age, race and gender. The coverage rate is calculated as the ratio of the sum of the weights before raking to the control total.

**Table A-A
Coverage rates**

Subgroup	Wave 1 Coverage rate	Wave 2 Coverage rate
Male	0.71	0.68
Female	0.68	0.69
Race/Ethnicity:		
Non-Hispanic White, Non-Hispanic	0.69	0.69
Other		
Non-Hispanic Black	0.69	0.67
Hispanic	0.74	0.66
Age Group		
9-11	0.70	0.69
12-13	0.74	0.71
14-18	0.67	0.67

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, then the average of the replicated statistics 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 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 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 also follow.

A.3.1 Confidence Intervals

Variances were estimated for NSPY using a resampling approach. This resampling method has been 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 segments 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 (Westat, 2000).

After each of the 100 resamples is drawn, the full set of adjustment procedures is run on each resample. This means that each resample is adjusted for nonresponse and is raked to adjusted Current Population Survey (CPS) control totals. By doing this, the variance estimation procedure reflects the changes in uncertainty due to the point estimation procedures. Although CPS estimates of eligible youth are not subject to sampling variance inasmuch as they themselves are rated to demographic control totals based on vital and immigration statistics, the CPS estimates of households with youth aged 9 to 18 are subject to sampling variance. This variance was not reflected in the NSPY variance estimates for parents. Thus the confidence intervals in Detail Table 2-2 are slightly too narrow.

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 are formed by assuming that the sample statistic has a t-distribution with 100 degrees of freedom. The assumption of 100 degrees of freedom comes from the 100 resamples. In the NHSDA, it is assumed that the sample statistic has a normal distribution. That is equivalent to assuming a t-distribution with an infinite number of degrees of freedom. Assuming 100 degrees of freedom is slightly more conservative. The standard error is multiplied by 1.98 instead of 1.96 to form a 95 percent confidence interval. The formula is

$$\text{lower bound} = \bar{x} - 1.98\sqrt{\text{var}(\bar{x})} \quad \text{and} \quad \text{upper bound} = \bar{x} + 1.98\sqrt{\text{var}(\bar{x})} .$$

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 best variance estimate is zero for such estimated proportions, but 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).

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 confidence intervals for the counterfactual projections had one new estimation process. The youth counterfactual projections had standard errors estimated in Wesvar using replication. However, the dyads counterfactual projections involved youth and parents so variance estimation for dyads was not as straightforward. The variance for the youth and parents were 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 the confidence intervals was used.

This report also contains confidence intervals for differences and means across waves. The sample in the Waves 1 and 2 are 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 are approximated by assuming the statistic has 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 dependents of the statistics.

A.3.2 Suppression

There were several suppression criteria. All were developed with the aim of preventing over analysis 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 is 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 mean 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 domain had been conducted. An effective sample size is defined as the quotient of the nominal sample size divided by the design effect. Design effects have been calculated for a number of statistics. They vary considerably from statistic to statistic, partially reflecting true differences in

design effects but also reflecting substantial measurement noise. Table A-B shows the average design effects and corresponding effective sample sizes for statistics about youth, parents, and dyads.

Table A-B
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
Wave 1						
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
Wave 2						
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	1585	1.73	943	2.25	982

A.4 GEOGRAPHY

Three levels of urbanicity are used in this report. The levels are “urban,” “suburban,” and “town and rural.” These levels are based on concepts developed by the Claritas Corporation. The levels are defined as groupings of PRIZM codes. PRIZM is a market segmentation system that classifies every neighborhood in the United States into 1 of 62 distinct lifestyle types or “clusters.” Table A-C shows the full list of PRIZM codes and how they were mapped into the three urbanicity levels used in this report. Claritas defines neighborhoods to be census block groups and uses data from the 1990 Decennial Census, updated census demographics, and updated population density information to assign PRIZM cluster codes.. A popular description of these clusters may be found in *The Clustered World: How We Live, What We Buy, and What It All Means About Who We Are* by Michael J. Weiss. The SER code given in the rightmost column can be used to reference an extended definition of each cluster in this book. Claritas also offers a service at its web site (<http://yawyl.claritas.com/>) where browsers can look up the PRIZM codes predominant in ZIP Code area of the browser’s choosing.

**Table A-C
Mapping of PRIZM codes into urbanicity**

Urbanicity	5-level urbanization	Social group	PRIZM cluster number	Social economic rank (SER)		
Urban	Metro urban	U1	06	3		
			07	5		
			08	6		
			09	14		
			10	17		
		U2	27	22		
			28	32		
			29	37		
			30	46		
			31	44		
		U3	45	51		
			46	60		
			47	61		
Second city		C1	11	7		
			12	13		
			13	16		
		C2	32	20		
			33	27		
			34	36		
			35	39		
			36*	31		
		C3*	48	49		
			49	52		
			50	59		
			51	62		
		Suburban	Metro suburb	S1	01	1
					02	2
03	8					
04	9					
05	10					
S2	18			12		
	19			15		
	20			21		
	21			24		
	22			30		
S3	23			28		
	24			29		
	25			41		
	26			42		

Table A-C
Mapping of PRIZM codes into urbanicity (continued)

Urbanicity	5-level urbanization	Social group	PRIZM cluster number	Social economic rank (SER)			
Town & rural	Town/exurban	T1*	14	4			
			15	11			
			16	18			
			17	19			
		T2	37	26			
			38	33			
			39	35			
			40*	40			
		T3	52	38			
			53	50			
			54	54			
			55	56			
			Rural	Rural	R1	41	23
42	25						
43	34						
44	43						
R2	56	45					
	57	57					
R3	58	47					
	59	48					
	60	53					
	61	55					
					62	58	

* Social group C3 can be either second city or Metro suburb; Social group T1 can be either Town/exurban or Rural; clusters 36 and 40 are included in their respective social groups based on similar demographics and not urbanicity.

Claritas defines five levels of urbanization: “metro urban,” “metro suburb,” “second city,” “town/exurban,” and “rural.” The reduced set of three urbanicity levels was used in this report because of concerns about adequate sample sizes for the more detailed geography. Users of the public use files will be able to use the full set of five Claritas urbanization levels. These five urbanicity levels are derived by using a PRIZM to urbanicity mapping described in Table A-C. This mapping is not perfect. See the detailed discussion after the table.

The three levels of urbanicity based on PRIZM codes were used for this report instead of the geographic concepts found in U.S. Census Bureau reports for several reasons. The most important reason is that the U.S. Census Bureau does not define the concept of “suburban.” Second, although the Bureau does define urban and rural, these concepts are defined at the block level. With the Bureau concept, as a person travels around a metropolitan area, one can quickly pass through a succession of urban and rural blocks depending on highly localized density measures. The Claritas concept of urbanicity focuses on population density within 38 square mile squares. With this broader measurement, the Claritas concept changes

more slowly over adjoining territory. It is hoped that this concept is more robust to changes wrought by development. Third, the U.S. Census Bureau concepts are updated only once every decade. Many blocks that were rural in 1990 are now urban in character. Claritas undertook to update its classification in 1997. The update was not as thorough as the changes that will be made after the 2000 Decennial Census but was useful in reclassifying areas with strong population growth in the early and mid 1990s. For those interested in comparing the Claritas concept to the U.S. Census Bureau concept, note that the urban and suburban areas defined in this report correspond roughly to the “urbanized areas” defined by the U.S. Census Bureau.²

For this report, houses selected from area segments were directly classified into PRIZM codes by Claritas. Houses selected from permit segments were first geocoded by Claritas, a process wherein the street name and house number are used to classify the address into a 1990 block group. Claritas succeeded in geocoding 82.8 percent of the permit sample. Geocodes were imputed for the remainder based on the geocoding of other permits issued by the same local jurisdiction during the same time period.

Definition of Claritas’ Five-levels of Urbanization

Claritas’ five-level urbanization code is not available to customers. It is a key input to the assignment of a PRIZM cluster code, though, and so can be usually inferred from the assigned PRIZM cluster code. Table A-C provides Claritas’ recommended mapping of the 62 PRIZM codes into the 5 urbanicity levels. Cases where there was not a one-to-one mapping between PRIZM and urbanicity are clusters 36 and 40 and social groups C3 and T1. Clusters 36 and 40 are not based on urbanization. Cluster 36 is largely college towns, and cluster 40 is largely military bases and nearby areas. The clusters in social group C3 are a mix of suburban and second-city block groups; and the clusters in Social Group T1 are a mix of town/exurban block groups and rural block groups. Thus, tabulations based on the urbanicity used in this report will not exactly match those based on Claritas’ five-level urbanization code. In particular, the suburban population will be smaller since those that are in the C3 social group are being classified as second city.

A brief description of the process for classifying block groups by the five levels of urbanization is now given. The classification process is done strictly in terms of patterns of population density. The five urbanization categories were developed by Claritas using 1990 Decennial Census data. More details may be found in Miller and Hodges (1994). However, some of the exact details of the classification process are proprietary to Claritas.³ Block group assignments to the urbanization categories were last updated in 1997. In that update, most changes were in areas that had experienced rapid growth and development since 1990.

Claritas uses a contextual density measure to assign block groups to urban-rural status. The method for calculating contextual density is begun by defining a grid cell structure in which each grid cell is equal to 1/30 of a degree latitude and longitude. Each resulting grid cell thus

² In terminology of the U.S. Census Bureau, urbanized areas are different from urban areas. Both urban and rural blocks can occur inside and outside of urbanized areas.

³ Researchers who wish to code their data sets with the same urbanicity concept must work through Claritas.

has an area of approximately 4 square miles. The population and land area of each grid cell is calculated by summing the population and land area for each block whose centroid falls within the boundaries of the grid cell. The contextual density of a grid cell is further defined as the total population of the cell and the eight surrounding cells divided by their total land area. This larger area is about 6.2 miles on a side and covers approximately 38 square miles.

Instead of using the actual population densities, Claritas ranks grid cell by their contextual densities from low to high and divides this continuum into 100 equal groups based upon population. The scale thus runs from 0 (lowest) to 99 (highest) and corresponds to a percentile ranking scale. Rural and small town definitions are simply based on grid cell density rankings. Grid cell contextual density rankings of 19 percent or lower are designated as rural, while contextual density rankings between 20 and 39 percent are defined as small town. The line between town/exurban and rural is a contextual density of 223 persons per square mile. The upper limit on contextual density for town/exurban is 959 persons per square mile. A grid cell is considered town/exurban if the 38 square mile square surrounding it has a total population of at least 8,474 persons but fewer than 36,480.

The distinction between urban, suburban, and second city is based on grid cell contextual density rankings and the concept of “population centers.” Population centers are defined as those grid cells with population density rankings greater than or equal to those of all the cells surrounding it out to the second ring (approximately a 5-mile radius). Those areas with a population center contextual density ranking greater than 79 percent are designated as urban centers. Population centers with a contextual density ranking of 79 percent or less are designated as second cities. This threshold of a 79th percentile ranking corresponds approximately to a contextual density of 4,163 person per square mile. Since the contextual density is based on the larger 38 square miles area around a point, a cell in a population center is considered to be metro urban if there are at least 158,194 persons in the larger square. Cells in smaller population centers are considered to be second cities.

The transition from urban to suburban is determined using an equation developed by Claritas for determining suburban density thresholds around population centers. A similar procedure is used to differentiate second city population centers from their surrounding suburbs. Suburban areas are defined as those areas with grid cell contextual density rankings of 40 percent or greater and that are neither urban nor second city.

Table A-D shows the thresholds for suburban status by contextual density of population center. Areas with at least 959 persons per square mile (the cutoff point for the 40th percentile) that have grid cell contextual density rankings lower than the suburban threshold for the nearest population center are classified as suburban. For instance, in areas surrounding population centers with a contextual density ranking of 99 percent (i.e., a contextual population density that is between 39,402 and 50,983 per square mile), suburban areas would be defined as those areas with a grid cell density ranking of 89 percent or less (i.e., with a contextual population density of 6,811 or less per square mile).

Table A-D
Suburban density thresholds around population centers (persons per square mile)

Density at population center	Upper threshold density for associated suburban area
986	959
1,974	959
3,034	1,870
3,946	2,987
5,027	3,760
7,574	4,505
9,889	5,149
22,359	5,997
45,193	6,811

Table A-E contains some statistics about the three types of areas as of 1999. Claritas has found that the PRIZM codes do have considerable explanatory power for marketing purposes. Another reason for using urbanicity based on PRIZM codes in this report is thus that they may be helpful in understanding exposure levels and reactions to the Media Campaign.

Table A-E
Profiles of urbanicity levels in 1999 from Claritas

	Households (1,000)	Median HH income*	Prevalence of HHs with kids	Share of HHs with kids
Urban	37,813	\$36,552	31.6%	33.3%
Suburban	23,449	\$58,877	36.8%	24.0%
Town & Rural	39,495	\$37,141	38.9%	42.7%
Total	100,757	\$41,979	35.7%	100.0%

* Medium income for each social group obtained from Claritas and then averaged across groups within urbanicity level, weighted by total households.

APPENDIX A. REFERENCES

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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 Evaluation. Topics include questionnaire design, pilot testing, interviewer recruitment and training, media activities, procedures used during data collection, data editing and cleaning, and response rates.

B.1 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 teens (aged 12-18) and parents for the National Survey of Parents and Youth (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, 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.

The survey questionnaires were designed to use the latest in data collection information technology. The questionnaires are rendered in hard copy in the form of specifications for the programmers in the companion volume, National Survey of Parents and Youth: Questionnaires for Waves 1 and 2. A brief, hard-copy household screening questionnaire is used to determine a sampled household's eligibility. However, the majority of the data collection is conducted using a laptop computer and a combination of computer-assisted interview technologies. Computer-assisted personal interview (CAPI) involves having the interviewer read the questions to the respondent and record the answers in the computer. CAPI is used to enumerate the household and select a parent/caregiver and one or two youth. It is also used for the nonsensitive questions in the extended interview (parent, teen, and child) questionnaires. For collection of sensitive data in the extended interview questionnaires, audio computer-assisted self-interview (ACASI) technology is employed. This allows respondents to self-administer the survey in total privacy. They listen to the question on headphones and record their own responses by touching the computer screen. These technologies were used based on the theory that providing respondents with a methodology that improves 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 (ages 9-11), 44 minutes for teens (ages 12 to 18) and 52 minutes for parents to complete their respective survey questionnaires.

B.2 PILOT TEST

Once the Office of Management and Budget (OMB) clearance was obtained, Westat conducted a pilot test in Baltimore, Maryland. 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 the application of the ACASI portion of the questionnaire, as well as to test 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.

B.3 INTERVIEWER RECRUITMENT AND TRAINING

The NSPY 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. 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.

All candidates participated in a 9½-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. Approximately 20 percent interviewer attrition was experienced during the first 4½ months of the field period, so an additional training session was conducted to supplement the interviewer workforce. Total interviewer attrition over the first two waves was 38 percent.

B.4 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 Media Campaign Evaluation Teen and Parent questionnaires, some questions ask about the respondent's media usage patterns, including television, radio, and magazines.

Questions are asked about viewership of specific television shows and readership of specific magazines from which the Media Campaign media buyers have purchased advertising time or space. The specifics of these media buys are determined by Ogilvy, the Campaign media buy contractor, based on the GRPs that the television show, radio program, or magazine is expected to earn. 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.

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 their assessment of the ad's message and impact.

Updated information on those television shows and magazines for which ad time or space has been purchased is sent to Westat every 3 months, and appropriate updates are transmitted to the field interviewers' laptop questionnaires. The set of television and radio ads that are played for respondents are also changed monthly, with a set protocol being used to determine which ads are played during each month and for which respondents.

Each month Ogilvy 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, and 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.

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. 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. See Appendix C for such analysis.

B.5 WAVES 1 AND 2 DATA COLLECTION

B.5.1 Determining Household Eligibility

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: (1) The household contained children of a specified age group (age groups included households with children aged 9 through 13, 12 and 13, or 9 through 18), and (2) the housing unit was built before April 1, 1990, the housing unit is a mobile home, or the housing unit was 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.

B.5.2 Use of Neighbor Reports

Through most of Waves 1 and 2, 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 each wave 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 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.

B.5.3 Selection of Respondents

Once a household was determined to be eligible, the interviewer conducted a household enumeration with a household member 18 years of age or older. 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.

All selection information was entered into a laptop by the interviewer using a CAPI approach.

B.5.4 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 that 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 that 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 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.5.5 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 contract 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 2.4 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.

B.6 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 insure 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 data of interview. Additional edits checks were executed to insure that questions were asked regarding the appropriate groups of items (i.e., ads, TV shows) 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.7 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 and 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 (87.6%) of NSPY parents/caregivers completed an interview. Interviews were completed with 2,362 (91.6%) of selected NSPY children and teens.

The cumulative response rate (screener response rate x roster response rate x interview response rate) was 65.4 percent for youth and 62.5 percent for parents.

APPENDIX C. MEASUREMENT QUALITY

This appendix addresses the issue of quality of measurement. While every measure included in each questionnaire is not dealt with, evidence for the quality of some of the central measurement techniques relied on in the report is considered. The appendix is divided into three sections. The first provides evidence about the quality of the specific ad recall measures used in Chapter 3. The second considers the internal coherence of many of the sets of items to measure the belief, attitude and self-efficacy constructs used in Chapters 7, 8, and 9. The final section considers the intra-household congruence between parent and child reports about behaviors.

C.1 RECALL OF ADVERTISING

Specific Ad Recall

Each youth and parent was shown a set of television and radio advertisements that had been playing in the 2 months before the date of interview. From their responses to those ads, an index of total exposure to ads was developed. Can these measures of specific recall be trusted? (In this section, evidence for the validity of television ad recall measures for youth and parents are presented, only. They may not represent the validity of measures of youth or parent recall of radio ads.) Validity of television ad recall was assessed in two ways. First, the recall of the ads actually shown on television was compared to the claimed recall of “ringer” ads, (i.e., ads played for respondents although they had never appeared on television). Second, we compared the average recall of each shown ad with the total advertising time (GRPs) purchased for each ad. If the measures of recall are strong, they will correlate highly with GRPs purchased. Both of these tests supported the validity of the measures, particularly for youth.

The average eligible ad (that actually aired) was recalled by 44 percent of youth. This recall rate was sharply higher than recall of the ringer ads, ads that had never been aired and were used to estimate the tendency to claim that an ad had been seen when it had not. On average, the ringer ads were “recalled” approximately 11 percent of the time by a youth respondent. In contrast, of the 23 actual general audience ads for youth, nine had ever recall rates over 50 percent, nine others were ever recalled by between 15 and 50 percent and only five were recalled by less than 15 percent (a rate not dissimilar to the ringer ads). These results give confidence that these measures do reflect true exposure. They suggest that only a small downward adjustment to the average recall rate is justified to correct for over-reporting.

Table C-A presents the data that were used to estimate the fit between youth recall of specific ads, and the GRPs that were assigned to each ad. Six pieces of information are included for each ad. For example, the ad “Hockey” was shown to 1,658 youth respondents. It had been on the air 16.30 days of the 60 days preceding the interview for the average respondent. Of the 1,658 respondents who were shown the ad, 51 percent recognized it. Including both those who recognized it and those who did not, they claimed to have seen it an average 2.57 times “in recent months.” Estimated weekly exposure is a derived measure. The total number of times the ad was seen is divided by the average number of days the ad

was on the air, which gives an estimate of exposures per day, and then multiplied by 7 to estimate exposures per week. For Hockey, estimated weekly exposure of 1.10 is equal to $7 \times 2.57/16.30$. The final column is derived from the advertising data reported by Ogilvy. The total targeted GRPs obtained among general market youth for the specific ad during the period from September 1999 through December 2000 is divided by the number of weeks it was on the air. In the case of Hockey, approximately 484 GRPs were obtained over 7 weeks during the period in question. As a result, the gross ratings points per week of airing total about 69. This calculation was repeated for each of the general market ads. The data in the last two columns, one developed on the basis of the NSPY recall data and the other on the basis of reported GRPs, are remarkably consistent. With the ad as the unit of analysis, they correlate at $r = 0.78$. This relationship is depicted in Figure C-A.

Table C-A-1
Association between recall and GRP estimates for youth

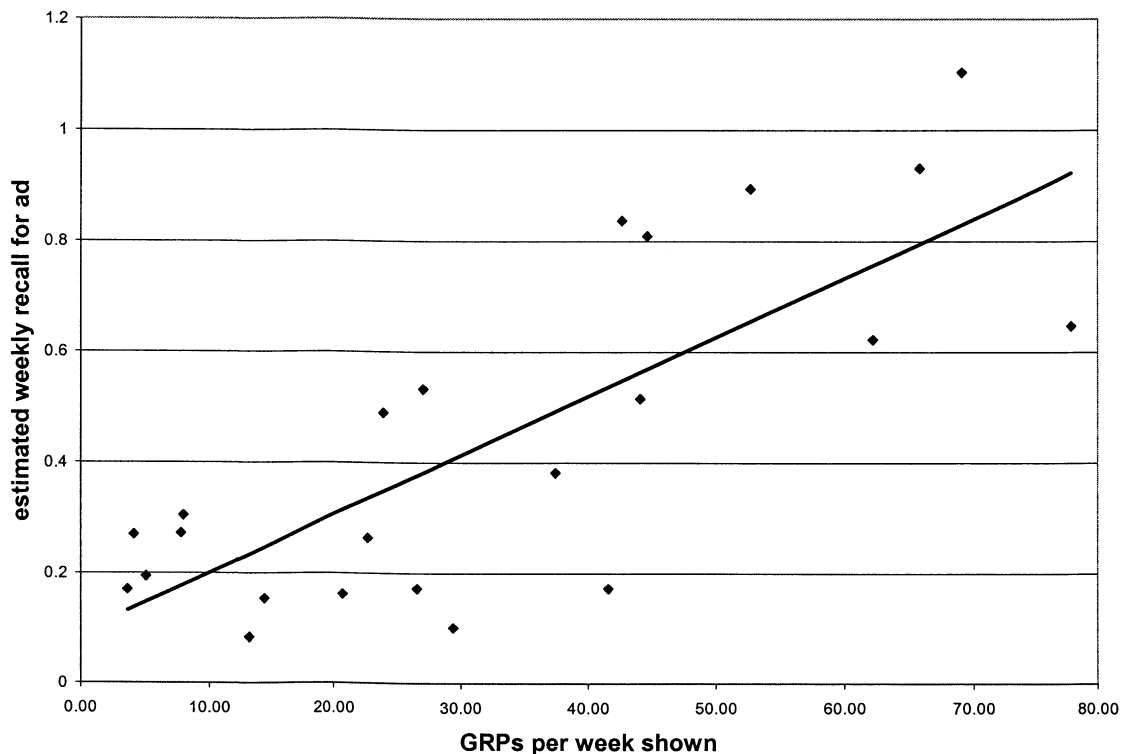
Ad name*	Number of eligible respondents	Number of days aired in 60 days before interview	Proportion who had seen the ad in recent months	Mean number of times ad seen in recent months	Estimated weekly recalled exposure	Gross Rating Points per week ad was on the air through 12/00
Andy McDonald	636	15.26	0.50	2.03	0.93	65.82
Drugs Kill Dreams (Williams Sisters)	1,877	30.37	0.57	2.31	0.53	27.05
Dixie Chicks	788	29.32	0.39	1.60	0.38	37.46
Scatman	634	25.51	0.24	0.96	0.26	22.71
How to say no	1,821	23.91	0.54	2.86	0.84	42.68
Michael Johnson	648	13.50	0.18	0.52	0.27	4.14
No thanks	1,826	30.05	0.72	3.84	0.89	52.73
Hockey	1,658	16.30	0.51	2.57	1.10	69.08
Mary J. Blige	1,620	35.47	0.60	3.28	0.65	77.83
No skills	1,133	13.35	0.11	0.37	0.19	5.09
Two brothers	1,422	26.37	0.62	3.05	0.81	44.66
Tara	1,008	31.36	0.51	2.31	0.52	44.09
Mother	1,413	26.41	0.21	0.61	0.17	20.73
Most teens	1,747	26.37	0.18	0.64	0.17	3.65
Vision Warrior	797	25.75	0.47	2.29	0.62	62.22

Table C-A-1
Association between recall and GRP estimates for youth (continued)

Ad name*	Number of eligible respondents	Number of days aired in 60 days before interview	Proportion who had seen the ad in recent months	Mean number of times ad seen in recent months	Estimated weekly recalled exposure	Gross Rating Points per week ad was on the air through 12/00
Soccer	682	40.04	0.60	2.80	0.49	23.93
Football	234	16.47	0.22	0.64	0.27	7.80
Love	150	15.85	0.20	0.69	0.30	8.00
Swimming	266	32.02	0.14	0.38	0.08	13.12
Friends	213	18.69	0.09	0.27	0.10	29.42
Icons	280	36.55	0.22	0.90	0.17	41.59
DJ	240	18.71	0.14	0.46	0.17	26.57
Family	284	17.35	0.13	0.38	0.15	14.32
Average, weighted by number of respondents eligible to see ad		26.90	0.44	2.08	0.54	

* Only general market, English language ads are included in this analysis.

Figure C-A
Weekly recall and GRP density among youth



This is strong evidence, then, for two inferences regarding youth. First, GRPs matter for youth; they largely define how well youth will recall the television ads. Second, recall measures, at least when aggregated in this way, appear to be valid. They would not be so highly related to weekly GRPs otherwise.

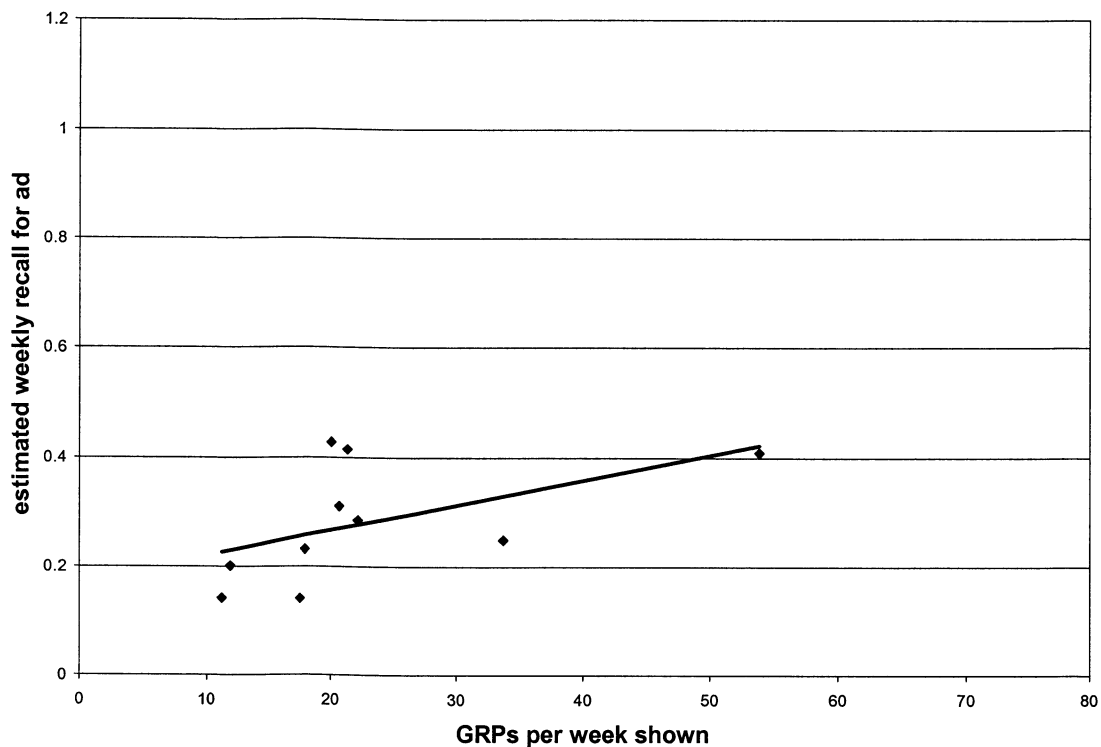
Similar tests for parent television ads also suggested some evidence for measure validity, though it was not as striking as that demonstrated for youth. There is a significant and positive correlation between the estimated weekly recall and GRPs per week aired reported for parent television, but it is not as high as that reported for youth ($r = 0.53$ for parents versus $r = 0.78$ for youth). For the purposes of this test, only general market ads were included in the analysis. Because GRPs for a series of ads (drugs, pot, pipe, roach, and weed) were not available individually, they also were not included in analysis. In addition to this evidence, the average actual parent television ad was recalled by roughly twice as many parents as was the average so-called ringer ad. Approximately 30 percent of parents reported ever having seen the average actual parent TV ad, whereas 16 percent reported having seen the average ringer ad. As a result, the parent recall measure does appear to bear a relationship with external estimates of ad availability and does seem to tap into actual recognition of ads over and above social desirability or other factors that might lead to false reporting. Figure C-B illustrates relevant data for parents.

Table C-A-2
Association between recall and GRP estimates for parents

Ad name*	Number of eligible respondents	Number of days aired in 60 days before interview	Proportion who had seen the ad in recent months	Mean number of times ad seen in recent months	Estimated weekly recalled exposure	Gross Rating Points per week ad was on the air through 12/00
Phone	893	29.69	0.26	0.98	0.23	17.96
E-mail	538	16.40	0.13	0.47	0.20	11.86
Office	549	35.89	0.20	0.72	0.14	17.57
TV	491	10.98	0.17	0.65	0.41	21.38
Funeral	221	11.79	0.17	0.72	0.43	20.08
Symptoms	894	47.45	0.24	0.96	0.14	11.20
Clinic	950	34.16	0.35	1.39	0.28	22.21
Under your nose	326	13.98	0.13	0.62	0.31	20.72
Stay involved	776	30.66	0.35	1.79	0.41	53.89
Praise & Reward	876	36.52	0.29	1.30	0.25	33.73
Average, weighted by number of respondents eligible to see ad		30.89	0.26	1.11	0.28	

* Only general market, English language ads are included in this analysis.

Figure C-B
Weekly recall and GRP density among parents



Why might the evidence for validity be less substantial for parent TV ads than that noted for youth, however? There are at least two reasons to believe the answer does not necessarily have to do with NSPY measure invalidity. First, the GRP reports for parent ads are less precise than the GRP reports for youth ads because they are actually estimates for the U.S. population of adults between 25- and 54-years-old. Specific estimates for parents are not available. As a result, the NSPY measures of ad recognition actually might be more precise indicators of parent exposure than the reported GRP estimates. Second, parent TV ads enjoyed fewer GRPs in general than youth TV ads; none of the parent TV ads included in the validation exercise garnered more than 55 GRPs per week on air, whereas some youth TV ads garnered almost 80. As a result, the greater variation, and generally higher level, of youth TV ad GRPs may have afforded a better opportunity to witness a relationship between external estimates and NSPY measures of individual recognition than was the case for parents.

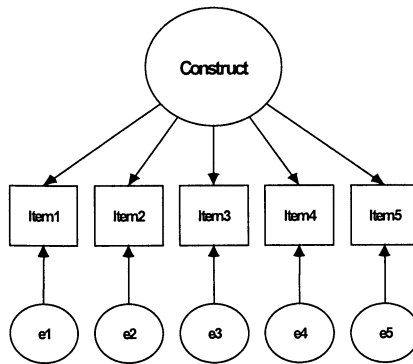
C.2 SCALE RELIABILITY

Estimating Reliability Through Measurement Modeling

Much of the NSPY measurement involves a set of sociocognitive predictors of intention (social norms, attitudes, and self-efficacy). Usually there are multiple measures of the sociocognitive variables, and statistical power can be increased by using them as the basis of

constructed scales instead of a multitude of mutually correlated independent variables. Here reliability estimates for the proposed scales are presented. The analysis comes in two forms: one for just- or over-identified constructs and one for under-identified constructs (for a discussion of the identification problem with measurement models, see Kline, 1998). For all analyses, rectangles represent observed variables and are assumed to be a function of the unobserved variable (large circles) and uncorrelated error terms (small circles, these variables are the “uniquenesses” in factor analysis terminology). The regression coefficients from the unobserved construct to the indicators (λ s) are the contribution of the unobserved variable to the observed variable. Both the λ s and the error variances can be different across indicators. These two conditions define the least restrictive measure model, the *congeneric*. Raykov (1997) shows that the reliability (i.e., true score variance/total variance) for congeneric measures is easily calculable from estimates of all λ s, all error terms, and the variance of the unobserved factor. This reliability is the one reported below.

The generic measurement model for identified or overidentified constructs is shown below.



For teen respondents (12 to 18 years of age) three constructs of interest are overidentified and thus can be analyzed directly with the model above: outcome expectations (8 indicators), self-efficacy (5 indicators), and sensation seeking (4 indicators). Intentions for trial or regular use were measured using only a single item.

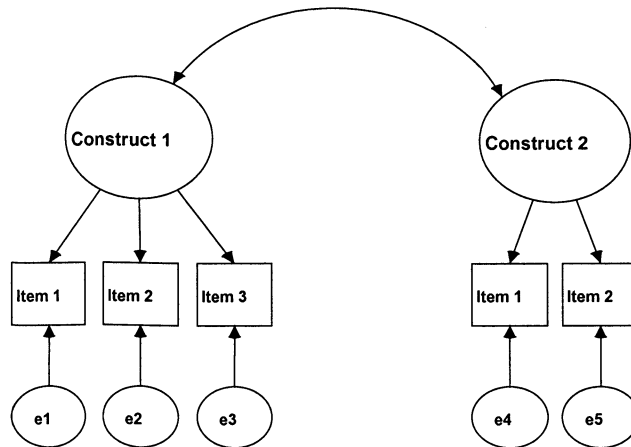
For parents, seven constructs can be analyzed using this approach: intentions to discuss drugs with children and to monitor children, outcomes of child monitoring, attitudes toward monitoring and discussing drugs with children, self-reported monitoring behaviors, and self-efficacy for discussing drugs with children. (Social norms around discussing drugs with children is measured with only a single item). Reliability results are shown below in Table C-B.

Table C-B
Reliability results

Construct	Group	Reliability	Questions
Beliefs re outcomes of trial use	Teen-A	.71	C3a: a-h
Beliefs re outcome of reg. use	Teen-BC	.87	C3b:a-h
Self-efficacy	Teen	.85	C9:a-e
Sensation Seeking	Teen	.79	C34:a-d
Attitudes – monitoring	Parents	.79	C6:a-c
Beliefs outcome of monitoring	Parents	.58	C7:a-f
Intentions – monitoring	Parents	.72	C9:a-e
Behavior – monitoring	Parents	.57	C1,C2,C3,C4,C5
Attitudes – drug talk	Parents	.74	D2:a-c
Self-efficacy – drug talk	Parents	.72	D3:a-d
Intentions – drug talk	Parents	.79	D1:b,c,f,g

NOTE: All drug item results relate to marijuana use only.
 Teen-A: Non-users responding to series concerning trial use.
 Teen-BC: All respondents to C3b series concerning regular use.
 Teen: All youth respondents at least 12 years of age.
 Parents with children from 12-18 only.

Unfortunately, two indicator measurement models are under-identified without the imposition of untestable assumptions (e.g., equal λ s). However, in these cases, measurement models can be identified if the covariance between them and some other construct is simultaneously estimated and we assume the errors of measurement are independent across constructs. This approach is used to estimate the reliability for norms (3 indicators) and the semantic-differential attitude measures (two indicators) for the Teen sample (12 to 18 years of age). The generic two constructs covariance model is shown below:



Construct	Group	Reliability	Comments
Norms – trial use	Teen-A	.72	C6a,C7a,C8a
Attitudes – trial use	Teen-A	.54	C4a,C5a
Norms – regular use	Teen-BC	.56	C6b,C7b,C8b

Construct	Group	Reliability	Comments
Attitudes – regular use	Teen-BC	.75	C4b,C5b

NOTE: All drug item results relate to marijuana use only.

Teen-A: Non-users responding to C3a series concerning trial use.

Teen-BC: All respondents to C3b series concerning regular use.

C.3 PARENT CHILD AGREEMENT ON COMMON MEASURES

Chapters 8 and 9 outline a variety of results for variables for which both parent and child measures are available. In those chapters at the population-level parent and child responses sometimes were similarly distributed and sometimes were quite differently distributed. In particular, for parent-child talk about drugs, and parent monitoring of children’s lives, parents generally claimed they did more than children recalled. In this section the question of parent-child agreement is taken one step further. The question was asked whether individual parents agree with the responses of their own children to these measures.

There are three general areas of questions for which parallel data is available: parent-child talk about drugs; parent monitoring of their children’s lives, and parent perceptions of past and likely future drug use by their children. For those behaviors there are two types of measures. Most are simple “yes/no” measures. For those how much exact agreement there was between parent and child report is counted. Others are measures that include multiple values, either five or six values. For those measures both exact agreement and agreement within one category are counted.

Parent-Child Talk About Drugs

Both parents and their children were asked how often they had talked about drugs in the previous 6 months. Frequency of parent-child conversations about drugs is shown in Table C-C.

**Table C-C
Overall frequency (%) of parent-child conversations about drugs**

Parent responses	Child responses						Total (%)
	Never (%)	Once (%)	2 or 3 times (%)	4 or 5 times (%)	6 to 10 times (%)	More than 10 times (%)	
Never	4	2	2	1	0	0	9
Once	4	3	4	1	1	1	14
2 or 3 times	8	7	10	4	2	2	32
4 or 5 times	3	3	5	3	1	1	17
6 to 10 times	2	2	2	2	1	1	10
More than 10 times	3	2	5	2	2	4	18
Total	23	20	28	12	7	10	100

NOTE: Columns or rows may not add perfectly because of rounding errors.

Only 25 percent of parents and their children agreed exactly as to how often they talked in the past half year. Strikingly, only 9 percent of parents said they never talked, but 23 percent of youth said they had no conversations. However, if the criterion for agreement was relaxed, so that the responses of parents and children can be one category apart, then there is 59 percent agreement between them. However, given the distribution of responses at the population level there will be some agreement just by chance. For example, 18 percent of all parents say they talked more than 10 times, and 10 percent of all youth said they talked more than 10 times. It is expected that there will be $.18 * .10 = .018$, or 1.8 percent of the parent-child pairs to both answer more than 10 times, by chance. This is about half of the number observed (4%). It is customary to estimate an agreement coefficient correcting for this chance level of agreement. The formula for this kappa coefficient is:

$$\text{Kappa} = (\text{Observed Agreement} - \text{Expected Chance Agreement}) / (100\% - \text{Expected Chance Agreement})$$

Kappa varies from -1 to 1 with 0 meaning no agreement, -1 perfect disagreement and +1 perfect agreement.

In this case we calculate kappa coefficients for perfect agreement (.09) and for agreement within one category (.23). These would be considered low levels of agreement

This agreement coefficient estimates the tendency for two sets of responses to be the same absolutely. However, given that there is a known difference in the overall distribution of responses, the agreement statistic will inevitably be reduced. Another approach to measuring agreement is to ask whether the two sets of responses are ordered the same, that is whether a parent who tends to report relatively more conversations has a child who tends to report more conversations compared to the rest of their respective populations. A coefficient for measuring the relative agreement between parents and children is gamma, which can vary between -1 and +1, like kappa. In this case $\text{gamma} = .27$, still representing a fairly low coefficient if both parents and children are reporting on the same behavior.

For each of the joint measures the overall level of agreement, the kappa coefficient is reported (where there are multiple categories both perfect agreement kappa and agreement within one category kappa and the gamma coefficient are reported.)

Three separate tables (C-D, C-E and C-F), respectively present the summary statistics for talking, for monitoring and for youth marijuana use. In the first two cases, there is some agreement, and it is beyond the chance level, but it is never very much larger than chance agreement, whether estimated by kappa or by gamma. Marijuana past use, and projected future use have high absolute levels of agreement, and both the kappa coefficients and the gamma coefficient (even more so) show a substantial pattern of agreement above chance. Chapters 8 and 9 provide some discussion about possible explanations for these inconsistencies. In future reports the explanations for the lack of agreement between parents and children with regard to all of these measures will be dealt with more extensively.

**Table C-D
Parent-child talk about drugs**

Behavior	% agreement (% agreement w/1 category)	Kappa-exact	Kappa-within 1 category	Gamma
Overall frequency of conversation (derived from Table C-3, above)	25 (59)	.09	.23	.27
Talked about: Family rules or expectations about drug use	63	.15	NA	.39
Talked about: Specific things {he/she/I} could do to stay away from drugs	62	.20	NA	.42
Talked about: Drug use in movies, music, and on TV?	66	.15	NA	.32
Talked about: People my child/parent or I know who have gotten into trouble with drugs?	52	.20	NA	.43

**Table C-E
Parental monitoring of child's behavior**

Behavior	% agreement (% agreement w/1 category)	Kappa-exact	Kappa-within 1 category	Gamma
How often do (you/your parent) know what (you/child's name) are/is doing when {he/she} is away from home? (Never, seldom, about half the time, often, always or almost always?)	45 (73)	.13	.17	.30
How often do (you/your parent) have a pretty good idea about (your/child's name's) plans for the coming day? (Never, seldom, about half the time, often, always or almost always?)	34 (66)	.08	.12	.26

Table C-F
Youth use of marijuana

Behavior	% agreement	Kappa-exact	Gamma
(P) How many times, if any, do you think child has used <i>marijuana</i> during the <i>last 12 months</i> ? (C) Have you ever, even once, used marijuana? (if yes) How long has it been since you <u>last</u> used marijuana (yes versus no for last 12 months)	87	.52	.94
(P) How likely is it that {CHILD NAME} will use marijuana once or twice over the <i>next 12 months</i> ? (C) How likely is it that you will use <i>marijuana</i> , even once or twice, over the <i>next 12 months</i> ? (Very unlikely versus other)	74	.32	.65

APPENDIX C. REFERENCES

Kline, R. (1998). *Principles and Practice of Structural Equation Modeling*. New York: Guilford.

Raykov T. (1997). Estimation of composite reliability for congeneric measures. *Applied Psychological Measurement* 21 #2:173-184.

APPENDIX D: METHODOLOGY FOR CONFOUNDER CONTROL

D.1. INTRODUCTION

In Chapters 10 and 11, the relationship between exposure and various cognitive and behavioral outcomes has been examined. As briefly explained in those chapters, this examination did not examine the raw relationship between exposure and outcomes. The raw relationship was not studied because it is unlikely that all of the differences between subjects with high and low exposure were due to the Media Campaign. Some of the differences were undoubtedly due to pre-existing factors and dispositions. Such variables are commonly referred to as confounding variables. Confounding variables can not only exaggerate true associations but also mask an association or even reverse the apparent direction of the association. Thus, it is important that all association measures be adjusted for the effects of confounding variables. This appendix provides a detailed description of the methods used to make these adjustments.

Section 2 describes some of the underlying statistical concepts and assumptions made in the analysis. Section 3 provides details on the rationale and technicalities of the confounder selection procedure. Section 4 describes the method of analysis and discusses the statistical and mathematical details of the approach.

D.2. BACKGROUND CONCEPTS

D.2.1 Propensity Scoring

To relate NSPY outcomes to exposure on a semi-annual basis, we have used a method 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. There is no necessity 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.

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. If there are several measure of exposure, then one would have to calculate several propensity scores, one for each measure of exposure. An individual's propensity is estimated in terms of confounding variables by complex statistical methods. For this estimation process, it is necessary to be careful in not including as confounders variables that are outcomes of exposure rather than pre-existing conditions. This means we must be careful to exclude mediating variables in estimating

exposure propensity. How to tell the difference between these two types of variables and other types is the subject of the next section.

Propensity scoring is designed to remove the effects of confounding from the association between outcomes and exposures, for those confounding variables which were used to create the scores. If it is done correctly, then residual associations between outcomes and exposures can be used to draw conclusions about causal relationships. However, if significant confounders are omitted from the scoring process or if exposure modeling is flawed in other ways, the residual association can still be misleading. Further, caution must always be used when determining the direction of the causal relationship whenever both outcomes and exposures are measured simultaneously to make sure that there is no feedback from the outcomes to the exposures which could alter the apparent association.

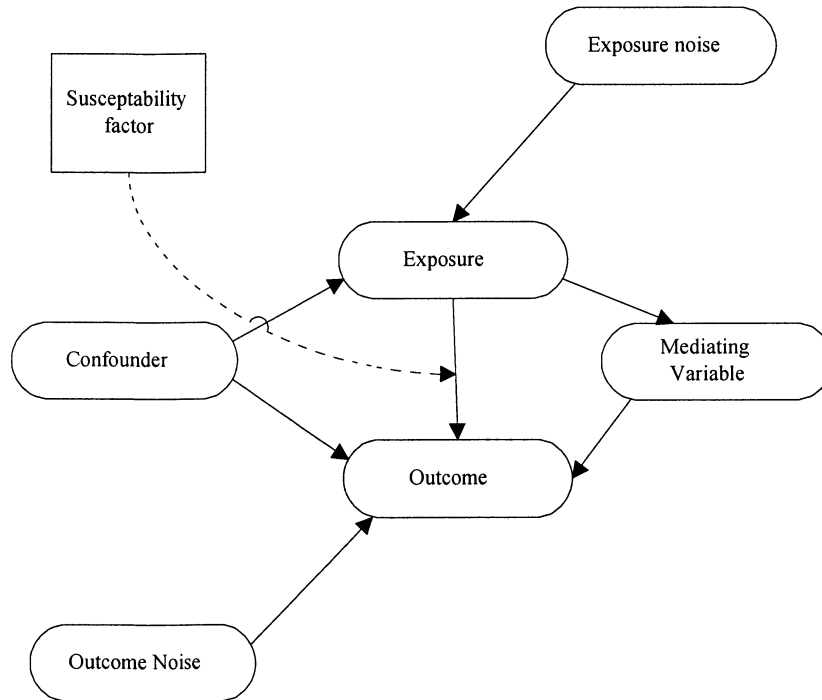
D.2.2.1 Confounders, Mediators, and Susceptibility Factors

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 D-A defines different types of variables schematically.

Some variables add “noise” or variability to the outcome although they may be unrelated to exposure. These make it difficult to detect effects which are smaller in size but are not threats to valid inference in the sense of causing bias. Other variables predict exposure but are not related directly to outcomes. These are called “exposure noise” in the schematic. These can also make it more difficult to detect small effects but also do not create bias.

The critical type of variable to identify is the confounding variable. It is a variable that leads to both variation in exposure and variation in outcomes but is itself not caused by exposure or outcomes. It is sometimes, however, very difficult to distinguish confounding variables from mediating variables. 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. In other words, the mediating variable is causally posterior to exposure rather than causally prior to exposure. If we have mistakenly controlled on any mediating variables, then we may have underestimated the effect of the Media Campaign. If we have mistakenly not controlled on any confounding variables, then we may have overestimated the effect of the Media Campaign (in either a positive or negative direction).

Figure D-A



Yet another type of variable is a susceptibility factor. Such a factor is a characteristic or predisposition which make respondents more or less susceptible to the Media Campaign. These susceptibility factors 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 pre-existing factors (the susceptibility factors). Susceptibility factors can also be confounding variables or outcome noise variables, but they don't have to be either. It is possible for the effect of the Media Campaign to interact with a variable (i.e., to be positive on one subgroup of the population and ineffective or even counterproductive on a different subset) without membership in the subgroup constituting a confounding variable.

The analyses in Chapters 10 and 11 are conditioned on confounders and exposure noise. They are not conditioned on outcome noise or susceptibility factors other than rough age group of youth. This type of conditioning is the essence of the propensity scoring method. Its main advantage is that it is simpler to model exposure (since there are only two exposure indices) than to model each outcome. Studying susceptibility factors will be a focus of the Wave 3 report in September of 2001. In this report, only average effects are estimated. It is of course, perfectly possible, that the persons in different subgroups will have very different effects, but the average effect is still of interest in determining whether the Media Campaign is serving public goals.

D.3. CHOICE OF CONFOUNDERS

Decisions about which variables would be regarded as potential confounders and which as mediating were made by committee discussion prior to any examination of the data. Since the choice of conditioning variables can influence the findings, this seemed like the only approach that would stand up to review. The motives of all researchers can be called into question. By blinding ourselves to the data and having spirited committee discussions, the public can be assured that the methods in this report are not geared to either finding or not finding any effects of the Media Campaign. Once the committee decisions about admissibility had been made, modeling procedures were used to find confounders.

D.3.1 Confounders for Youth Data

The following were included as admissible confounders for youth propensity modeling. Not all of these variables were found to predict exposure, but they were all examined to see whether they were associated with exposure. The included variables can be divided into two broad groups. Some confounders directly measure the respondent youth's personal demographics, attitudes, family environment and behaviors. Information was collected on

1. Age
2. Gender
3. Race ethnicity
4. Neighborhood characteristics from the census
5. Urban, suburban or rural nature of neighborhood
6. School enrollment status in the previous year
7. Whether school was in session in the last 30 days
8. Number of missed schooldays due to illness in the previous 30 days
9. Number of days the youth cut school in the previous 30 days
10. School grade level
11. Academic performance
12. Participation in extra-curricular activities
13. Respondent's primary post-secondary plan
14. Hours of TV consumption on weekdays
15. Hours of TV consumption on weekends

16. Hours of radio consumption on weekdays
17. Hours of radio consumption on weekends
18. Internet use
19. Magazine reading habits
20. Language of TV viewing
21. Language of radio programs heard
22. Availability of cable or satellite TV in the household
23. Consumption of specific cable channels targeted by the Media Campaign
24. Personal assessment of family fighting
25. Personal assessment of feelings of togetherness
26. Degree of parental supervision
27. Respondent's perception of parental knowledge of his or her activities
28. Respondent's perception of parental knowledge of his or her plans
29. Degree of enjoyment of time spent with his or her family
30. Youth rating of the importance of religion in their lives
31. Attendance of religious services
32. Personal antisocial behavior
33. Association with antisocial peers
34. Youth close friends' drug use
35. Personal tobacco use of a long-standing nature
36. Personal alcohol use of a long-standing nature
37. Sensation seeking tendencies.

All of the above reflect youth reports about themselves, their friends and their families. Looking over the list, it is clear that some of these variables might be causally posterior to either exposure or outcomes and thus not be true confounding variables. In particular, a lack of association with drug-using peers or improved family functioning might be a result of exposure to Media Campaign advertising. On balance, though, it seemed to the committee that friendship with drug-using peers and family functioning were far more likely to affect

youth cognitions about marijuana than themselves to be the result of Media Campaign exposure. It is also clear that some of the variables could be the result of personal marijuana use, but here it is important to recall that everyone in the study group for exposure-outcome association was a nonuser of marijuana.

After some debate, it was decided to exclude youth attendance of anti-drug programs (in or out of school) as confounders. It was felt that these measures were sufficiently contaminated by measurement error to be actually partially measuring exposure and thus, by controlling on these we would underestimate the effects of the Media Campaign. (In an extreme example, if Campaign exposure and school-based anti-drug education were perfectly correlated, then controlling on the school-based anti-drug education would totally wipe out any Campaign effects.) With regard to youth tobacco and alcohol consumption, which may serve as “gateway” substances for future drug use, it was decided not to distinguish between youth with ambiguous or recent initiation of use and non-users. This was done because of the belief that exposure to Media Campaign messages may have had a spillover effect on use of cigarettes and alcohol, perhaps encouraging some youth to delay initiation of these drugs.

Information on parental characteristics and perceptions were also included as admissible potential confounders for the youth analysis. This included

1. Parental age
2. Parental gender
3. Parental marital status
4. Parent has a child aged 9-11
5. Parent has a child aged 12-13
6. Parent has a child aged 14-18
7. Parental income
8. Parental educational attainment
9. Parental religiosity
10. Sharing of parental responsibilities
11. Parental use of the internet
12. Parental consumption of newspapers
13. Parental consumption of magazines
14. Parental consumption of TV
15. Parental radio consumption

16. Parental consumption of specific cable channels targeted by the Media Campaign
17. The primary language in which the parent watches TV
18. Parental assessment of family togetherness
19. Parental enjoyment of time spent with children
20. Parent's perception of fights with children
21. Parent-child participation in fun indoor activities
22. Parent-child participation in fun outdoor activities
23. Parent's reports on the respondent youth's grade level
24. Parent's report on child's academic performance
25. Parent's report on the time their child spends with friends
26. Parental alcohol use
27. Parental tobacco use
28. Parental prior or current use of hard drugs
29. Parental prior or current use of marijuana
30. 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 future reports to try to determine whether there is a causal relationship between parental exposure and youth outcomes.

D.3.2 Confounders for Parent Analyses

In modeling parental exposure, the following were included in the pool of admissible potential confounders:

1. Race ethnicity
2. Parent gender
3. Parent age
4. Parental income
5. Parental marital status
6. Parental religiosity
7. Parent has a child aged 9-11
8. Parent has a child aged 12-13
9. Parent has a child aged 14-18
10. Neighborhood characteristics
11. Urbanity
12. Parental use of the internet
13. Parental consumption of newspapers
14. Parental consumption of magazines
15. Parental consumption of TV
16. Parental radio consumption
17. Parental consumption of specific cable channels targeted by the Media Campaign
18. The primary language in which parents watch TV
19. Parental alcohol use
20. Parental tobacco use
21. Parental prior or current use of hard drugs
22. Parental prior or current use of marijuana

- 23. Parental prior or current use of inhalants
- 24. 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.

D.4. CONSTRUCTION OF PROPENSITY SCORES

The first subsections lays out the details of the method used to construct propensity scores. In the next two subsections, we discuss some of the properties of the method. Some results are presented from a model for one of the youth measures of exposure, to clarify and illustrate the issues.

D.4.1 Detailed Methodology

For each of the two groups youth and parents, there were two measures of exposure, the general index and the recall-assisted index. Separate propensity scores were calculated for each index. 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 (1999) was used. With this method, an ordinal logit model is fit for each index. The structure of this model is

$$\ln \left(\frac{\sum_{j \leq k} p_{jk}}{1 - \sum_{j \leq i} p_{jk}} \right) = \alpha_k + X_i \beta.$$

Here p_{ik} is the propensity of the i -th subject for exposure level k , 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 new innovations. The basic suggestion of Imbens was to use the estimated propensities to calculate the expected response across the entire sample that 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 , $\sum_k \hat{p}_{ik} = 1 \quad \forall i$.

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 which 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 \tilde{p} were calculated according to the formula:

$$\tilde{p}_{ik} = \frac{\sum_{j \in G_i} \delta_{jk} w_j}{\sum_{j \in G_i} w_j}, \text{ where } G_i \in \{1,2,3,4,5\} \text{ denotes the group to which observation } i \text{ belongs.}$$

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

$$\sum_i \frac{\delta_{ik} w_i}{\tilde{p}_{ik}} = \sum_i w_i \quad \forall k.$$

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

$$\tilde{Y}_{ck} = \sum_i \frac{\delta_{ik} y_i w_i}{\tilde{p}_{ik}}.$$

D.4.2 Assessment of Balance

Since 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

$$\sum_i \frac{\delta_{ik} x_{ji} w_i}{\tilde{p}_{ik}} = \sum_i x_{ji} w_i \quad \forall j \text{ and } \forall k$$

Figures D-B, D-C and D-D show the plots of balance for the 18 significant variables in modeling youth general exposure (the remaining variables were already balanced). Means at each level of exposure are denoted by “O” and a 3 standard deviation range is indicated for each. The overall mean is also indicated on each plot. These plots were generated for the 3-level general exposure index for youth using only the wave 1 data. (Development work was performed on the wave 1 data while wave 2 data were still being collected.) 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, then there is a risk of bias in the causal analyses due to less than complete control of confounding variables. Reviewing these figures, the method appears to have balanced all the confounders well.

Figure D-B

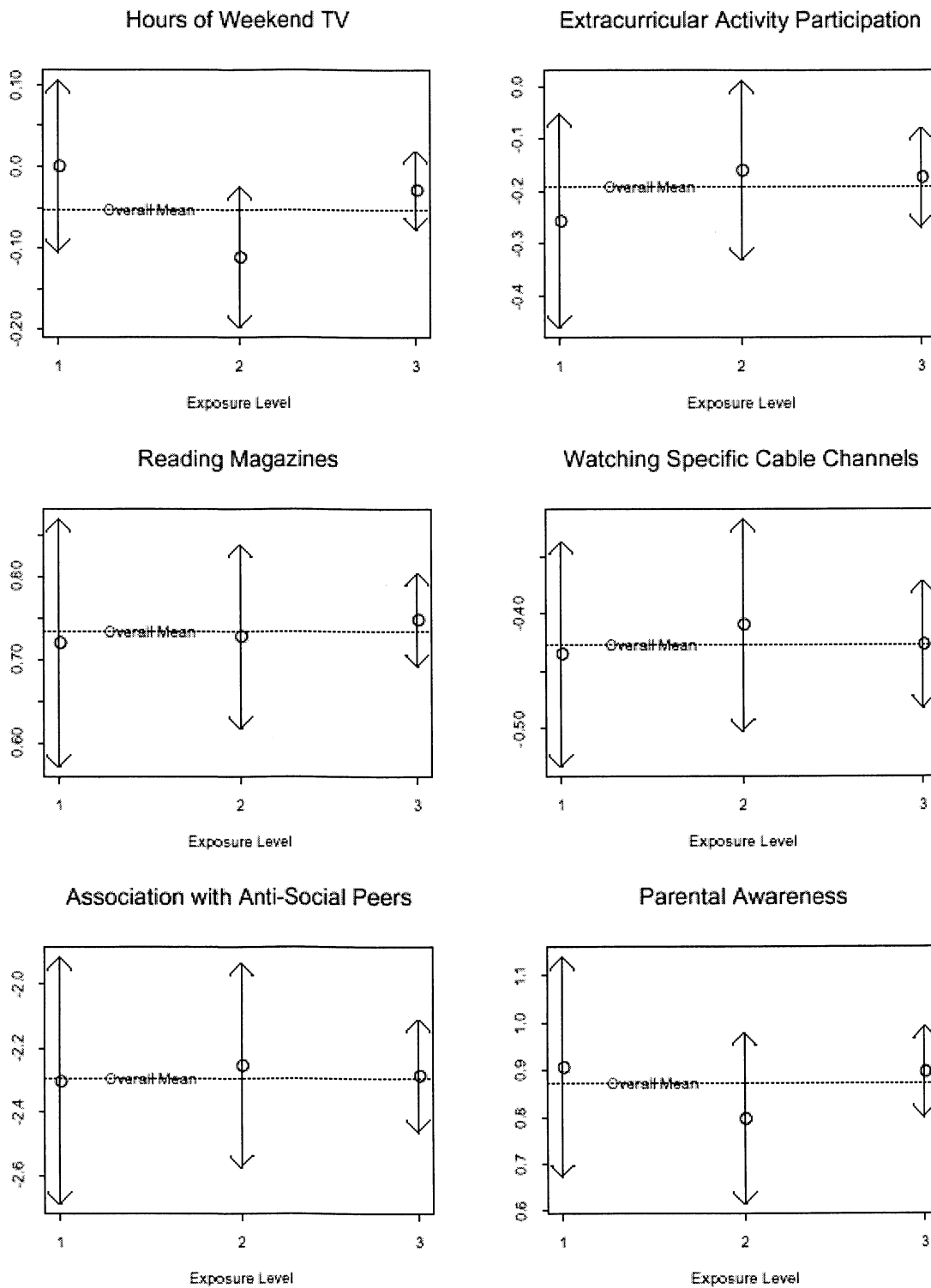


Figure D-C

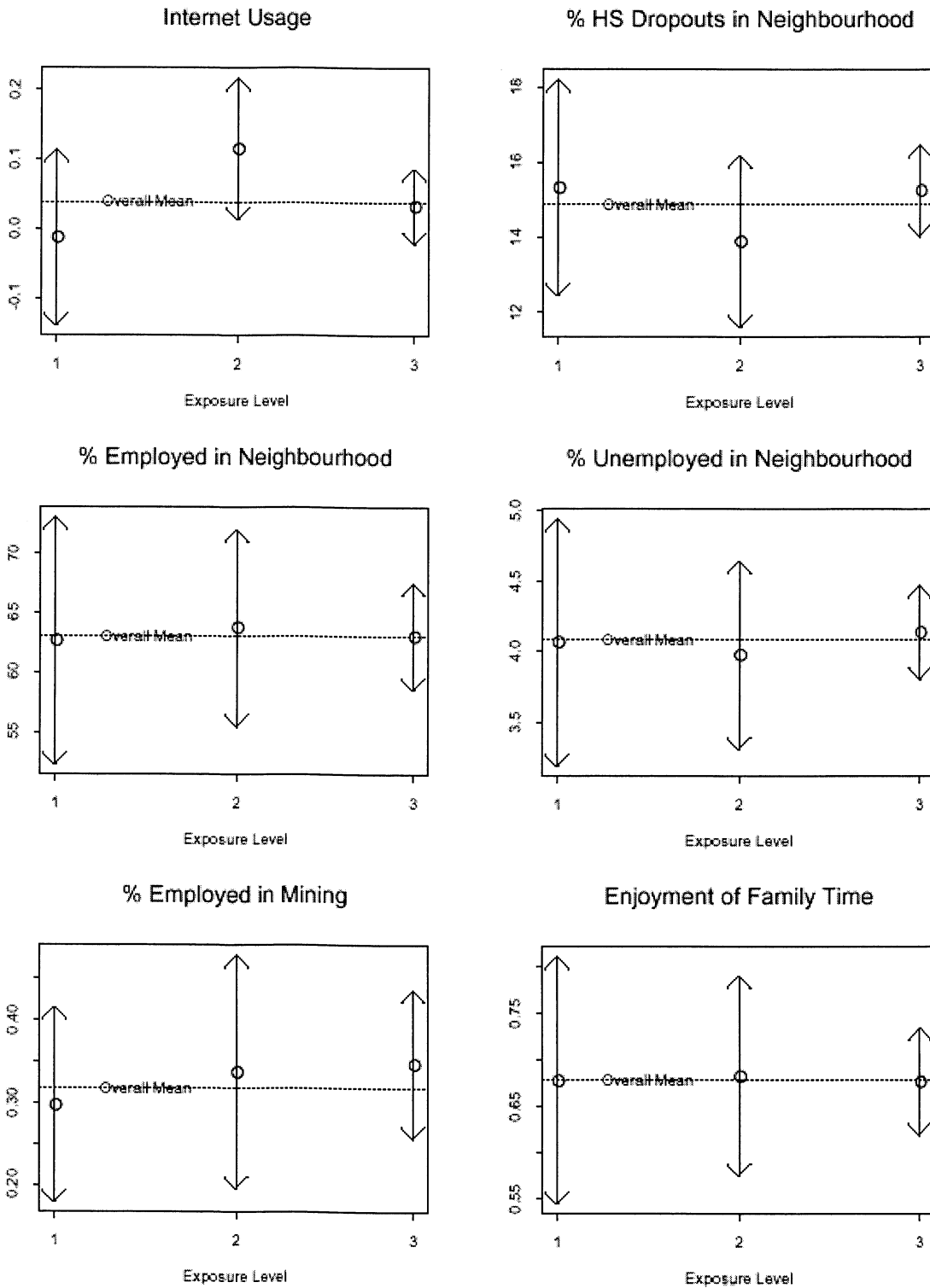
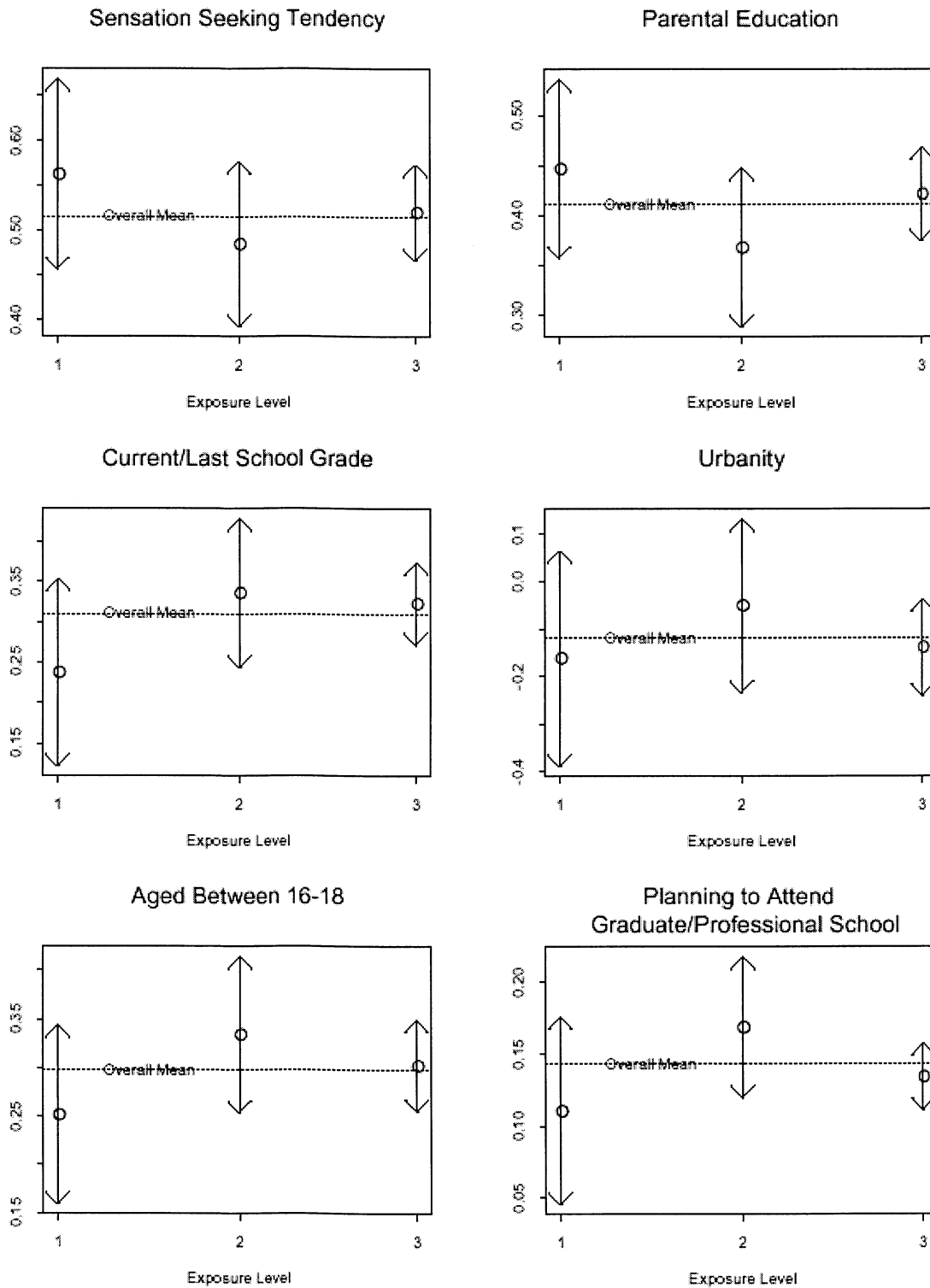


Figure D-D



D.4.3 Impact on Counterfactual Projections on Effective Sample Sizes

For the youth exposure example, the design effects due to the variation in propensities are given in Table D-A. They were calculated using the standard Kish approximation. The true effective samples sizes will be smaller due to 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.

**Table D-A
Design effects and sample sizes by method**

Exposure level	Nominal sample size	Design effect	Effective sample size
1	691	1.33	520
2	737	1.03	716
3	1,568	1.07	1,465

D.4.4 Detailed Models of Exposure

In this section, we present the models that were fitted. Four 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.

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. No examination was made of whether interactions or other higher order terms should be included. 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.

D.4.4.1 Model for the Youth General Exposure Index

The ordinal logit model found eighteen significant variables in modeling youth general exposure. The variables, together with their coefficients are presented below in Table D-B.

D.4.4.2 Model for the Youth Recall Aided Exposure Index

The model for the youth recall aided exposure index found nineteen significant variables. These are presented, together with their coefficients, in Table D-C.

D.4.4.3 Model for the Parent General Exposure Index

There were ten significant variables in the model for parental general exposure. These and their coefficients are tabulated in Table D-D.

D.4.4 Model for the Parent Recall Aided Exposure Index

The model for parental recall aided exposure found eighteen significant variables. These variables and their coefficients are presented in Table D-E.

Table D-B
Model for youth general exposure index
among youth aged 12-18 who had never tried marijuana

Variable	Coefficient*	Standard Error	Notes on Coding
Intercept for low exposure level	-0.6308	0.3704	
Intercept for medium exposure level	0.5936	0.3704	
Youth TV consumption on weekends	-0.2538	0.0567	Ordered from low to high
Youth reading of magazines	-0.4484	0.0810	Low (0) or High (1)
Youth consumption of specific cable channels targeted by the Media Campaign	-0.4943	0.0695	Ordered from low to high
Youth participation in extracurricular activities	-0.0868	0.0290	Ordered from low to high
Youth association with antisocial peers	-0.1291	0.0414	Ordered from low to high
Youth perception of parental awareness of youth activities and plans	-0.2244	0.0361	Ordered from low to high
Youth enjoyment of family time	-0.2237	0.0844	Did not enjoy (0) or did enjoy (1)
Youth use of the Internet	-0.2300	0.0503	Ordered from low to high
Percentage of high school dropouts in the neighborhood in 1990	-0.0163	0.0056	Continuous values
Percentage of persons in the neighborhood 16 and older who were employed in 1990	-0.0121	0.0045	Continuous values
Percentage of persons in the neighborhood in the labor force who were unemployed in 1990	-0.0355	0.0155	Continuous values
Percentage of persons in the neighborhood 16 and older who were employed in mining in 1990	0.0895	0.0371	Continuous values
The urbanity of the neighborhood	-0.0983	0.0284	Ordered as (rural, town, second city, suburban, urban)
Youth score on sensation seeking tendencies	0.2429	0.0768	Median split in Low (0) and High (1)
Youth current or last school grade	-0.3576	0.0819	Ordered as (primary, middle, high) school
Parental educational attainment	0.2180	0.0776	Low (0) or High (1)
Whether the youth was aged between 16 to 18 or not	0.6426	0.1212	Yes (1) or No (0)
Whether the youth's first mentioned plan for the future was attendance at a graduate or professional school	-0.2130	0.1047	Yes (1) or No (0)

* A negative coefficient for a variable coded as 0 or 1 means that subjects with a value of 1 on the variable tend to have higher exposure levels. For ordinal variables, a negative coefficient means that exposure tends to be higher for subjects with higher values of the ordinal variable. Positive coefficients mean the reverse.

Table D-C
Model for youth specific exposure index
among youth aged 12-18 who had never tried marijuana

Variable	Coefficient*	Standard Error	Notes on Coding
Intercept for no exposure	-1.7985	0.1514	
Intercept for low exposure level	0.1106	0.1476	
Intercept for medium exposure level	2.3601	0.1589	
Youth school was in session in last 30 days	-0.3604	0.0963	Yes(0) or No(1)
Youth weekday TV consumption	-0.2097	0.0594	Ordered from low to high
Youth weekend TV consumption	-0.2061	0.0593	Ordered from low to high
Youth consumption of specific cable channels targeted by the Media Campaign	-0.4945	0.0685	Ordered from low to high
Youth association with antisocial peers	-0.0967	0.0359	Ordered from low to high
Youth assessment of family fighting	-0.1720	0.0821	Did not(0) or did(1) fight
Youth use of the Internet	-0.2105	0.0487	Ordered from low to high
Percentage of persons in the neighborhood who lived on farms in 1990	0.0157	0.0063	Continuous values
Percent of persons in the neighborhood who had a BA or higher degree in 1990	0.0104	0.0036	Continuous values
Percentage of persons in the neighborhood 16 and older who were employed in mining in 1990	0.1367	0.0362	Continuous values
Neighborhood is classified as town	-0.1963	0.0818	Yes(1) or No(0)
Household has cable or satellite TV service	0.1812	0.0879	Yes(1) or No(0)
Parental internet usage	-0.1141	0.0442	Ordered from low to high
Parental educational attainment	-0.1709	0.0761	Low (0) or High(1)
Youth gender	-0.3513	0.0692	Female(1) or Male(0)
Parent has never been married	-0.3069	0.1540	Yes(1) or No(0)
Youth was of race other than white, black or Hispanic	0.4477	0.1837	Yes(1) or No(0)
Youth was aged between 16 to 18 or not	0.2808	0.0867	Yes(1) or No(0)
Whether the parent ever used marijuana	-0.2152	0.0698	Yes(1) or No(0)

* A negative coefficient for a variable coded as 0 or 1 means that subjects with a value of 1 on the variable tend to have higher exposure levels. For ordinal variables, a negative coefficient means that exposure tends to be higher for subjects with higher values of the ordinal variable. Positive coefficients mean the reverse.

Table D-D
Model for parent general exposure index
among all parents of youth aged 9 to 18

Variable	Coefficient*	Standard Error	Notes on Coding
Intercept for low exposure level	-0.9494	0.1518	
Intercept for medium exposure level	0.2972	0.1511	
Percentage of persons aged 9 to 18 in neighborhood in 1990	0.0203	0.0072	Continuous values
Percent of persons in the neighborhood who had a BA or higher degree in 1990	0.0101	0.0035	Continuous values
Percentage of persons in the neighborhood in the labor force who were unemployed in 1990.	-0.0504	0.0119	Continuous values
Parental consumption of BET and Spanish cable channels	-0.4482	0.0506	Ordered from low to high
Parental radio consumption	-0.2375	0.0421	Ordered from low to high
Parental reading of magazines	-0.3113	0.0503	Ordered from low to high
Parental reading of newspapers	-0.2626	0.0517	Ordered from low to high
Parental consumption of TV	-0.2935	0.0520	Ordered from low to high
Parent has child aged 12 to 13	-0.1433	0.0618	Yes(1) or No(0)
Parent is a widow	-0.5453	0.2129	Yes(1) or No(0)

* A negative coefficient for a variable coded as 0 or 1 means that subjects with a value of 1 on the variable tend to have higher exposure levels. For ordinal variables, a negative coefficient means that exposure tends to be higher for subjects with higher values of the ordinal variable. Positive coefficients mean the reverse.

Table D-E
Model for parent specific exposure index
among all parents of youth aged 9 to 18

Variable	Coefficient*	Standard Error	Notes on Coding
Intercept for no exposure	-1.4963	0.1864	
Intercept for low exposure level	0.0389	0.1853	
Intercept for medium exposure level	1.9762	0.1891	
Percentage of persons who are American Indian, Eskimo or Aleut in neighborhood	-0.0136	0.0053	Continuous values
Percentage of people in the neighborhood in 1990 who were Hispanic but not Mexican, Cuban or Puerto Rican	-0.0763	0.0270	Continuous values
Percentage of people aged more than 16 in neighborhood in 1990 who were employed in farming, fishing or forestry	-0.0217	0.0092	Continuous values
Percent of housing in the neighborhood in 1990 that was in large structures with 50 or more housing units	0.0097	0.0032	Continuous values
Neighborhood is classified as a city	-0.1862	0.0791	Yes(1) or No(0)
Neighborhood is classified as suburban	0.1727	0.0763	Yes(1) or No(0)
Parental consumption of BET and Spanish cable channels	-0.2206	0.0512	Ordered from low to high
Parental radio consumption	-0.2032	0.0408	Ordered from low to high
Parental educational attainment.	-0.1683	0.0632	Ordered from low to high
Parental smoking behavior	-0.1127	0.0435	Ordered from low to high
Language of parental TV viewing	0.6499	0.1693	Spanish(0) or English(1)
Parental TV consumption	-0.2166	0.0507	Ordered from low to high
Parent has child aged 14 to 18	0.1294	0.0590	Yes(1) or No(0)
Parental use of marijuana	0.1963	0.0559	Ordered from low to high
Parental race is Hispanic	-0.2559	0.1185	Yes(1) or No(0)
Parental marital status is missing	0.6567	0.3190	Yes(1) or No(0)
Percentage of households with income about \$75,000/year in neighborhood	0.0102	0.0029	Continuous values

* A negative coefficient for a variable coded as 0 or 1 means that subjects with a value of 1 on the variable tend to have higher exposure levels. For ordinal variables, a negative coefficient means that exposure tends to be higher for subjects with higher values of the ordinal variable. Positive coefficients mean the reverse.

D.5 TESTING FOR SIGNIFICANCE OF COUNTERFACTUAL EFFECTS

Several approaches were employed to assess the significance of estimated effects. One approach was to estimate the variances of all the counterfactual means and the actual mean and use these to prepare plots of the estimates with confidence intervals for visual inspection. The second was to estimate the variance of the direct effect and use that to place a confidence interval on the direct effect. The third was to estimate the variance of the maximum effect and use that to place a confidence interval on the maximum effect. The fourth was to adapt a test (the Jonckheere-Terpstra) for monotone dose-response relationship. With all of the approaches, the extra variance introduced by complex sample design, nonresponse adjustment, and counterfactual projection were reflected as fully as possible.

D.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 D.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 dataset 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.

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, then the confidence intervals will not provide the 95 percent coverage promised.

Let w_{ir} be the r -th replicated counterfactual weight for the t -th exposure level for the i -th observation. Let w_{i0} 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 \mathcal{E}_{ci} and exposure level t is then

$$\hat{y}_{ct} = \frac{\sum_i w'_{i0} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w'_{i0} \delta_{it} \mathcal{E}_{ci}} \text{ with variance estimate } \text{var } \hat{y}_{ct} = \sum_r b_r \left(\frac{\sum_i w'_{ir} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w'_{ir} \delta_{it} \mathcal{E}_{ci}} - \frac{\sum_i w'_{i0} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w'_{i0} \delta_{it} \mathcal{E}_{ci}} \right)^2 ,$$

where the b_r are factors chosen to correspond to the replication method.

D.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

$$\text{covar}(\hat{y}_{ct}, \hat{y}_c) = \sum_r b_r \left(\frac{\sum_i w'_{ir} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w'_{ir} \delta_{it} \mathcal{E}_{ci}} - \frac{\sum_i w'_{i0} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w'_{i0} \delta_{it} \mathcal{E}_{ci}} \right) \left(\frac{\sum_i w_{ir} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w_{ir} \delta_{it} \mathcal{E}_{ci}} - \frac{\sum_i w_{i0} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w_{i0} \delta_{it} \mathcal{E}_{ci}} \right) .$$

In the second step, the variance on the direct effect was estimated as

$$\text{var}(\hat{y}_c - \hat{y}_{ct}) = \text{var}(\hat{y}_c) + \text{var}(\hat{y}_{ct}) - 2\text{covar}(\hat{y}_c, \hat{y}_{ct}), \text{ where } t=1.$$

D.5.3 Confidence Intervals on Maximum Effects

The covariance between two counterfactual estimates was estimated as

$$\text{covar}(\hat{y}_{ct}, \hat{y}_{ck}) = \sum_r b_r \left(\frac{\sum_i w'_{ir} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w'_{ir} \delta_{it} \mathcal{E}_{ci}} - \frac{\sum_i w'_{i0} \delta_{it} \mathcal{E}_{ci} y_i}{\sum_i w'_{i0} \delta_{it} \mathcal{E}_{ci}} \right) \left(\frac{\sum_i w'_{ir} \delta_{ik} \mathcal{E}_{ci} y_i}{\sum_i w'_{ir} \delta_{ik} \mathcal{E}_{ci}} - \frac{\sum_i w'_{i0} \delta_{ik} \mathcal{E}_{ci} y_i}{\sum_i w'_{i0} \delta_{ik} \mathcal{E}_{ci}} \right)$$

In the second step, the variance on the maximum effect as estimated as

$$\text{var}(\hat{y}_{c5} - \hat{y}_{c1}) = \text{var}(\hat{y}_{c1}) + \text{var}(\hat{y}_{c5}) - 2\text{covar}(\hat{y}_{c5}, \hat{y}_{c1}) .$$

D.5.4 Testing for a Monotone Dose-Response Relationship

A standard nonparametric test in toxicology and biopharmaceutical research for dose-response relationship is the Jonckheere-Terpstra. 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 only made 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

$$v = \sum_{r=1}^{100} b_r (J_r - J_0)^2 .$$

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 E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS

Target Audience	Media	Ad Name	Description
Parent- Gen. Mkt.	TV	E-mail	A father types an e-mail 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 e-mail?"
Parent- Hispanic	TV	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?"
Parent- Gen. Mkt	TV	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?"
Parent-Gen. Mkt. & Black	TV	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.
Parent-Gen. Mkt	TV	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 most effective deterrent to drug use. "Why do we watch so much television?"
Parent- Gen Mkt	TV	Differences-Weed	A weed to 6th grader is a dandelion; weed to 7th grader is marijuana. "What a difference a year makes."
Parent- Gen Mkt	TV	Differences-Drugs	Drugs to 6th grader is medicine; drugs to 7th grader is bag of marijuana. "What a difference a year makes."
Parent- Gen Mkt	TV	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."

APPENDIX E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS (continued)

Target Audience	Media	Ad Name	Description
Parent- Gen Mkt	TV	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."
Parent- Gen Mkt		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."
Parent- Gen Mkt		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."
Parent- Gen Mkt	TV	Differences-Pot	Pot to a 6th grader is a flower pot; pot to a 7th grader is marijuana. "What a difference a year makes."
Parent- Gen Mkt, Black	TV	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.
Parent- Hispanic	TV/ Radio	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.
Parent- Gen Mkt	TV	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.
Parent-Hispanic	TV	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.
Parent- Gen Mkt	TV	Funeral	Mortuary employees talk about the realities of planning funerals for young people. The ad captions discuss the risk of death from using inhalants.

APPENDIX E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS (continued)

Target Audience	Media	Ad Name	Description
Parent- Gen Mkt, Black	TV	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.
Parent- Hispanic	TV	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."
Parent- Hispanic	TV	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."
Parent- Gen Mkt	TV	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.
Parent-Black	TV	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.
Parent- Gen Mkt	TV	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.

APPENDIX E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS (continued)

Target Audience	Media	Ad Name	Description
Parent- Black	TV	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.
Parent- Hispanic	TV	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.
Parent- Gen Mkt	Radio	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.
Parent- Gen Mkt	Radio	Cooking Dinner	Boredom is one reason kids get involved with drugs. Stay involved with your kids.
Parent- Gen Mkt	Radio	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.
Parent- Hispanic	Radio	Pepperoni-(Spanish)	The best way to keep youth younger than 15 from using drugs is by supervising them and being an effective parent.
Parent- Gen Mkt	Radio	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."
Parent- Gen Mkt	Radio	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."
Parent- Gen Mkt	Radio	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.

APPENDIX E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS (continued)

Target Audience	Media	Ad Name	Description
Parent-Hispanic	Radio	Happy Birthday Raul (Spanish)	A mother describes what she does (feeding, bathing) to take care of her teenaged son who used inhalants and suffered brain damage.
Parent- Gen Mkt, Black	Radio	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.
Youth- Gen Mkt, Black	TV	Venus and Serena Williams	Tennis champions Venus & Serena Williams advise against drug use. "Drugs kill dreams."
Youth- Gen Mkt	TV	Andy McDonald	Skate boarding champion Andy McDonald talks about getting high from skate boarding, not drugs.
Youth- Gen Mkt	TV	Dixie Chicks	The band, the Dixie Chicks, talk about the temptations to use drugs and advise against drug use.
Youth- Gen Mkt	TV/ Radio	Scatman	Scatman performs in a music video style to convey that "Drugs ain't about nothing."
Youth- Hispanic	TV	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.
Youth- Black	TV	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."
Youth- Gen Mkt.	TV	No Thanks	A boy at a party is offered marijuana. Different ways to say no to drugs are shown.
Youth- Black	TV	How to Say No	Alternative ways (angry, rap, dramatic) to say no to drugs are shown.
Youth- Gen Mkt	TV	Michael Johnson	Michael Johnson, the world's fastest 200m & 400m runner, is featured. "None of this would be possible if I had used drugs."

APPENDIX E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS (continued)

Target Audience	Media	Ad Name	Description
Youth- Gen Mkt	TV	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.
Youth- Black	TV	No Skills	Kids are shown making mistakes and unable to play sports well after using drugs.
Youth- Gen Mkt, Black	TV/ Radio	Mary J. Blige	Singer Mary J. Blige talks about loving and accepting yourself, and staying drug free.
Youth- Hispanic	TV	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."
Youth- Gen Mkt, Black	TV	Vision Warrior	Young man talks about how smoking marijuana led him to use harder drugs.
Youth- Gen Mkt	TV	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."
Youth- Gen Mkt	TV	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.
Youth- Hispanic	TV	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.
Youth- Gen Mkt	TV	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.
Youth- Gen Mkt, Black	TV	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."

APPENDIX E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS (continued)

Target Audience	Media	Ad Name	Description
Youth- Hispanic	TV	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.
Youth- Hispanic	TV	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.
Youth- Black	Radio	Steven	An urban youth talks about seeing a drug bust on Thanksgiving, being happy, staying true to himself and drug-free.
Youth- Gen Mkt, Black	TV	Football	A football player talks about catching a pass. Asks "what's your anti-drug?"
Youth- Gen Mkt, Black	TV	Love	A girl talks about the love she feels for her cat. Asks "what's your anti-drug?"
Youth- Gen Mkt, Black	TV	Swimming	A girl talks about how much she enjoys swimming. Asks "what's your anti-drug?"
Youth- Gen Mkt, Black	TV	Family	A girl talks about her attachment to her mother. Asks "what's your anti-drug?"
Youth- Gen Mkt, Black	TV	Icon	Ad shows a collage of images of various activities. Asks "what's your anti-drug?"
Youth- Gen Mkt, Black	TV	Friends	A boy talks about doing everything with his friends and sticking together with them. Asks "what's your anti-drug?"
Youth- Gen Mkt, Black	TV	DJ	A boy talks about his feelings when he performs as a disk jockey. Asks "what's your anti-drug?"
Youth- Black	Radio	What to Say Boy	A friend wants you to smoke "that wacky weed." What do you say? "I get high above the rim."

APPENDIX E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS (continued)

Target Audience	Media	Ad Name	Description
Youth- Black	Radio	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."
Youth- Hispanic	Radio	She Did it- (Spanish)	Girls talk to popular girl who says no to marijuana and is still popular.
Youth- Hispanic	Radio	The First Time- (Spanish)	Kids talk about saying no to marijuana for the first time.
Youth- Black	Radio	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.
Youth- Gen Mkt	Radio	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.
Youth- Black	Radio	Kathy and Jackie	Kathy talks about her best friend Jackie and how, if they got high, they wouldn't have fun together
Youth- Black	Radio	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.
Youth- Gen Mkt	Radio	Make You Think	Marijuana makes you think you're interesting and attractive, when you're really not.
Youth- Black	Radio	Money	Items are listed that you can buy with your money if you don't buy marijuana.
Youth- Hispanic	Radio	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.
Youth- Hispanic	Radio	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."

APPENDIX E. WAVES 1 AND 2 – NSPY ANTI-DRUG ADVERTISEMENTS SHOWN TO RESPONDENTS (continued)

Target Audience	Media	Ad Name	Description
Youth- Gen Mkt	Radio	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.
Youth- Hispanic	Radio	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.
Youth- Gen Mkt	Radio	Excuses	Excuses you can give for not smoking marijuana are provided.
Youth- Gen Mkt	Radio	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.
Youth- Gen Mkt, Black	Radio	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.
Youth-Hispanic	Radio	Laugh (Spanish)	Boy who is high can't stop laughing long enough to finish the story he's trying to tell.

APPENDIX F. CONSTRUCTION OF EXPOSURE INDICES

For this report, two exposure indices have been developed. Each of these indices is explained below. In Section F.3, there is some discussion of why these two indices were used instead of possible alternatives. In Section F.4, more details about imputation of ad-level exposure is given.

F.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 F-1 on the next page. 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 F-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 F-2.

**Table F-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

**Table F-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 four 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 F-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

F.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 F.4.

After imputation, answers were available to the questions shown in Figure F-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.)

**Figure F-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

After imputation, the responses were recoded as shown in Table F-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 F-4.

Table F-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
Don't know		0.5
Yes	Not at all	0
Yes	Once	1
Yes	2 to 4 times	3
Yes	5 to 10 times	7.5
Yes	More than 10 times	12.5

Table F-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 four 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)

F.3 DECISIONS BEHIND INDEX CONSTRUCTION

The reasons for having two indices concern correct attribution of effects, sensitivity of analyses, and transparency of methods. Each of these points is discussed in turn below. The questions on internet exposure have not been built into either index. The rationale for this recommendation is given in the final paragraph.

Correct Attribution of Effects

As discussed in Chapter 3, in comparing NSPY exposure estimates with Ogilvy GRP estimates, it appears clear that the NSPY general exposure questions are probably capturing some anti-drug advertising that has nothing to do with the Campaign or is spill from parents to youth or vice versa. The RAEI is not similarly contaminated by unrelated advertising. If it is associated with outcomes of interest, then the attribution of those findings will be clearer.

Sensitivity of Analyses

It is possible that the TV and radio advertising are more effective than the other types of advertising (print, outdoor, cinema). Since the RAEI reflects only exposure to television and radio advertising (and only TV for youth), it is possible that analysis with RAEI is more sensitive to Campaign effects. Also, since the RAEI measures are probably more valid measures than the GEI measures because of their specificity, they may capture effects that would be lost if they were combined with the more general exposure questions. At the same time, the separate GEI index allows estimation of the more general effects of exposure across all channels.

Transparency of Methods

Consideration was given to forming a single index as a complex function of exposure measures on each component. This complex function would be chosen to maximize the association of exposure with outcomes on a test dataset. As such, it would not have any easy interpretation with the reported values being the number of viewings over a fixed period. In contrast, with two indices, the interpretation of each index is fairly simple. Both the GEI and the RAEI are in terms of ad exposures per month.

Multiple Comparisons

With two exposure indices, the results are sometimes inconsistent. As discussed in Chapters 10 and 11, one index is sometimes associated with an outcome while the other is not. Judgment is required to interpret these results. Also, with a larger number of comparisons, one can expect that some findings will be false positive findings. This is always a risk with statistical procedures, but as the number of analyses that are conducted increases, the chance that at least one of the findings will be wrong increases.

Exposure via the Internet

In this report, no use is made of exposure to anti-drug sites on the Internet as an additional exposure variable for causal analyses, although information on Internet exposure is presented in Chapter 3. This was done for two reasons. One is that relatively few youth or parents are exposed to these sites, so power to detect effects would be poor. Second, any observed association between drug site visits and outcomes in cross-sectional analyses would be quite vulnerable to a concern that it was a priori beliefs and attitudes towards drugs which drove individuals to visit drug sites, rather than vice-versa. The Internet exposure reports are substantially more vulnerable to this concern than are the RAEI and GEI indexes, since it is assumed that exposure to the ordinary messages is a byproduct of exposure to the channels which respondents are using (e.g. their television watching behavior,) while exposure to the Internet drug sites is, by definition, evidence of motivation to be exposed to drug information. We then prefer to avoid causal claims about Internet drug site exposure effects until we have longitudinal data, so the time order of such exposure and the beliefs and attitudes can be reasonably resolved.

F.4 AD IMPUTATION PROCEDURES

As explained in Section F.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. 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, n-cell hotdeck imputation, and a MART-based procedure, each of which is explained below.

F.4.1 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 to then 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).

F.4.2 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.

F.4.3 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 it is noted which category the random number lies in. 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 which were fed to MART and may thus be considered to have had their associations with exposure preserved include the following:

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