

# 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., copy rotation and gross rating point (GRP) information).

This appendix describes the data collection methodology used during the initial recruitment phase (Waves 1 through 3) and the followup phase (Waves 4 through 9) of the Evaluation. Topics include survey design, questionnaire design, interviewer recruitment and training, media activities, procedures used during data collection, quality control efforts, data editing and cleaning, and response rates.

### B.1 Survey Design

The major evaluation component of the Phase III Evaluation has been the conduct of the National Survey of Parents and Youth (NSPY), which is a longitudinal study consisting of nine data collection waves, each lasting approximately 6 months. The NSPY is a nationally representative survey which was conducted in 90 locations across the United States. Figure B-1 is a graphical depiction of the initial recruitment and followup plan of the NSPY.

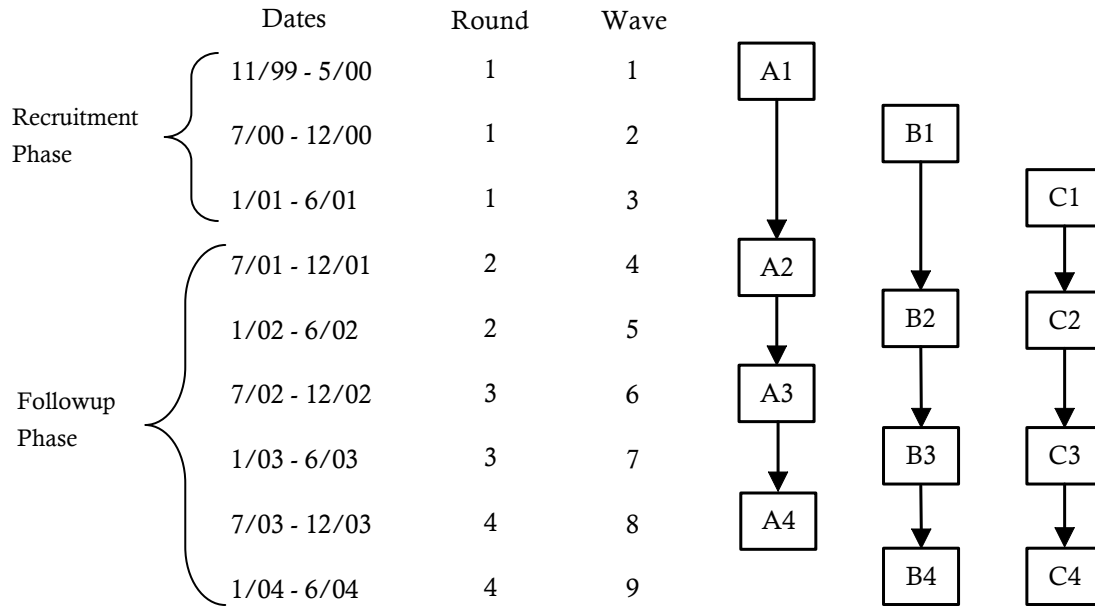
The initial recruitment phase (Waves 1 through 3, or Round 1) consisted of three cross-sectional surveys, lasting approximately 6 months each. During recruitment, approximately 81,000 households were screened for the presence of children in the age ranges of interest. Only about one in every eight households was determined eligible to participate (12%).

The followup phase (Waves 4 through 9) began with the Wave 4 data collection. Parents and youth recruited during the first three recruitment waves were tracked and recontacted three additional times (or rounds) during the followup. Wave 1 (Round 1) participants were followed up in Wave 4 (Round 2), Wave 6 (Round 3), and Wave 8 (Round 4). Wave 2 and Wave 3 participants (Round 1) were followed up in Wave 5 (Round 2), Wave 7 (Round 3), and Wave 9 (Round 4). The time interval between interviews ranged from 6 to 24 months, depending on the wave and the dates of interview.

### B.2 Questionnaire Design

In preparation for the Evaluation of Phase III of the National Youth Anti-Drug Media Campaign (referred to as the Campaign), the National Institute on Drug Abuse (NIDA) convened an expert panel to assist in the development of data collection questionnaires. This group, which included specialists in adolescent drug use prevention and parenting behaviors, met and generated draft survey questionnaires for children (aged 9 to 11), teens (aged 12 to 18) and parents for the NSPY. NIDA shared these Phase III prototypes with Westat at the beginning of the contract period.

**Figure B-1. NSPY initial recruitment and followup plan**



Westat formed a questionnaire development team whose members included evaluation experts from Westat, the Annenberg School for Communication at the University of Pennsylvania, and the National Development and Research Institutes (NDRI). This team reviewed the Phase III prototypes, as well as the survey questionnaires used in the Phase II Media Campaign Evaluation, and other surveys, including Monitoring the Future (MTF), Community Action for Successful Youth, National Household Education Survey (NHES), and the National Household Survey on Drug Abuse, now known as the National Survey on Drug Use and Health (NSDUH).

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 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 Campaign’s advertising, including brand recognition;
- Parent’s own current and past use of tobacco, alcohol, 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, inhalants, and Ecstasy;
- 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 Campaign's advertising;
- Family and peer factors;
- Personal factors; and
- Demographic information.

During Round 1, virtually the same set of questions was asked of respondents. However, some new questions were added in a later wave within the round. These included a question on Campaign brand recognition in the Teen and Parent questionnaires; questions about Ecstasy use in the Teen questionnaire (have used and when last used); questions about doing fun things with parents in the Teen and Child questionnaires; and a question about parents' perception of the efficacy of drug talk in the Parent questionnaire.

To make room for these questions, some questions were deleted. These included questions about reading magazines or seeing television shows from the Teen and Parent questionnaires, questions about communicating rules for alcohol and smoking from the Teen and Child questionnaires, and a question about perceived consequences of inhalant use from the Child questionnaire.

In Round 2, the questionnaires were essentially the same for parents, teens, and children except for some additional questions on Ecstasy in the Teen questionnaire including intentions to use, perceived expectations of use by peers, and attitudes of use including approval/disapproval of use and perceived harm of use. A question about Campaign banner ads on the Internet was added to both the Teen and Parent questionnaires. In the Parent questionnaire, the branding question was rephrased to ask about the correct parent brand and one of two "ringer" brands, mirroring the format of the teen branding question. Other additions to the parent questionnaire included a question about the presence and number of youth in the household in the age categories of interest; a question on parental perceptions of harm from trial of marijuana, inhalants, and Ecstasy; and a question on the likelihood of youth use of inhalants and Ecstasy.

In Round 3, the questionnaires for teens and children were essentially the same except for the questions pertaining to the evaluation of the television ads. Prior to Round 3, teen and child respondents were asked followup evaluative questions about the first three television ads that they were shown only if they answered that they had recalled having seen or heard them in the past. In Round 3, the teen and child questionnaires were changed and respondents were asked to evaluate the first three television ads they were shown, regardless of whether they recalled having seen the ads in the past. No changes were made to the parent questionnaires in Round 3.

In Round 4, no changes were made to any of the questionnaires.

The questionnaires for Waves 1 through 9 can be found on the NIDA web site: <http://www.nida.nih.gov/DESPR/Westat/index.html>. During Round 1, a brief, hard copy household screening questionnaire was used to determine a sampled household's eligibility. All other data were collected using a laptop computer and a combination of computer-assisted interview technologies. Computer-assisted personal interviewing (CAPI) involved having the interviewer read the questions to the respondent and record the answers in the computer. In Round 1, CAPI was used to enumerate the household and select a parent/caregiver and one or two youth. In Rounds 2 through 4, CAPI was used to determine respondent eligibility and to select a new parent, if appropriate. CAPI was also used for the nonsensitive questions in the extended interview (parent, teen, and child) questionnaires in all rounds. For collection of sensitive data in the extended interview questionnaires, audio computer-assisted self-interview (ACASI) technology was employed. This allowed respondents to self-administer the survey in total privacy. They listened to the question on headphones and recorded their own responses by touching the computer screen. These technologies were used based on the theory that providing respondents with a methodology that improved privacy and confidentiality would make reporting of potentially embarrassing, stigmatizing, or illegal behaviors (such as drug use) less threatening, and enhance response validity and response rates.

### **B.3 Interviewer Recruitment and Training**

The NSPY initial data collection design was based on hiring one primary interviewer in each of 90 primary sampling units (PSUs) and hiring approximately 35 more interviewers to supplement efforts in larger PSUs, PSUs geographically clustered, and in PSUs where primary interviewers quit during the field period.

Initially, interviewers were recruited from Westat's pool of experienced interviewers. Additional candidates were recruited through local organizations and classified newspaper advertisements placed in various PSUs as needed. These candidates were screened for communications skills and availability. Spanish language interviewer candidates were screened by bilingual project staff for their ability to communicate effectively in both Spanish and English. Approximately 12 percent of the total interviewers hired were bilingual. Most English and bilingual candidates had prior experience relevant for data collection.

Over the waves, all interviewers participated in an 8- to 10-day training session. The training program, which was staffed by qualified project staff and field supervisors, was designed to ensure consistency in data collection through the use of lectures, with a heavy focus on practice sessions. Trainees new to Westat attended an additional half-day training on general interview techniques. Bilingual trainees also attended an additional half-day training that concentrated on reviewing bilingual scripts and materials.

### **B.4 Media Activities**

Because this was an evaluation of a media campaign, activities such as media buying, ad creation, and broadcast levels played key roles in the interviews as well. Because the Campaign was dynamic over time, the media-specific questions in the questionnaires also changed appropriately.

In the Evaluation's Child, Teen, and Parent questionnaires, some questions were asked about the respondent's media usage patterns, including television, radio, and magazines. All NSPY questionnaires contained a section of questions devoted to how the respondent received anti-drug messages. In these questions, selected television and radio Media Campaign ads that had been broadcast during the prior 2 calendar months were played for the respondent. Questions were then asked about the respondent's recall of prior exposure (viewing or listening) to the ad, and his/her assessment of the ad's message and impact. The set of television and radio ads that were played for respondents was changed monthly, with a set protocol being used to determine which ads were played during each month and for which respondents.

Each month Ogilvy, the Campaign media buy contractor, produced an updated copy rotation schedule. This schedule outlined, by month, each ad that was slated for broadcast, its target audience (parents or youth), and racial or ethnic group (general market, African American, or Hispanic). Included were each ad's planned broadcast dates and the Media Campaign behavioral platform that the ad addressed. As ads were produced, Ogilvy forwarded them to Westat for digitizing; a process that put the ads into an electronic format that was then incorporated into the computerized laptop questionnaires.

Using the current copy rotation schedule, Westat determined those television and radio ads that needed to be played to respondents over the next 2 months. A CD containing those ads was then produced and sent to the field interviewing staff. A look-up table was also developed for each interview month and transmitted to the field staff. It provided the specifications for ad selection and randomization for each respondent that month.

During Waves 1 and 2 of Round 1, questions were asked about viewership of specific television shows and readership of specific magazines from which Ogilvy had purchased advertising time or space. The specifics of these media buys were determined based on the Gross Rating Points (GRPs) that the television shows, radio program or magazine were expected to earn. Ogilvy sent updated information on those television shows and magazines for which ad time or space has been purchased to Westat every 3 months, and appropriate updates were transmitted to the field interviewers' laptop questionnaires. (Questions on specific television shows and specific magazine readership were dropped from questionnaires after Wave 2.)

Ogilvy also provided data regarding the planned GRP levels for the previous 6 months, by target audience (parents or youth), creative ad execution, media (television, radio, print, and out of home), and week/month. GRPs refer to the percentage of the target population that was estimated to be watching a particular TV show, listening to a specific radio program, or reading a certain magazine, and were therefore exposed to the advertising messages provided. These GRPs were 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 Campaign's messages, the media buyers then purchased a mix of media whose GRPs, when aggregated, would achieve the desired intensity of Campaign message exposure. This information was used by the Evaluation's analysts to look for correlation between recalled exposure to ads by respondents and the ads' reach and frequency levels.

## B.5 Initial and Followup Data Collection

As noted previously, NSPY had four rounds of data collection: Round 1 (November 1999 to June 2001), Round 2 (July 2001 to June 2002), Round 3 (July 2002 to June 2003), and Round 4 (July 2003 to June 2004). This section discusses several topics central to the NSPY data collection effort. They include procedures involving sending advance materials, determining household and respondent eligibility, tracking respondents, selecting household members for inclusion as survey respondents, assuring respondent confidentiality, and obtaining Parent Consent and Child Assent.

### B.5.1 Sending Advance Materials

About 2 weeks prior to interviewers receiving their assignments, advance letters were mailed to sampled addresses. Since these addresses during Round 1 were from listings, the envelopes and letters were not addressed to a person, but to “resident.” The envelopes contained letters on NIDA stationary that provided an introduction to the study, information on confidentiality, and notice that an interviewer would contact the household to determine whether household members would be eligible to participate in an interview. Each person who completed an interview received a \$20 incentive. During the following rounds, envelopes and letters were addressed to the selected parent respondent, regardless of whether he or she completed the interview in the prior round.

### B.5.2 Determining Household/Respondent Eligibility

During Round 1, interviewers were required to make up to five in-person attempts to contact a household. A household was considered eligible if two criteria were met. First, the household must have contained children of a specified age group (age groups included households with children aged 9 through 13, 12 and 13, or 9 through 18). Second, the housing unit must have been built before April 1, 1990, be a mobile home, or be selected through the permit sample (see Appendix A). All eligibility information was collected on hard copy and then entered into an electronic file on laptop computers.

During Round 1, 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 Round 1 to allow interviewers to determine eligibility information from neighbors after one attempt to contact the household. Because a neighbor might be less able to accurately know the exact ages of children, two questions about children were asked. First, the neighbor was asked whether any children aged 9 to 18 lived in the household. If yes, a followup question was asked to determine whether children of the specified age for the particular household (see categories above) lived in the household. In addition, the neighbor was asked if sampled housing units in area segments were built after April 1, 1990. Finally, the neighbor was asked what times members of the sampled household would be likely to be at home. If answers to both of the age questions were no, the household was considered ineligible. If the answer to either or both age questions was yes and if the housing unit was built before April 1, 1990, or if the housing unit was drawn from the permit sample, the interviewer continued to try to contact the sampled household. Remaining attempts were made to contact the sampled household to obtain an interview at times suggested by the neighbor.

In Rounds 2 through 4, interviewers were allowed to screen households both by telephone and in person. Interviewers were required to make up to five telephone attempts to contact a household. If

the telephone attempts were not successful, up to five in-person attempts were then made. Most first attempts were made by telephone; however, first attempts at contact were made in person if the selected parent had refused to complete his or her initial interview or if the interviewer did not have a telephone number to call.

To be included in Round 2, a household must have had at least one selected person (parent or youth) complete his or her extended interview in Round 1. If no one who was selected in the household completed an interview in Round 1, the household was not included in Round 2.

To be included in Round 3, a household must have had at least one selected youth complete his or her extended interview in Round 1 or in Round 2, and the household must not have been classified as “not locatable” or “out of area” in Round 2. If no youth completed an interview in Round 1 or Round 2, the household was not included in Round 3.

The same Round 3 eligibility rules applied in Round 4. To be included in Round 4, a household must have had at least one selected youth complete his or her extended interview in Round 1, in Round 2, or in Round 3 and the household must not have been classified as “not locatable” or “out of area” in Round 3. If no youth who was selected completed an interview in Round 1, Round 2, or Round 3, the household was not included in Round 4.

### **B.5.3 Tracking of Respondents**

Prior to Round 2, efforts were made to verify the location of Round 1 adult respondents. Address correction information was received from the U.S. Postal Service from any Thank You Notes sent out by Westat that were forwarded to new addresses by the Postal Service, and from calls received on the NSPY study information line. Location information (i.e., address and telephone number) about respondents was sent to a national database company for tracking purposes. A high proportion of the new addresses provided by the database company also had been reported by the Postal Service or on the NSPY information line. Updated location information from these sources was sent to Westat’s Telephone Research Center (TRC) and telephone interviewers placed calls to these households to verify the identity of respondents. Again, a high proportion of these households were contacted and respondents verified at their new addresses.

Prior to Rounds 3 and 4, efforts were made to update the location of adult respondents from previous rounds. Again, address correction information was received from the U.S. Postal Service from Thank You Notes sent out by Westat that were forwarded to new addresses by the Postal Service, and from calls received on the NSPY information line. Address changes from these two sources were updated in the study’s database and this information was sent to the TRC for followup. The proportion of reported address changes was very small in Rounds 3 and 4. Therefore, it was decided that it was not necessary to use the services of a database company for tracking purposes in either Round 3 or Round 4.

During Rounds 2 through 4 data collection, tracking of respondents continued. U.S. Postal Service address corrections from advance letters were forwarded to field interviewers to assist in locating respondents. The field interviewer attempted to locate a respondent using telephone tracing procedures, which included contacting directory assistance and calling the two tracing references. If telephone tracing was unsuccessful, the field interviewer then conducted in-person tracing, which included visiting the last known address of the parent respondent and two neighbors. When field

tracing failed to locate respondents, the case was then returned to the home office for tracing by the TRC using directory assistance, criss-cross directory, and national internet database searches.

## **B.5.4 Selection of Respondents**

During Round 1, the interviewer conducted a household enumeration with a household member 18 years of age or older, once a household was determined to be eligible. All members of the household, excluding children/students who were currently away from home, or living at a boarding school or college, were enumerated (i.e., the first name, age at last birthday, and gender were collected). At this point, up to two eligible youth were randomly selected and the type of survey questionnaire (i.e., teen or child), to be administered was determined. Once the youth were selected, the relationship of every other person to the selected youth 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 at least 6 months to be eligible for selection. If no parents lived in the household, the algorithm selected a primary caregiver. Once all respondents were selected, information on the race and ethnicity for each selected person was obtained.

As mentioned earlier, youth who had been selected at Round 1 and included in the sample were considered eligible for Rounds 2 through 4 if they were 9 to 18 years old at the time of the round and were not living in a group quarters situation (i.e., not living away from home at school or in an institution). New youth were never selected as replacements for ineligible ones.

A parent or caregiver who had been selected at Round 1 was considered eligible for future rounds if he or she were still living with an eligible sampled youth at least 2 nights a week and not physically or mentally disabled. If the parent who completed an interview in the previous round was not eligible, a new parent was selected. During the CAPI screening instrument, if it were determined from the screening answers that the parent was no longer eligible, a second screening module was initiated in order to select a new parent. The new parents selected during Rounds 2 through 4 were self-selected; that is, were defined as the adult living with the youth who knew the most about the child's daily life and activities, as opposed to the computer's random selection of the parent in Round 1.

## **B.5.5 Guaranteeing Confidentiality**

An important part of the survey methodology was to obtain honest answers to very sensitive questions. 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 could not 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 gave. Interviewers showed a copy of the certificate to respondents prior to the interview. They also guaranteed that all respondent names and other identifying information would be destroyed at the end of the study and would not appear in any publications resulting from the study. Teen and child assent forms were appropriately worded for each age group to make sure that the youth understood that the answers they gave would be kept private and would not be connected with their names.



Second, the extended interviews were administered in a CAPI and ACASI format. Sensitive questions were in ACASI format, which meant that respondents used the computer themselves to answer questions by touching the screen and used headphones to hear the questions. The extended interview was programmed so that the interviewer was unable to go back into the interview and look at answers the respondent provided in the ACASI section.

Third, interviewers were instructed to, if possible, seat the respondent in a chair that was against the wall or a piece of furniture so that no other person could stand or pass behind the respondent. This procedure hindered third parties from being able to observe the respondent's answers during the ACASI part of the interview. The interviewer also requested that parents not be present in the room while the questionnaire was being conducted with the youth. If the parent insisted on being present in the room, the interviewer asked the parent not to stand directly behind the child during the ACASI portion of the interview.

### **B.5.6 Obtaining Parent Consent/Child Assent**

Prior to administering the interview, the interviewer had to obtain parental consent and youth assent to conduct the youth interview. For each child aged 18 or younger, interviewers obtained written parental consent from the selected youth's parent or a legal guardian. Once done, written assent from each youth participant was obtained. If the parent refused to let the child be interviewed and refusal conversion efforts failed, the child could not be interviewed.

In addition, verbal consent was required for the parent interview. Once the parent answered yes to the verbal consent within the CAPI portion of the instrument, the extended interview continued.

As mentioned previously, since the NSPY included sensitive questions, especially ones related to illegal behaviors (i.e., drug use), NIDA requested and obtained a Certificate of Confidentiality from the Department of Health and Human Services. The Certificate was discussed during the consent process.

## **B.6 Quality Control Efforts**

Data collection quality control efforts began with the development and testing of the interview instruments and continued through validation of parent interviews and of ineligible households. This section describes the steps taken to ensure quality data, including testing of instruments; pilot testing of field procedures and data collection instruments; training procedures; and the validation of data collected.

### **B.6.1 Testing and Implementation of the Instruments**

Using the detailed specifications as a baseline, automated systems and instrumentation were tested before field data collection started. A comprehensive and iterative testing approach was developed that included a plan for testing and tracking modifications of all systems and processes.

This plan used an iterative development process in which systems were developed and systematically tested to ensure that all identified errors were corrected and retested before use in the field. Software was run through multiple phases of testing for errors in instrument skip patterns, hard and soft error

processing, and the transfer of completed interviews and related statuses. The testing process included module testing, instrument testing, subsystem testing, scenario testing, and integrated systems testing. Test scripts and scenarios were developed along with instrument specifications that were used as a reference for all levels of the testing process.

Programmers were primarily responsible for the initial module or unit testing of the applications. A unit is a defined function or an area of an interview in which complicated skip patterns or programming logic is implemented. These area testers tested several instrument sections or modules which were related and were administered in conjunction with each other. This included testing one or more sections of the instrument as each section was developed and modified.

Instrument testing was done by developers, systems analysts, and project staff to test the entire questionnaire instrument from start to finish. This included checking all skip patterns, response categories, range checks, and both hard and soft edits; cross-checking items collected in multiple instruments; and reviewing instrument text for appropriate language, interviewer instructions, question displays, and scrolling issues.

Subsystem testing was completed by systems analysts, lead developers, and project staff to ensure that all interviewing and management functions worked appropriately together and the correct algorithms for selection, along with the correct ads to be played were applied. Testers reviewed application flow as well as population of response and status data in the database. In addition, this testing included testing the system security at the browser and server levels.

Scenario testing included the development and testing of the automated instruments for various age, race, gender, and other skip patterns and followed the interviewing process through predefined paths similar to what may be encountered in the field. Predefined scenarios were documented by field operation staff and provided to developers in advance as an aid to programmers in their initial unit and module tests. These documented plans were used in the testing of multiple scenarios.

Finally, all systems went through rounds of formal integrated systems testing. This included following the entire process through the cycle including loading and assigning cases using the management system, loading cases on the server, completing automated questionnaires, and updating completed work to the home office database. Any processes that failed the testing process or were modified went through the full testing life cycle again to ensure that modifications did not impact other related areas of code.

Problems identified in the testing process were documented and retested once a developer implemented the required correction.

## **B.6.2 Pilot Testing**

Prior to Round 1, once the Office of Management and Budget (OMB) clearance was obtained, a pilot test was conducted in Baltimore, Maryland. Approximately 300 households were screened to obtain about 20 household interviews using the NSPY instruments. The purpose of the pilot was to test the adequacy of instrument skip patterns, question wording, and flow; to test the adequacy of the advance materials and interviewing procedures; and to test the application of the ACASI portion of the questionnaires, including the reaction of respondents to the content of the tutorial program in the ACASI that taught respondents how to complete the self-administered part of the interview. A

debriefing was held at the end of the pilot data collection. From that, some questions were dropped from each of the extended interview instruments to keep within the OMB respondent burden estimates. Procedures and advance materials were updated as appropriate.

Westat conducted a second pilot test prior to Round 2 to test the followup screening instruments. The participating households in the first Baltimore pilot test were recontacted and screened for followup status. The purpose of the pilot was to test the adequacy of the screening instruments, skip patterns, question wording and flow, as well as advance materials and interviewing procedures. An interviewer debriefing was held at the end of this pilot data collection as well. From that debriefing, some minor changes were made in followup screening questions and procedures.

### **B.6.3 Quality Control During Training**

Interviewers participated in an 8- to 10-day in-person training session prior to their working on Round 1 (the recruitment phase) and Round 2 and/or Round 3 or Round 4 (the followup phase). Interviewers who continuously worked on NSPY throughout the data collection periodically participated in refresher trainings via telephone.

The in-person 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. Each training session was scripted so that multiple room trainings and trainings for each round of data collection were consistent. During training, trainees were given many practice sessions using a training database. With each screening and interview questionnaire, a demonstration session was performed by trainers, followed by two group practices and, finally, trainees completed multiple role plays in pairs. Prior to the conclusion of training, trainees were paired and completed a certification script where the trainee practiced contacting the respondent, conducting the screening and interview questionnaires and ending the contact. Trainers went around the room assessing performance on a standardized form and “certified” those trainees who conducted the screenings and interviews following procedures. A few interviewers did not pass certification and were released from the study at the end of training. Another small subset were asked to complete extra training over the telephone with the field supervisors before starting work.

Trainees new to Westat attended an additional half-day training on general interview techniques. Bilingual trainees attended an additional half-day training that concentrated on reviewing bilingual scripts and materials.

### **B.6.4 Validation of Interviewers**

Validations procedures called for the validation of at least 10 percent of the parents interviewed and at least 2 percent of the screening respondents living in ineligible households. During Round 1, approximately 12 percent of parents interviewed and 3 percent of screening respondents in ineligible households were selected for validation. Approximately 70 percent were contacted by telephone and attempts to contact the remainder were made by mail. When interviewers were suspected of falsifying data, all of their completed work was redone by different interviewers. In three instances, interviewers were terminated for falsifying data.

During Round 2, approximately 11 percent of the parents interviewed and 19 percent of screening respondents in ineligible households were selected for validation. Approximately 86 percent were

contacted by telephone and attempts to contact the remainder were made by mail. No invalid cases were found for interviewers completing Round 2 work; however, two interviews completed during Round 1 were identified as questionable during Round 2 when an interviewer revisited the households. Upon further review, the cases were determined to be valid. In addition, some cases were found where an interviewer did not follow proper screening procedures in the previous round. Additional information was obtained from these households and weighting factors were adjusted for the affected parent data.

During Round 3, approximately 10 percent of the parents interviewed and 76 percent of screening respondents in ineligible households were selected for validation. About 87 percent were contacted by telephone and attempts to contact the remainder were made by mail. No invalid cases were found for interviewers completing Round 3 work; however, some of one interviewer's work appeared questionable from an earlier wave. Upon further review and verification of the interviewer's work, it was determined to be valid.

During Round 4, approximately 13 percent of the parents interviewed and 32 percent of the screening respondents in ineligible households were selected for validation. About 82 percent were contacted by telephone and attempts to contact the remainder were made by mail. No invalid cases were found for interviewers completing Round 4 work.

### **Purposive and Random Criteria**

Selection of individual respondents to be validated was based on three goals: (1) to target a minimum number of cases for each interviewer; (2) to validate each interviewer's first few completed interviews; and (3) to ensure that at least one interview was validated in each PSU.

Criteria for respondents selected for validation were based on random and purposive selection. Random selection employed an algorithm developed by the statistical staff. These respondents were identified at receipt control when the final status code was recorded in the home office management system. Approximately 50 percent of respondents were selected at random. For purposive selection, field supervisors and field management staff selected the interviewer's first two or three completed interviews, or selected respondents when they wanted to check on an interviewer's work for some reason.

### **TRC and Mail Procedures**

Attempts to contact respondents were first made by telephone. Trained telephone interviewers at the TRC administered the validation questionnaire. Interviewers asked questions such as interview contact, amount of incentive, and if the interview was completed, as well as verified information on the members in the household.

Respondents were mailed a validation questionnaire when telephone validation attempts were unsuccessful or when respondents did not have a telephone number. The data receipt supervisor filled out a questionnaire template and mailed the questionnaire to the knowledgeable adult at the address where the interview took place. Up to two mailings were made to respondents to complete the validation.

## B.7 Data Editing and Cleaning

### B.7.1 Coding and Editing Specifications within the Survey Questionnaire

Data collected for the NSPY were conducted using computer-assisted interviewing techniques. These types of techniques included audio computer-assisted self-administered interviewing (ACASI) and computer-assisted personal interviewing (CAPI). Editing specifications were built into the computer programs used by the respondents and interviewers. These specifications forced decisions to be made up front as the data were being entered. Acceptable ranges and consistency checks were programmed into the screening and parent, teen, and child interview modules.

#### Range Specifications

Across all types of instruments, respondent answers were subjected to both “hard” and “soft” range edits during the interviewing process. A “soft range” is one that represents the reasonable expected range of values but does not include all possible values. Responses outside the soft range were confirmed with the respondent and entered a second time. For example, the number of days a child was absent from school in the last month has a soft range of 1 to 9. A value outside this range could be entered and confirmed as correct by the interviewer as long as it was within the hard range of values (1 to 22).

“Hard ranges” are those that have a finite set of values for closed-ended questions that can be entered into the computer. Common examples of hard ranges are values denoting months of the year. Months can be defined and entered as 01 = January; 02 = February; 03 = March; and so on up to 12 = December. If a respondent were to enter 13, this out-of-range value would not be accepted when entering into the computer. A message would pop up alerting the interviewer or the respondent that “13” was not a legitimate value. If the respondent or interviewer insisted that a response outside the “hard range” was valid, the interviewer would enter the information in a comments field.

#### Consistency Checks

Consistency checks or logical edits examined the relationship between responses to ensure that they did not conflict with one another or that the response to one item did not make the response to another item unlikely. For example, in the household enumeration, one could not be recorded as a mother and a male. Respondents could not answer “None” to how much television they watch during the week and then be asked “In what language are the television programs you usually watch?” Since this question was not applicable based on the previous response, the computer was programmed to skip this question for consistency. In some cases, just as with “hard ranges,” if the verified response still resulted in a logical error, or the answer to the primary question was incorrectly entered, the interviewer recorded the problem either in a comment or on a problem report.

### B.7.2 Coding and Editing Procedures Outside the Survey Questionnaires

Not all data errors could be caught and corrected within the coding and editing specifications incorporated in the automated questionnaires. Data management staff reviewed comment fields, problem sheets, and frequency and cross-tabulations to discover and correct data discrepancies.

## Editing from Instrument Comments and Problem Sheets

Not all comments and problem sheets submitted by interviewers required the data management staff to update or review the value in the related variable to determine whether the correct information had been entered, but because some of them did, all comments and problem sheets were reviewed. Comments were displayed via the editing system in an Access spreadsheet that could be sorted on any of the column headings. Headings on the spreadsheet included the ID, type of instrument, the question number at which the comment was entered, the name of the variable collected at that question, the value that was entered, the date that the interview was conducted, and the initials of the interviewer. Problem sheets were sent to the home office in hard-copy form and were enclosed with the case household folder.

For comment review, data management staff considered not only the information entered into the comment but also the location in the interview at which the comment was included and the response that the interviewer entered into the data record at that place. Problem sheets also were reviewed for data updating. These situations occurred where the interviewer forgot to enter a comment and the case was closed. Some comments and problem sheets required no editor action other than just to read them.

In cases where the data management staff reviewing the comments or problem sheets determined a data problem existed, an update was made. All updates to the data were maintained in a transaction file that recorded the original value, the updated value, the user, the date and the time.

## Frequency and Cross-Tabulation Review

SAS programs were developed to perform edit checks on the screener and extended interview data. All interview skip patterns were checked to ensure that data did not exist for data items that should have been skipped and that data values were missing only when a data item had been properly skipped. Checks were also performed to confirm that all reported ages and dates were in a logical sequence between birth and the date of interview. Additional edit checks were executed to ensure that questions were asked regarding the appropriate groups of ads, given the demographic characteristics of the respondent. After the SAS edits were reviewed and the appropriate updates were applied, frequencies were produced for all variables at the dwelling unit level, the sampled person level, and the parent/youth dyad level. Frequencies and cross-tabulation of the data were run a minimum of three times for each data collection wave: preliminary, interim, and final. Each variable was reviewed and evaluated to ensure the accuracy of the Blaise programs and integrity of the edited data. 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.

## B.8 Response Rates

### B.8.1 Wave 1

As discussed in Appendix A.1, 34,691 addresses were sampled in Wave 1. Of these, 4,649 (13.4%) were discovered during initial (doorstep) screening to be either vacant or nonresidences (such as businesses or other institutions). That left 30,042 occupied dwelling units to be contacted and screened

for study eligibility. Of the 30,042 occupied dwelling units, eligibility for NSPY was determined for 28,567 (95.1%), of which roughly 1 in 8 (12.2%) had children in the required age ranges and were eligible to participate in NSPY.

Among the 3,497 households that were determined to be eligible for NSPY, data collection staff were able to obtain rosters of household members for 2,601 (74.4%). From the household rosters, a parent/caregiver and one or more youth were selected for interview. Of the 2,593 parents/caregivers selected for Wave 1, 2,284 (88.1%) completed the parent interview. Of the 3,654 youth selected for Wave 1, 3,298 (90.3%) completed the child/teen interview.

The overall response rate for Wave 1 (the screener response rate x roster response rate x interview response rate) was 63.8 percent for youth and 62.3 percent for parents.

## B.8.2 Wave 2

As discussed in Appendix A.1, 23,000 addresses were sampled in Wave 2. Of the 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 dwelling units to be contacted and screened for study eligibility. Of the 20,595 occupied dwelling units, eligibility for NSPY was determined for 19,701 (95.7%). Roughly 1 in 8 of these (12.7%) had children in the required age ranges and were eligible to participate in NSPY.

Among the 2,502 eligible households, data collection staff were able to obtain rosters of household members for 1,866 (74.6%). From the household rosters, a parent/caregiver and one or more youth were selected for interview. Of the 1,851 parents/caregivers selected for Wave 2, 1,632 (88.2%) completed the parent interview. Of the 2,570 youth selected for Wave 2, 2,361 (91.9%) completed the child/teen interview.

The overall response rate for Wave 2 (screener response rate x roster response rate x interview response rate) was 65.5 percent for youth and 62.9 percent for parents.

## B.8.3 Wave 3

As discussed in Appendix A.1, 23,300 addresses were sampled in Wave 3. Of these, 2,272 (9.8%) were discovered during initial (doorstep) screening to be either vacant or nonresidences (such as businesses or other institutions). That left 21,028 occupied dwelling units to be contacted and screened for study eligibility. Of the 21,028 occupied dwelling units, eligibility for NSPY was determined for 20,085 (95.5%). Roughly 1 in 8 of these (12.8%) had children in the required age ranges and were eligible to participate in NSPY.

Among the 2,566 eligible households, data collection staff were able to obtain rosters of household members for 1,931 (75.3%). From the household rosters, a parent/caregiver and one or more youth were selected for interview. Of the 1,919 parents/caregivers selected for Wave 3, 1,682 (87.6%) completed the parent interview. Of the 2,696 youth selected for Wave 3, 2,458 (91.2%) completed the child/teen interview.

The overall response rate for Wave 3 (screener response rate x roster response rate x interview response rate) was 65.5 percent for youth and 63.0 percent for parents.

## B.8.4 Wave 4

Wave 4 was the first followup of Wave 1. Four separate response rates were calculated for Wave 4. These include:

- The (first) followup cross-sectional response rate;
- The corresponding cumulative cross-sectional response rate;
- The (first) followup longitudinal response rate; and
- The corresponding cumulative longitudinal response rate.

Youth and parents selected in Wave 1 were included in the Wave 4 followup sample if at least one person (either parent or youth) in the household completed an interview in Wave 1. As a result, under the selection criterion employed for Wave 4, a small number of youth and parents sampled at Wave 1 who did not complete a Wave 1 interview were refiled in Wave 4. A youth or parent who completed the Wave 4 interview was counted as a respondent in the calculation of the cross-sectional response rate regardless of response status in the prior wave. However, for the longitudinal response rates, a youth or parent must have completed an interview in Wave 1 *and* in Wave 4 to be counted as a (longitudinal) respondent.

### B.8.4.1 Cross-Sectional Response Rates

#### Followup Cross-Sectional Response Rate (FCRR)

The FCRR represents the percentage of parents and youth who were fielded in Wave 4 that were successfully located and interviewed during Wave 4. It is defined as:

$$FCRR1 = \frac{\text{\# Households Completing Eligibility Screening in Wave 4}}{\text{\# Households Fielded in Wave 4}} \times \frac{\text{\# Respondents Completing Interview in Wave 4}}{\text{\# Respondents Eligible to Participate in Wave 4}}$$

There were 2,601 households that completed the household enumeration (roster) screening at Wave 1. Based on information collected during Wave 1, 2,449 (94.2%) of these households contained at least one respondent from Wave 1 (either a youth or a parent) and thus were eligible for refielding at Wave 4. An additional six split households were later added to the sample in Wave 4. The further exclusion of households that contained only youth who were expected to be age 19 or older at the beginning of the Wave 4 data collection resulted in the refielding of 2,303 households in Wave 4.

Followup telephone or inperson eligibility screening was attempted for the 2,303 households that were refiled in Wave 4. Of these, eligibility was determined for 1,999 (86.8%) of the households. For the remaining 304 households, eligibility could not be determined for various reasons (e.g., the household moved out of the interviewing area or was not locatable, the household could not be contacted for some other reason, or the household refused to complete the eligibility screener).

The 1,999 successfully screened households contained 2,744 youth who were originally sampled in Wave 1, of which 96 (3.5%) youth were determined to be ineligible for Wave 4 (e.g., were 19 years or



older, were institutionalized or living in group quarters, or were deceased). Of the 2,648 eligible youth in the screened households, 2,477 (93.5%) completed the Wave 4 interview. Corresponding to the 2,648 youth, 1,939 parents were identified and 1,752 (90.4%) of them completed the Wave 4 interview.

Thus, the followup cross-sectional response rate for Wave 4 youth is 81.2 percent (86.8% x 93.5%), and the followup cross-sectional response rate for Wave 4 parents is 78.4 percent (86.8% x 90.4%).

### Cumulative Cross-Sectional Response Rate (CCRR)

The CCRR is the combination of the Wave 1 and Wave 4 survey response rates. It is defined as the product of the following five rates:

- The percentage of households in Wave 1 for which eligibility was determined;
- The percentage of eligible households in Wave 1 for which the household roster was completed;
- The percentage of Wave 1 households that were refiled in Wave 4 (i.e., households that contained at least one respondent in Wave 1);
- The percentage of refiled households for which eligibility was determined in Wave 4; and
- The percentage of youth/parents who completed the Wave 4 interview.

Thus, the cumulative cross-sectional response rate for Wave 4 is 54.1 percent (95.1% x 74.4% x 94.2% x 86.8% x 93.5%) for youth and 52.2 percent (95.1% x 74.4% x 94.2% x 86.8% x 90.4%) for parents.

## B.8.4.2 Longitudinal Response Rates

### Followup Longitudinal Response Rate (FLRR)

The FLRR represents the percentage of still-eligible parents and youth successfully interviewed in Wave 1 who were also successfully interviewed in Wave 4. It is defined as:

$$\text{FLRR1} = \frac{\# \text{ Wave 1 Respondents for whom Eligibility was determined in Wave 4}}{\# \text{ Wave 1 Respondents Fielded in Wave 4}} \times \frac{\# \text{ Respondents Completing Interview in Wave 4}}{\# \text{ Wave 1 Respondents Eligible to Participate in Wave 4}}$$

Of the 3,072 youth completing the Wave 1 interview who were refiled in Wave 4, eligibility status was determined for 2,685 (87.4%) youth. Of those youth, 96 were determined during Wave 4 screening to be ineligible for Wave 4 (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Among the 2,589 eligible youth, 2,434 (94.0%) completed the Wave 4 interview. Similarly, of the 2,158 parents completing the Wave 1 interview who were refiled in Wave 4, eligibility status was determined for 1,885 (87.3%) parents. Of those parents, 93 were determined during screening to be ineligible for Wave 4. Among the 1,792 eligible parents, 1,644 (91.7%) completed the Wave 4 interview.

Thus, the followup longitudinal response rate for youth selected for Wave 4 is 82.2 percent (87.4% x 94.0%); and the followup longitudinal response rate for parents selected for Wave 4 is 80.1 percent (87.3% x 91.7%).

### Cumulative Longitudinal Response Rate (CLRR)

The CLRR reflects the overall rate of completing both Wave 1 and Wave 4 interviews. It is defined as the product of the following three rates:

- The Wave 1 response rate;
- The percentage of youth/parents who were interviewed in Wave 1 for whom eligibility was determined in Wave 4; and
- The percentage of eligible youth/parents who completed the Wave 4 interview.

Thus the cumulative longitudinal response rate for Wave 4 is 52.4 percent (63.8% x 87.4% x 94.0%) for youth and 49.9 percent (62.3% x 87.3% x 91.7%) for parents.

## B.8.5 Wave 5

Wave 5 was the first followup of the combined samples from Waves 2 and 3. Four separate response rates were calculated for Wave 5. These include:

- The (first) followup cross-sectional response rate;
- The corresponding cumulative cross-sectional response rate;
- The (first) followup longitudinal response rate; and
- The corresponding cumulative longitudinal response rate.

Youth and parents selected in Waves 2 and 3 were included in the Wave 5 followup sample if at least one person (either parent or youth) in the household completed an interview in the previous round (either Wave 2 or 3). As a result, under the selection criterion employed for Wave 5, a small number of youth and parents sampled for Wave 2 or 3 who did not complete the initial interview were refiled in Wave 5. A youth or parent who completed the Wave 5 interview was counted as a respondent in the calculation of the cross-sectional response rate regardless of response status in the prior wave. However, for the longitudinal response rates, a youth or parent must have completed an interview in Waves 2 and 3 *and* in Wave 5 to be counted as a (longitudinal) respondent.

### B.8.5.1 Cross-Sectional Response Rates

#### Followup Cross-Sectional Response Rate (FCRR)

The FCRR represents the percentage of parents and youth who were fielded in Wave 5 that were successfully located and interviewed during Wave 5. It is defined as:

$$\text{FCRR1} = \frac{\text{\# Households Completing Eligibility Screening in Wave 5}}{\text{\# Households Fielded in Wave 5}} \times \frac{\text{\# Respondents Completing Interview in Wave 5}}{\text{\# Respondents Eligible to Participate in Wave 5}}$$

There were 3,797 households that completed the household enumeration (roster) screening at Waves 2 and 3. Based on information collected during Waves 2 and 3, 3,526 (92.9%) of these households contained at least one respondent from the initial wave (either a youth or a parent) and thus were eligible for refielding at Wave 5. An additional 51 split households were later added to the sample in Wave 5. The further exclusion of households that contained only youth who were expected to be age 19 or older at the beginning of the Wave 5 data collection resulted in the refielding of 3,452 households in Wave 5.

Followup telephone or inperson eligibility screening was attempted for the 3,452 households that were refielded in Wave 5. Of these, eligibility was determined for 3,238 (93.8%) of the households. For the remaining 214 households, eligibility could not be determined for various reasons (e.g., the household moved out of the interviewing area or was not locatable, the household could not be contacted for some other reason, or the household refused to complete the eligibility screener).

The 3,238 successfully screened households contained 4,422 youth selected in Waves 2 and 3, of which 105 (2.4%) youth were determined to be ineligible for Wave 5 (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Of the 4,317 eligible youth in the screened households, 4,039 (93.6%) completed the Wave 5 interview. Corresponding to the 4,317 eligible youth, 3,162 parents were identified and 2,882 (91.1%) of them completed the Wave 5 interview.

Thus, the followup cross-sectional response rate for Wave 5 youth is 87.8 percent (93.8% x 93.6%); and the followup cross-sectional response rate for Wave 5 parents is 85.5 percent (93.8% x 91.1%).

#### Cumulative Cross-Sectional Response Rate (CCRR)

The CCRR is the combination of the initial (Waves 2 and 3) and followup (Wave 5) survey response rates. It is defined as the product of the following five rates:

- The percentage of households in Waves 2 and 3 for which eligibility was determined;
- The percentage of eligible households in Waves 2 and 3 for which the household roster was completed;
- The percentage of households in Waves 2 and 3 that were refielded in Wave 5 (i.e., households that contained at least one respondent in Wave 2 or 3);
- The percentage of refielded households for which eligibility was determined in Wave 5; and

- The percentage of youth/parents who completed the Wave 5 interview.

Thus, the cumulative cross-sectional response rate for Wave 5 is 58.4 percent (95.6% x 74.9% x 92.9% x 93.8% x 93.6%) for youth and 56.8 percent (95.6% x 74.9% x 92.9% x 93.8% x 91.1%) for parents.

### B.8.5.2 Longitudinal Response Rates

#### Followup Longitudinal Response Rate (FLRR)

The FLRR represents the percentage of still-eligible parents and youth successfully interviewed in Wave 2 or 3 who were also successfully interviewed in Wave 5. It is defined as:

$$FLRR1 = \frac{\# \text{ Waves 2 and 3 Respondents for whom Eligibility was determined in Wave 5}}{\# \text{ Waves 2 and 3 Respondents Fielded in Wave 5}} \times \frac{\# \text{ Respondents Completing Interview in Wave 5}}{\# \text{ Waves 2 and 3 Respondents Eligible to Participate in Wave 5}}$$

Of the 4,618 youth completing the initial interview at Wave 2 or 3 who were refiled in Wave 5, eligibility status was determined for 4,366 (94.5%) youth. Of those youth, 88 were determined during Wave 5 screening to be ineligible for the Wave 5 survey (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Among the 4,278 eligible youth, 4,021 (94.0%) completed the Wave 5 interview. Similarly, of the 3,208 parents completing the Wave 2 or 3 interview that were refiled in Wave 5, eligibility status was determined for 3,031 (94.5%) parents. Of those parents, 122 were determined during screening to be ineligible for the Wave 5 survey. Among the 2,909 eligible parents, 2,700 (92.8%) completed the Wave 5 interview.

Thus, the followup longitudinal response rate for Wave 5 youth is 88.9 percent (94.5% x 94.0%); and the followup longitudinal response rate for Wave 5 parents is 87.7 percent (94.5% x 92.8%).

#### Cumulative Longitudinal Response Rate (CLRR)

The CLRR reflects the overall rate of completing both Round 1 (Wave 2 or 3) and Round 2 (Wave 5) interviews. It is defined as the product of the following three rates:

- The combined Waves 2 and 3 response rate (see Sections B.8.2 and B.8.3);
- The percentage of youth/parents who were interviewed in Wave 2 or 3 for whom eligibility was determined in Wave 5; and
- The percentage of eligible youth/parents who completed the Wave 5 interview.

Thus the cumulative longitudinal response rate for Wave 5 is 58.2 percent (65.5% x 94.5% x 94.0%) for youth and 55.2 percent (62.9% x 94.5% x 92.8%) for parents.

### B.8.6 Wave 6

Wave 6 was the second followup of Wave 1. Four separate response rates were calculated for Wave 6. These include:

- The (second) followup cross-sectional response rate;

- The corresponding cumulative cross-sectional response rate;
- The (second) followup longitudinal response rate; and
- The corresponding cumulative longitudinal response rate.

Under the NSPY sample design, only those youth and parents who were expected to be eligible for NSPY at Wave 6 *and* who met the following criteria were refiled: (a) the youth/parent resided in a household in which at least one sampled youth completed either the Wave 1 or Wave 4 interview, and (b) the household was neither “not locatable” nor “out of area” in Wave 4. Under these selection criteria, a small number of youth and parents who did not complete either the Wave 1 or Wave 4 interview were refiled in Wave 6. A youth or parent who completed the Wave 6 interview was counted as a respondent in the calculation of the cross-sectional response rate regardless of response status in the prior waves. However, for the longitudinal response rates, a youth or parent must have completed an interview in Wave 4 *and* in Wave 6 to be counted as a (longitudinal) respondent.

### B.8.6.1 Cross-Sectional Response Rates

#### Followup Cross-Sectional Response Rate (FCRR)

The (second) FCRR represents the percentage of parents and youth who were fielded in Wave 6 and were successfully located and interviewed during Wave 6. It is defined as:

$$\text{FCRR2} = \frac{\text{\# Households Completing Eligibility Screening in Wave 6}}{\text{\# Households Fielded in Wave 6}} \times \frac{\text{\# Respondents Completing Interview in Wave 6}}{\text{\# Respondents Eligible to Participate in Wave 6}}$$

There were 2,601 households that completed the household enumeration (roster) screening at Wave 1. Based on data collected during Waves 1 and 4, 2,415 (92.8%) of these households contained at least one responding youth from either Wave 1 or Wave 4. Of these, 264 were ineligible (contained only youth who aged out of the study) and 179 were not located or moved out of the PSU in Wave 4. Thus, of the 2,151 households containing age-eligible youth, 1,972 (91.7%) were initially refiled in Wave 6. An additional 17 split households were later added to the sample in Wave 6. Thus, the total number of households for which followup telephone or inperson eligibility screening was attempted in Wave 6 was 1,989. Of these, eligibility was determined for 1,852 (93.1%). For the remaining 137 households, eligibility could not be determined for various reasons (e.g., the household moved out of the interviewing area or was not locatable, the household could not be contacted for some other reason, or the household refused to complete the eligibility screener).

The 1,852 successfully screened households contained 2,482 youth, of which 88 were determined to be ineligible for the Wave 6 survey (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Of the 2,394 eligible youth in the screened households, 2,267 (94.7%) completed the Wave 6 interview. Corresponding to the 2,394 eligible youth, 1,804 parents were identified and of these, 1,640 (90.9%) completed the Wave 6 interview.

Thus, the (second) followup cross-sectional response rate for Wave 6 youth is 88.2 percent (93.1% x 94.7%); and the followup cross-sectional response rate for Wave 6 parents is 84.6 percent (93.1% x 90.9%).

### Cumulative Cross-Sectional Response Rate (CCRR)

The CCRR is the combination of the Wave 1, Wave 4, and Wave 6 survey response rates. It is defined as the product of the following six rates:

- The percentage of households at Wave 1 where eligibility was determined (see Section B.8.1);
- The percentage of eligible households at Wave 1 where the household roster was completed (see Section B.8.1);
- The percentage of Wave 1 households that contained a responding youth in either Wave 1 or Wave 4);
- The percentage of households with responding youth in Wave 1 or Wave 4 that were refiled in Wave 6;
- The percentage of refiled households for which eligibility was determined in Wave 6; and
- The percentage of youth/parents who completed the Wave 6 interview.

Thus, the cumulative cross-sectional response rate for Wave 6 is 53.1 percent (95.1% x 74.4% x 92.8% x 91.7% x 93.1% x 94.7%) for youth and 51.0 percent (95.1% x 74.4% x 92.8% x 91.7% x 93.1% x 90.9%) for parents.

### B.8.6.2 Longitudinal Response Rates

#### Followup Longitudinal Response Rate (FLRR)

The (second) FLRR represents the percentage of still-eligible parents and youth successfully interviewed in Wave 4 who were also successfully interviewed in Wave 6. It is defined as:

$$FLRR2 = \frac{\# \text{ Wave 4 Respondents for whom Eligibility was determined in Wave 6}}{\# \text{ Wave 4 Respondents Fielded in Wave 6}} \times \frac{\# \text{ Respondents Completing Interview in Wave 6}}{\# \text{ Wave 4 Respondents Eligible to Participate in Wave 6}}$$

Of the 2,355 youth completing the interview at Wave 4 who were refiled in Wave 6, eligibility status was determined for 2,279 (96.8%) youth. Of those youth, 66 were determined during Wave 6 screening to be ineligible for the Wave 6 survey (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Among the 2,213 eligible youth, 2,137 (96.6%) completed the Wave 6 interview. Similarly, of the 1,663 parents completing the Wave 4 interview who were refiled in Wave 6, eligibility status was determined for 1,609 (96.8%) parents. Of those parents, 32 were determined during screening to be ineligible for the Wave 6 survey. Among the 1,577 eligible parents, 1,510 (95.8%) completed the Wave 6 interview.

Thus, the (second) followup longitudinal response rate for Wave 6 youth is 93.4 percent (96.8% x 96.6%); and the (second) followup longitudinal response rate for Wave 6 parents is 92.6 percent (96.8% x 95.8%).

## Cumulative Longitudinal Response Rate (CLRR)

The CLRR reflects the overall rate of completing both Wave 4 and Wave 6 interviews. It is defined as the product of the following three rates:

- The cumulative Wave 4 cross-sectional response rate (see Sections B.8.4.1);
- The percentage of responding youth/parents in Wave 4 for whom eligibility was determined in Wave 6; and
- The percentage of eligible youth/parents who completed the Wave 6 interview.

Thus the cumulative longitudinal response rate for Wave 6 is 50.6 percent (54.1% x 96.8% x 96.6%) for youth and 48.4 percent (52.2% x 96.8% x 95.8%) for parents.

## B.8.7 Wave 7

Wave 7 was the second followup of combined Waves 2 and 3. Four separate response rates were calculated for Wave 7. These include:

- A (second) followup cross-sectional response rate;
- A cumulative cross-sectional response rate;
- A (second) followup longitudinal response rate; and
- A cumulative longitudinal response rate.

Under the NSPY sample design, only those youth and parents who were expected to be eligible for NSPY at Wave 7 *and* who met the following criteria were refiled: (a) the youth/parent resided in a household in which at least one sampled youth completed either the Round 1 (Waves 2 and 3) or Round 2 (Wave 5) interview, and (b) the household was neither “not locatable” nor “out of area” in Wave 5. Under these selection criteria, a small number of youth and parents who did not complete either the Wave 2/3 or Wave 5 interview were refiled in Wave 7. A youth or parent who completed the Wave 7 interview was counted as a respondent in the calculation of the cross-sectional response rate regardless of response status in the prior waves. However, for the longitudinal response rates, a youth or parent must have completed an interview in Wave 5 *and* in Wave 7 to be counted as a (longitudinal) respondent.

### B.8.7.1 Cross-Sectional Response Rates

#### Followup Cross-Sectional Response Rate (FCRR)

The (second) FCRR represents the percentage of parents and youth who were fielded in Wave 7 and were successfully located and interviewed during Wave 7. It is defined as:

$$\text{FCRR2} = \frac{\# \text{ Households Completing Eligibility Screening in Wave 7}}{\# \text{ Households Fielded in Wave 7}} \times \frac{\# \text{ Respondents Completing Interview in Wave 7}}{\# \text{ Respondents Eligible to Participate in Wave 7}}$$

There were 3,797 households that completed the household enumeration (roster) screening at Wave 2/3. Based on data collected during Waves 2 and 3, and Wave 5, 3,530 (93.0%) of these households contained at least one responding youth from either Waves 2 and 3 or Wave 5. Of these, 249 were ineligible (contained only youth who aged out of the study) and 113 were not located or moved out of the PSU in Wave 5. Thus, of the 3,281 households containing age-eligible youth, 3,168 (96.6%) were initially refiled in Wave 7. An additional 29 split households were later added to the sample in Wave 7. Thus, the total number of households for which followup telephone or inperson eligibility screening was attempted in Wave 7 was 3,197. Of these, eligibility was determined for 2,966 (92.8%). For the remaining 231 households, eligibility could not be determined for various reasons (e.g., the household moved out of the interviewing area or was not locatable, the household could not be contacted for some other reason, or the household refused to complete the eligibility screener).

The 2,966 successfully screened households contained 3,946 youth, of which 120 were determined to be ineligible for the Wave 7 survey (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Of the 3,826 eligible youth in the screened households, 3,587 (93.8%) completed the Wave 7 interview. Corresponding to the 3,826 eligible youth, 2,890 parents were identified and of these, 2,621 (90.7%) completed the Wave 7 interview.

Thus, the (second) followup cross-sectional response rate for Wave 7 youth is 87.0 percent (92.8% x 93.8%); and the followup cross-sectional response rate for Wave 7 parents is 84.1 percent (92.8% x 90.7%).

### **Cumulative Cross-Sectional Response Rate (CCRR)**

The CCRR is the combination of the Waves 2 and 3, Wave 5, and Wave 7 survey response rates. It is defined as the product of the following six rates:

- The percentage of households at Waves 2 and 3 where eligibility was determined (see Sections B.8.2 and B.8.3);
- The percentage of eligible households at Waves 2 and 3 where the household roster was completed (see Sections B.8.2 and B.8.3);
- The percentage of Waves 2 and 3 households that contained a responding youth in either Waves 2 and 3 or Wave 5);
- The percentage of households with responding youth in Waves 2 and 3 or Wave 5 that were refiled in Wave 7;
- The percentage of refiled households for which eligibility was determined in Wave 7; and
- The percentage of youth/parents who completed the Wave 7 interview.

Thus, the cumulative cross-sectional response rate for Wave 7 is 55.9 percent (95.6% x 74.9% x 93.0% x 96.6% x 92.8% x 93.8%) for youth and 54.1 percent (95.6% x 74.9% x 93.0% x 96.6% x 92.8% x 90.7%) for parents.



### B.8.7.2 Longitudinal Response Rates

#### Followup Longitudinal Response Rate (FLRR)

The (second) FLRR represents the percentage of still-eligible parents and youth successfully interviewed in Wave 5 who were also successfully interviewed in Wave 7. It is defined as:

$$\text{FLRR2} = \frac{\# \text{ Wave 5 Respondents for whom Eligibility was determined in Wave 7}}{\# \text{ Wave 5 Respondents Fielded in Wave 7}} \times \frac{\# \text{ Respondents Completing Interview in Wave 7}}{\# \text{ Wave 5 Respondents Eligible to Participate in Wave 7}}$$

Of the 3,885 youth completing the interview at Wave 5 who were refiled in Wave 7, eligibility status was determined for 3,719 (95.7%) youth. Of those youth, 94 were determined during Wave 7 screening to be ineligible for the Wave 7 survey (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Among the 3,625 eligible youth, 3,468 (95.7%) completed the Wave 7 interview. Similarly, of the 2,758 parents completing the Wave 5 interview that were refiled in Wave 7, eligibility status was determined for 2,634 (95.5%) parents. Of those parents, 49 were determined during screening to be ineligible for the Wave 7 survey. Among the 2,585 eligible parents, 2,462 (95.2%) completed the Wave 7 interview.

Thus, the (second) followup longitudinal response rate for Wave 7 youth is 91.6 percent (95.7% x 95.7%); and the (second) followup longitudinal response rate for Wave 7 parents is 91.0 percent (95.5% x 95.2%).

#### Cumulative Longitudinal Response Rate (CLRR)

The CLRR reflects the overall rate of completing both Wave 5 and Wave 7 interviews. It is defined as the product of the following three rates:

- The cumulative Wave 5 cross-sectional response rate (see Section B.8.5.1);
- The percentage of responding youth/parents in Wave 5 for whom eligibility was determined in Wave 7; and
- The percentage of eligible youth/parents who completed the Wave 7 interview.

Thus the cumulative longitudinal response rate for Wave 7 is 53.5 percent (58.4% x 95.7% x 95.7%) for youth and 51.7 percent (56.8% x 95.5% x 95.2%) for parents.

### B.8.8 Wave 8

Wave 8 was the third followup of Wave 1. Four separate response rates were calculated for Wave 8. These include:

- The (third) followup cross-sectional response rate;
- The corresponding cumulative cross-sectional response rate;
- The (third) followup longitudinal response rate; and

- The corresponding cumulative longitudinal response rate.

Under the NSPY sample design, only those youth and parents who were expected to be eligible for NSPY at Wave 8 *and* who met the following criteria were refiled: (a) the youth/parent resided in a household in which at least one sampled youth completed either the Round 2 (Wave 4) or Round 3 (Wave 6) interview, and (b) the household was neither “not locatable” nor “out of area” in Wave 6. Under these selection criteria, a small number of youth and parents who did not complete all of the previous interviews were refiled in Wave 8. A youth or parent who completed the Wave 8 interview was counted as a respondent in the calculation of the cross-sectional response rate regardless of response status in the prior waves. However, for the longitudinal response rates, a youth or parent must have completed an interview in Wave 6 *and* in Wave 8 to be counted as a (longitudinal) respondent.

### B.8.8.1 Cross-Sectional Response Rates

#### Followup Cross-Sectional Response Rate (FCRR)

The (third) FCRR represents the percentage of parents and youth who were fielded in Wave 8 and were successfully located and interviewed during Wave 8. It is defined as:

$$FCRR3 = \frac{\# \text{ Households Completing Eligibility Screening in Wave 8}}{\# \text{ Households Fielded in Wave 8}} \times \frac{\# \text{ Respondents Completing Interview in Wave 8}}{\# \text{ Respondents Eligible to Participate in Wave 8}}$$

There were 2,601 households that originally completed the household enumeration (roster) screening at Wave 1. Based on information obtained during Waves 1, 4, and 6, 2,429 (93.4%) of these households contained at least one responding youth from a prior wave. Of these, 374 were ineligible (contained only youth who aged out of the study) and 322 were not located or moved out of the PSU by Wave 6. Thus, of the 2,055 households containing age-eligible youth, 1,733 (84.3%) were initially refiled in Wave 8. An additional 17 split households were later added to the sample in Wave 8. Thus, the total number of households for which followup telephone or inperson eligibility screening was attempted in Wave 8 was 1,750. Of these, eligibility was determined for 1,679 (95.9%). For the remaining 71 households, eligibility could not be determined for various reasons (e.g., the household moved out of the interviewing area or was not locatable, the household could not be contacted for some other reason, or the household refused to complete the eligibility screener).

The 1,679 successfully screened households contained 2,166 youth, of which 57 were determined to be ineligible for the Wave 8 interview (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Of the 2,109 eligible youth in the screened households, 1,983 (94.0%) completed the Wave 8 interview. Corresponding to the 2,109 eligible youth, 1,638 parents were identified and of these, 1,488 (90.8%) completed the Wave 8 interview.

Thus, the (third) followup cross-sectional response rate for youth in Wave 8 is 90.2 percent (95.9% x 94.0%), and the followup cross-sectional response rate for parents in Wave 8 is 87.2 percent (95.9% x 90.8%).

## Cumulative Cross-Sectional Response Rate (CCRR)

The CCRR is the combination of the Wave 1, Wave 4, Wave 6, and Wave 8 survey response rates. It is defined as the product of the following six rates:

- The percentage of households at Wave 1 for which eligibility was determined (see Section B.8.1);
- The percentage of eligible households at Wave 1 for which the household enumeration (roster) was completed (see Section B.8.1);
- The percentage of households completing the household enumeration at Wave 1 that contained a responding youth in either Wave 1, 4, or 6);
- The percentage of households with a responding youth in Wave 1, 4, or 6 that were refiled in Wave 8;
- The percentage of refiled households for which eligibility was determined in Wave 8; and
- The percentage of youth (parents) who completed the Wave 8 interview.

Thus, the cumulative cross-sectional response rate for Wave 8 is 50.3 percent (95.1% x 74.4% x 93.4% x 84.3% x 95.9% x 94.0%) for youth and 48.6 percent (95.1% x 74.4% x 93.4% x 84.3% x 95.9% x 90.8%) for parents.

### B.8.8.2 Longitudinal Response Rates

#### Followup Longitudinal Response Rate (FLRR)

The (third) FLRR represents the percentage of still-eligible parents and youth successfully interviewed in Wave 6 who were also successfully interviewed in Wave 8. It is defined as:

$$\text{FLRR3} = \frac{\# \text{ Wave 6 Respondents for whom Eligibility was determined in Wave 8}}{\# \text{ Wave 6 Respondents Fielded in Wave 8}} \times \frac{\# \text{ Respondents Completing Interview in Wave 8}}{\# \text{ Wave 6 Respondents Eligible to Participate in Wave 8}}$$

Of the 2,267 youth who completed the Wave 6 interview, 2,123 were refiled in Wave 8. Among the 2,123 refiled youth, eligibility status was determined for 2,063 (97.2%) youth. Of these, 49 were determined during Wave 8 screening to be ineligible (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Among the 2,014 eligible youth, 1,916 (95.1%) completed the Wave 8 interview. Similarly, of the 1,640 parents completing the Wave 6 interview, 1,554 were refiled in Wave 8. Among the 1,554 refiled parents, eligibility status was determined for 1,506 (96.9%) parents. Of these, 29 were determined during screening to be ineligible for Wave 8. Among the 1,477 eligible parents, 1,400 (94.8%) completed the Wave 8 interview.

Thus, the (third) followup longitudinal response rate for youth in Wave 8 is 92.4 percent (97.2% x 95.1%), and the (third) followup longitudinal response rate for parents in Wave 8 is 91.9 percent (96.9% x 94.8%).

## Cumulative Longitudinal Response Rate (CLRR)

The CLRR reflects the overall rate of completing both Wave 6 and Wave 8 interviews. It is defined as the product of the following three rates:

- The cumulative Wave 6 cross-sectional response rate (see Section B.8.6.1);
- The percentage of responding youth/parents in Wave 6 for whom eligibility was determined in Wave 8; and
- The percentage of eligible youth/parents who completed the Wave 8 interview.

Thus, the cumulative longitudinal response rate for Wave 8 is 49.1 percent (53.1% x 97.2% x 95.1%) for youth and 46.8 percent (51.0% x 96.9% x 94.8%) for parents.

## B.8.9 Wave 9

Wave 9 was the third followup of Waves 2 and 3. Four separate response rates were calculated for Wave 9. These include:

- The (third) followup cross-sectional response rate;
- The corresponding cumulative cross-sectional response rate;
- The (third) followup longitudinal response rate; and
- The corresponding cumulative longitudinal response rate.

Under the NSPY sample design, only those youth and parents who were expected to be eligible for NSPY at Wave 9 *and* who met the following criteria were refiled: (a) the youth/parent resided in a household in which at least one sampled youth completed either the Round 2 (Wave 5) or Round 3 (Wave 7) interview, and (b) the household was neither “not locatable” nor “out of area” in Wave 7. Under these selection criteria, a small number of youth and parents who did not complete all of the previous interviews were refiled in Wave 9. A youth or parent who completed the Wave 9 interview was counted as a respondent in the calculation of the cross-sectional response rate regardless of response status in the prior waves. However, for the longitudinal response rates, a youth or parent must have completed an interview in Wave 7 *and* in Wave 9 to be counted as a (longitudinal) respondent.

### B.8.9.1 Cross-Sectional Response Rates

#### Followup Cross-Sectional Response Rate (FCRR)

The (third) FCRR represents the percentage of parents and youth who were fielded in Wave 9 and were successfully located and interviewed during Wave 9. It is defined as:

$$FCRR3 = \frac{\# \text{ Households Completing Eligibility Screening in Wave 9}}{\# \text{ Households Fielded in Wave 9}} \times \frac{\# \text{ Respondents Completing Interview in Wave 9}}{\# \text{ Respondents Eligible to Participate in Wave 9}}$$

There were 3,797 households that originally completed the household enumeration (roster) screening at Wave 2 or 3. Based on information obtained during Waves 2 and 3, 5, and 7, 3,552 (93.5%) of these households contained at least one responding youth from a prior wave. Of these, 399 were ineligible (contained only youth who aged out of the study) and 338 were not located or moved out of the PSU by Wave 7. Thus, of the 3,153 households containing age-eligible youth, 2,815 (89.3%) were initially refiled in Wave 9. An additional 28 split households were later added to the sample in Wave 9. Thus, the total number of households for which followup telephone or inperson eligibility screening was attempted in Wave 9 was 2,843. Of these, eligibility was determined for 2,694 (94.8%). For the remaining 149 households, eligibility could not be determined for various reasons (e.g., the household moved out of the interviewing area or was not locatable, the household could not be contacted for some other reason, or the household refused to complete the eligibility screener).

The 2,694 successfully screened households contained 3,457 youth, of which 125 were determined to be ineligible for the Wave 9 interview (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Of the 3,332 eligible youth in the screened households, 3,143 (94.3%) completed the Wave 9 interview. Corresponding to the 3,332 eligible youth, 2,619 parents were identified and of these, 2,381 (90.9%) completed the Wave 9 interview.

Thus, the (third) followup cross-sectional response rate for youth in Wave 9 is 89.4 percent (94.8% x 94.3%), and the followup cross-sectional response rate for parents in Wave 9 is 86.1 percent (94.8% x 90.9%).

### **Cumulative Cross-Sectional Response Rate (CCRR)**

The CCRR is the combination of the Waves 2 and 3, Wave 5, Wave 7, and Wave 9 survey response rates. It is defined as the product of the following six rates:

- The percentage of households at Waves 2 and 3 for which eligibility was determined (see Sections B.8.2 and B.8.3);
- The percentage of eligible households at Waves 2 and 3 for which the household enumeration (roster) was completed (see Sections B.8.2 and B.8.3);
- The percentage of households completing the household enumeration at Waves 2 and 3 that contained a responding youth in either Waves 2 and 3, 5, or 7);
- The percentage of households with a responding youth in Waves 2 and 3, 5, or 7 that were refiled in Wave 9;
- The percentage of refiled households for which eligibility was determined in Wave 9; and
- The percentage of youth (parents) who completed the Wave 9 interview.

Thus, the cumulative cross-sectional response rate for Wave 9 is 53.4 percent (95.6% x 74.9% x 93.5% x 89.3% x 94.8% x 94.3%) for youth and 51.5 percent (95.6% x 74.9% x 93.5% x 89.3% x 94.8% x 90.9%) for parents.

## B.8.9.2 Longitudinal Response Rates

### Followup Longitudinal Response Rate (FLRR)

The (third) FLRR represents the percentage of still-eligible parents and youth successfully interviewed in Wave 7 who were also successfully interviewed in Wave 9. It is defined as:

$$\text{FLRR3} = \frac{\text{\# Wave 7 Respondents for whom Eligibility was determined in Wave 9}}{\text{\# Wave 7 Respondents Fielded in Wave 9}} \times \frac{\text{\# Respondents Completing Interview in Wave 9}}{\text{\# Wave 7 Respondents Eligible to Participate in Wave 9}}$$

Of the 3,587 youth who completed the Wave 7 interview, 3,235 were refiled in Wave 9. Among the 3,235 refiled youth, eligibility status was determined for 3,137 (97.0%) youth. Of these, 92 were determined during Wave 9 screening to be ineligible (e.g., were 19 years or older, were institutionalized or living in group quarters, or were deceased). Among the 3,045 eligible youth, 2,933 (96.3%) completed the Wave 9 interview. Similarly, of the 2,621 parents completing the Wave 7 interview, 2,478 were refiled in Wave 9. Among the 2,478 refiled parents, eligibility status was determined for 2,394 (96.6%) parents. Of these, 40 were determined during screening to be ineligible for Wave 9. Among the 2,354 eligible parents, 2,238 (95.1%) completed the Wave 9 interview.

Thus, the (third) followup longitudinal response rate for youth in Wave 9 is 93.4 percent (97.0% x 96.3%), and the (third) followup longitudinal response rate for parents in Wave 9 is 91.8 percent (96.6% x 95.1%).

### Cumulative Longitudinal Response Rate (CLRR)

The CLRR reflects the overall rate of completing both Wave 7 and Wave 9 interviews. It is defined as the product of the following three rates:

- The cumulative Wave 7 cross-sectional response rate (see Section B.8.7.1);
- The percentage of responding youth/parents in Wave 7 for whom eligibility was determined in Wave 9; and
- The percentage of eligible youth/parents who completed the Wave 9 interview.

Thus, the cumulative longitudinal response rate for Wave 9 is 52.2 percent (55.9% x 97.0% x 96.3%) for youth and 49.7 percent (54.1% x 96.6% x 95.1%) for parents.

## B.8.10 Summary of Response Rates by Wave

The cumulative (overall) and followup (conditional) response rates described in detail in the previous sections are summarized by wave in Table B-1 for youth and Table B-2 for parents and by round in Table B-3 for youth and Table B-4 for parents.

**Table B-1. Summary of NSPY response rates for youth by wave**

Wave	Cumulative (overall) (%)		Followup (conditional) (%)	
	Cross-sectional	Longitudinal	Cross-sectional	Longitudinal
1	63.8	--	--	--
2	65.5	--	--	--
3	65.5	--	--	--
4	54.1	52.4	81.2	82.2
5	58.4	58.2	87.8	88.9
6	53.1	50.6	88.2	93.4
7	55.9	53.5	87.0	91.6
8	50.3	49.1	90.2	92.4
9	53.4	52.2	89.4	93.4

**Table B-2. Summary of NSPY response rates for parents by wave**

Wave	Cumulative (overall) (%)		Followup (conditional) (%)	
	Cross-sectional	Longitudinal	Cross-sectional	Longitudinal
1	62.3	--	--	--
2	62.9	--	--	--
3	63.0	--	--	--
4	52.2	49.9	78.4	80.1
5	56.8	55.2	85.5	87.7
6	51.0	48.4	84.6	92.6
7	54.1	51.7	84.1	91.0
8	48.6	46.8	87.2	91.9
9	51.5	49.7	86.1	91.8

**Table B-3. Summary of NSPY response rates for youth by round**

Round	Cumulative (overall) (%)		Followup (conditional) (%)	
	Cross-sectional	Longitudinal	Cross-sectional	Longitudinal
1	64.8	--	--	--
2	56.7	55.9	85.1	86.2
3	54.8	52.4	87.4	92.3
4	52.2	51.0	89.7	93.0

**Table B-4. Summary of NSPY response rates for parents by round**

Round	Cumulative (overall) (%)		Followup (conditional) (%)	
	Cross-sectional	Longitudinal	Cross-sectional	Longitudinal
1	62.7	--	--	--
2	55.0	53.0	82.7	84.7
3	52.8	50.4	84.3	91.6
4	50.3	48.6	86.5	91.9