

## IV. Data Collection

### 4.1 Overview

The NELS:88 base year study collected data from students, parents, teachers, and school administrators. Self-administered questionnaires and tests represented the principal mode of data collection. For the NCES-sponsored core sample, the number of completed instruments and completion rates based on sample eligibility for each instrument are listed in Table 4-1.1. (See also Figure 4-1.) Completion rates by sampling strata are presented in Tables 4.4-2 and 4.4-3.

**Table 4.1-1. Summary of NELS:88 base year completion rates**

Instrument	Completed	Weighted	Unweighted
Student questionnaires	24,599	93.41%	93.05%
Student tests	23,701	96.53%*	96.35%*
Parent questionnaires	22,651	93.70%	92.08%
Teacher ratings of students	23,188	95.91%**	94.26%**
Teacher questionnaires	5,193	NA	91.40%
School administrator questionnaires	1,035	98.92%	98.38%

\* Percentage of cases for which a student questionnaire was obtained for which a cognitive test was also obtained.

\*\* Indicates a coverage rate. See section 4.4.

Although more parents, teachers, and school administrators participated, the above completion rates reflect the number of records in the public use data file, where parent, teacher, and school administrator data were excluded for the students who did not participate.

### 4.2 Pre-Data Collection Activities

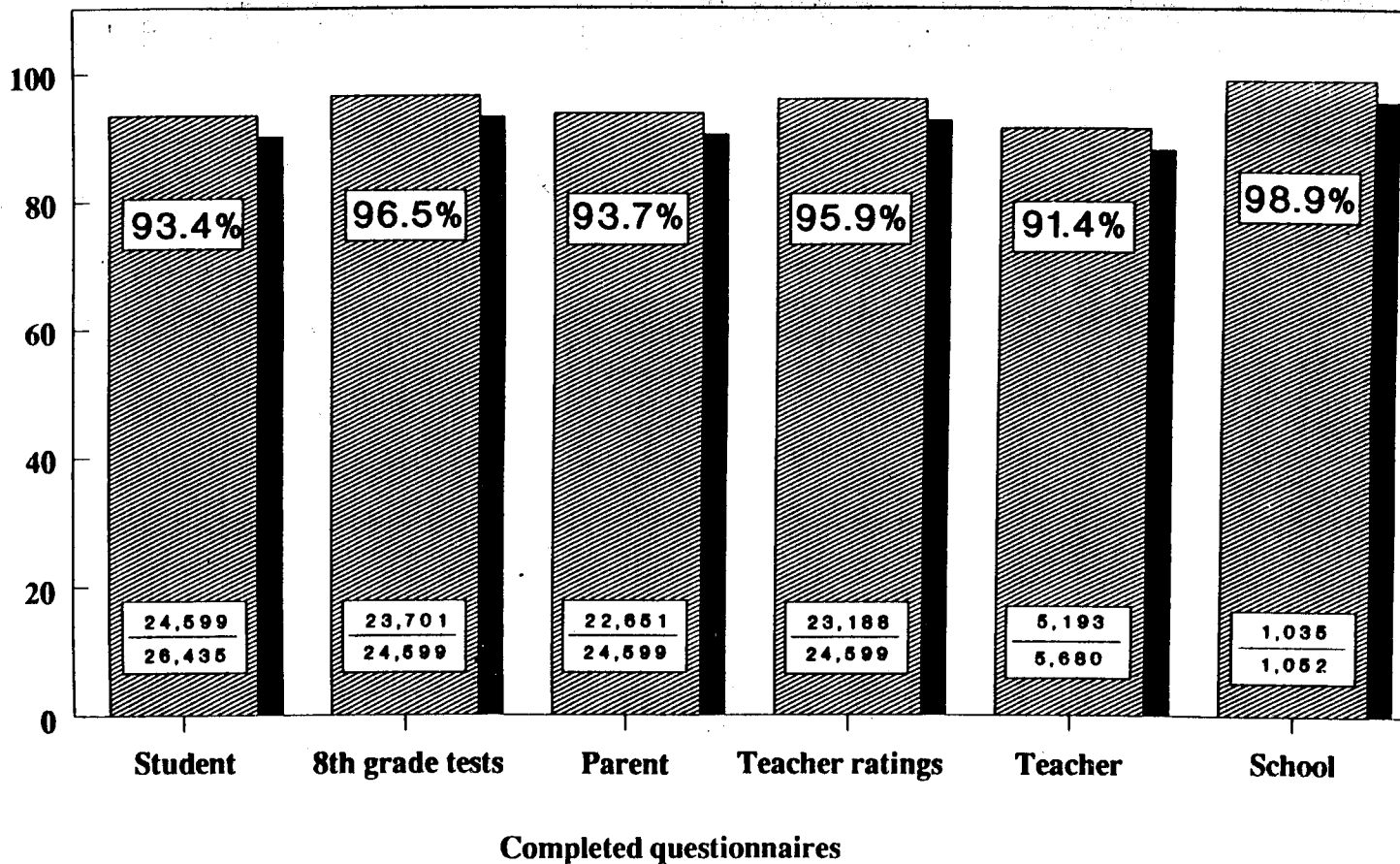
Before the data collection effort could begin, it was first necessary to secure from the administrator of each sampled school a commitment to participate in the study. Several levels of cooperation were sought before school administrators were approached. The first level involved contacting key educational organizations. The Committee on Evaluation Information Systems (CEIS)<sup>10</sup> of the Council for Chief State School Officers was asked to provide its approval of the project. Contact was also made with the National Catholic Education Association (NCEA) and the National Association of Independent Schools (NAIS) in order to inform them of the study and to solicit their endorsements.

For public schools the next step involved contacting the Chief State School Officer (usually the state Superintendent of Schools) of each state to explain the objectives of the study and the data collection procedures (especially those for protecting individual and institutional confidentiality). Once approval was obtained at the state level, contact was made with District Superintendents and, upon receipt of district approval, contact was made with the school principals. Wherever selected

10 CEIS is now known as the Education Information Advisory Council.

Figure 4-1.--Completion rates for NELS:88 base year surveys

% Participants



Note: With the exception of the teacher survey, all completion rates are weighted.

private schools were organized into an administrative hierarchy (for example, Catholic school dioceses), approval was obtained at the higher level before the school principal or headmaster was approached.

Within each cooperating school, principals were asked to designate a school coordinator who would serve as a liaison between the NORC staff, the school administrator, and the selected students, teachers, and parents. The school coordinator (often a guidance counselor or senior teacher, but sometimes the principal or assistant principal) handled all requests for data and materials as well as all logistical arrangements for data collection on the school premises. Included among these responsibilities was annotating the list of sampled students to identify students whose physical or learning handicaps or linguistic disabilities would preclude participation in the survey. Coordinators were asked to classify all eligible students as Hispanic, Asian-Pacific Islander, or "core" (neither Hispanic nor Asian-Pacific Islander), and to distribute parental permission forms to sampled students. School administrators were also requested to collect audiological data for eligible hearing-impaired students participating in Individualized Educational Programs (IEPs).

### **4.3 Base Year Data Collection**

Student questionnaires and tests were administered in group sessions to roughly twenty-five students in each of the schools in the core sample and augmentation samples. Telephone interviews were conducted for a small number of students who were unable to participate in the group-administered sessions. Parents who initially refused to grant permission for their child to participate in the study, but who later consented when contacted by an NORC representative, usually allowed their child to complete a questionnaire by telephone. Given the mode of administration, test data were not collected for these students. The parent, teacher, and school administrator questionnaires consisted of self-administered instruments that were normally received in the schools and then delivered to the intended recipient via the school coordinator, NORC representative, or, in the case of the parent, the student.

#### **4.3.1 Student Survey and Eighth Grade Tests**

NORC organized an Orientation Day for 158 schools that requested it or for schools that were deemed "likely to" particularly benefit from it.<sup>12</sup> The Orientation Day was usually arranged one or two weeks prior to the administration of the student questionnaire and tests. During these sessions, sampled students were informed about the objectives of the NELS:88 study, its voluntary nature, and the measures to be used to ensure respondent confidentiality. Students were also briefed about the tasks and procedures that would be followed in administering the questionnaire and tests. A check was made during this time to confirm that all required parental permission forms had been obtained.

Base year student data were collected from students<sup>13</sup> in the core and augmentation sample schools between February 1 and June 30, 1988. Selected eighth graders within each school were gathered in a group session on the scheduled Survey Day. Two NORC field staff members, a "team

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12 Orientation days were originally planned for all schools. However, the NELS:88 base year field test indicated that orientation days for eighth grade students would not significantly affect participation rates in most schools. (See Ingels, S. J., et al., *National Education Longitudinal Study of 1988: Field Test Report*, NORC, 1987; ERIC ED 289-897.)

13 Student sample selection procedures are discussed in the *NELS:88 Base Year Sample Design Report*.

leader" and a clerical assistant, were responsible for overseeing the administration of the questionnaires and tests during the planned session.

Actual survey administration, which was usually conducted in a school classroom or library, consisted of several steps. A check was made to confirm that parental permission forms had been obtained for all selected students. Students in each session were instructed to first complete the self-administered student questionnaire, starting with the background and identification section. A ten-minute break followed, during which time NORC field staff reviewed the questionnaires for completeness (i.e., checking for missing or multiple-response critical items). Upon completion of the questionnaires, an 85 minute battery of cognitive tests was administered. The tests consisted of four timed sections devoted to mathematics, reading, science, and social studies (history/government). Once the test battery was completed, an attempt was made to retrieve missing (or inappropriately marked) questionnaire items before the student left the classroom.<sup>13</sup> At the close of the session, NORC representatives packaged all completed student questionnaires and tests and mailed them to NORC for processing. Teacher and school administrator questionnaires were also collected, but were mailed to Westat for processing.

Arrangements were made to conduct make-up sessions for students who were scheduled, but unable to attend the first Survey Day. If fewer than five students were scheduled for a make-up day, the school coordinator was asked to handle the arrangements and oversee its administration.<sup>14</sup> When five or more students were scheduled, or in instances where the school coordinator was unavailable to conduct a make-up day, NORC representatives arranged a return visit to the school.

#### 4.3.2 Parent Survey

A self-administered questionnaire was hand-delivered by the student to his or her home with a written request that it be "completed by the parent or guardian who is most familiar with the student's current school situation and educational plans." One parent of each sampled student in the core sample was included in the parent survey.

The parent questionnaires were received by parents on one of two dates: the Orientation Day or on Survey Day. Students who attended Orientation Day received parent questionnaire packets to take home. The packet was addressed to "The Parent of [Eighth Grade Student]." Although parents were encouraged to complete the questionnaires for return by Survey Day, they were also given the option of mailing the document directly to NORC. A prepaid envelope was included in the parent questionnaire packet for this purpose. A similar procedure was followed for students who attended Survey Day. About 40 percent of parent questionnaires were returned through the schools or directly without further intervention by NORC.

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13 An NORC field staff member was instructed to review the questionnaire to ensure that all critical items were completed. A specially designated oval indicating "no retrieval" was marked whenever the missing data could not be retrieved due to respondent refusal or inability to clarify an inappropriate response. (See also section 5.1)

14 To ensure respondent confidentiality, school coordinators were prohibited from reviewing the student questionnaires for completeness. Instead, the review was conducted by NORC staff in Chicago, and missing data were retrieved by telephone.

A mixed mode follow-up design was used in pursuing parents who failed to return a completed questionnaire several weeks after the questionnaire should have been received. (The locator section in the student questionnaire usually provided the necessary information for reaching the parent during the follow-up effort.) Parents first received a telephone prompt from an NORC central office interviewer, encouraging them to complete and return the questionnaire promptly.<sup>15</sup> The telephone prompt accounted for an additional 20 percent of the completed cases. If a case was still outstanding two weeks after a telephone prompt it was transferred to an NORC field interviewer for follow-up. Field interviewers were instructed to attempt to complete the case by telephone administration. Failing that, the interviewer was instructed to make a personal visit to the respondent's home in an attempt to conduct a face-to-face interview.

A special effort was made to ensure a high completion rate for parents of the OBEMLA (Hispanic and Asian/Pacific Islander) oversampled students. One of these efforts involved having a Spanish-language parent questionnaire and a Spanish-speaking interviewer available to conduct the telephone follow-ups. If an interviewer reached a Spanish-speaking household during the telephone prompting she or he would transfer the call to a Spanish-speaking interviewer. The bilingual interviewer would ascertain if the parent preferred to complete the questionnaire in Spanish or English. If a Spanish questionnaire was preferred, that version was mailed to the parent. During the follow-up field period, households that had been identified as Spanish-speaking during the prompting stage were assigned to Spanish-speaking interviewers who could administer the Spanish-language instrument if necessary.<sup>16</sup> Approximately 575 Spanish-language parent questionnaires were completed.

While a native language version of the questionnaire was not available for Asian and Pacific Islander parents, other special procedures were used to ensure a high completion rate for this group. NORC contracted with Arts, Research, and Curriculum Associates, an educational consulting firm specializing in concerns of Asian and Pacific Islander ethnic groups, to develop a multi-language prompting letter (written in Chinese, Korean, Tagalog, Vietnamese, and English). The letter stressed the importance of the NELS:88 study and encouraged parent participation. The letter also asked parents to obtain assistance with the English language parent questionnaire, if necessary. Within two weeks after the letter and a copy of the parent questionnaire were sent to the parents of Asian/Pacific Islander students, an employee of that organization (who had signed the NORC confidentiality pledge and was, in effect, an NORC interviewer), and who could speak to the parent in his or her native language, telephoned the household. During that contact, the interviewer stressed the importance of the study and encouraged the respondent to participate. These special efforts proved quite effective in increasing completion rates for parents in both groups, bringing the final weighted completion rates to 88.35 percent for Hispanic parents and 90.76 percent for Asian and Pacific Islander parents.

### **4.3.3 Teacher Survey**

A self-administered teacher questionnaire was distributed to selected eighth grade teachers of the sampled students. Teachers were selected on a preassigned basis in two of four subject areas---mathematics, science, English, social studies. Each school was randomly assigned to one of the fol-

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15 In order to deliver a parent questionnaire to those few students who did not attend either Survey Day or Orientation Day, the parents were contacted during the prompting follow-up phase and a questionnaire was mailed to them.

16 Parent permission forms for sampled students were also made available in Spanish.

lowing combinations of curriculum areas: mathematics and English; mathematics and social studies; science and English; and science and social studies.

Thus, at any given school, each sampled student's current teacher(s) in each of the two designated subject areas was selected to receive a teacher questionnaire. This selection procedure was designed to ensure representation of mathematics or science curriculum and English or social studies in all schools. (Combinations of English and social studies as well as science and mathematics were excluded by the design.) The design also achieved balanced representation of the four curriculum area combinations across the school variables of control (that is, public, Catholic, and other private), level (elementary, middle, junior-senior high school), geographical stratum, and school size.

Finally, using this design, the number of teacher respondents was expected to vary depending on the size and structure of the eighth grade at a particular school. It was anticipated that small schools with a self-contained eighth grade could have as few as one or two eligible teachers, while larger, departmentalized schools would typically have seven to ten teacher respondents. An average of five teachers per school participated in the teacher survey.

As part of a larger mailing, school coordinators received the teacher questionnaires about two weeks before the scheduled Survey Day. The packet contained a cover letter, teacher questionnaire, and a study brochure. School coordinators were responsible for delivering the materials to the selected teachers and requesting that they complete and return the questionnaire prior to the scheduled Survey Day. School coordinators were also responsible for collecting the completed questionnaires so that they could be picked up by the NORC representative on Survey Day. Telephone follow-up activities for teachers who did not return a completed questionnaire were conducted by NORC's subcontractor, Westat.

In order to prepare the school package, as well as meet the study objective of linking teacher data to individual students, several key pieces of information had to be acquired and processed before the teacher survey could proceed. The information required included:

A **school file** that contained information about the participating school, including the school's ID number, name, address, and telephone number. The file also contained the name and title of the school coordinator, the scheduled survey date, and key school characteristics (such as size and control). This information was used to produce school coordinator mailing labels and to ensure that the survey materials were sent before the school's scheduled Survey Day. The file was transmitted electronically from NORC to Westat as soon as a school agreed to participate in the study.

A **student file** that contained the names and ID numbers of selected students for a participating school. This file was also transmitted electronically from NORC to Westat as soon as it was available.

A **class schedule form** completed by the school coordinator. Once NORC completed the student sampling for a school, the school coordinator was asked to complete a class schedule form. Using this form, coordinators recorded information about the classes each sampled student attended in the two curriculum areas pre-assigned to the school. This form identified the teachers and classes to be included in the survey. This information was used to produce the teacher labels and list of each teacher's sampled classes.

The class schedule form served two purposes. The first was to identify the teachers who taught classes in the designated curriculum areas to one or more of the sampled students included in the study. Each teacher listed on the class schedule form by the school coordinator was asked to complete a teacher questionnaire. The second purpose of the class schedule form was to identify, by teacher, the specific class each student attended for each assigned subject area. This information was used to produce a list of classes for which each teacher respondent provided descriptive information in Part II of the questionnaire. The class schedule form, then, provided the mechanism to link teacher ratings of students and descriptions of curriculum and practices to individual students. School coordinators were instructed to return their completed form to Westat. Once a completed class schedule form was received at Westat, it was checked for completeness and discrepancies. If any crucial items were missing or errors were detected, the school coordinator was contacted by telephone and the relevant information was obtained or clarified. If a class schedule form was not returned to Westat within two weeks, a prompting telephone call was made to the school coordinator.

Although the questionnaire administration schedule allowed approximately two weeks for teachers to return the completed questionnaires to school coordinators for return to Westat, in some cases materials were not received at the school sufficiently in advance of Survey Day to maintain this schedule. When school and/or student files were received too late to allow the timely completion of the class schedule form request packages, the packages were express mailed to the schools. Trained telephone interviewers then contacted the school coordinators and helped them complete the class schedule form by telephone.

Similarly, overnight express mailings were used to ensure the arrival of questionnaire packages prior to Survey Day. Coordinators were asked to encourage teacher respondents to have completed questionnaires ready for NORC field staff. When time did not permit the arrival and/or return of completed questionnaires on the desired time schedule, school coordinators were given the necessary materials to mail questionnaires directly to Westat following the completion of Survey Day activities. In general, these administrative exceptions were handled on a case-by-case basis.

#### **4.3.4 School Survey**

For the school survey, the school administrator (principal or headmaster) was asked to complete a school administrator questionnaire before the scheduled Survey Day. About two weeks before the Survey Day, school coordinators received a school administrator questionnaire packet which contained a cover letter, the school administrator questionnaire, and a study brochure. School coordinators were responsible for delivering the materials to the school administrator. They were also instructed to collect the completed questionnaire on or before Survey Day so that it could be picked up by the NORC representative. After that date, school administrators could mail their completed questionnaires directly to Westat in prepaid business reply envelopes provided for this purpose. Follow-up activities for administrators who did not return a completed questionnaire were conducted by Westat.

#### **4.4 Data Collection Results**

Tables 4.4-1 through 4.4-3 summarize the data collection results for the NELS:88 base year study. Table 4.4-1 reviews the school sample selections and sample realization. The final sample size was approximately equal to the original target number of schools. Just under 70 percent of the original selections cooperated. In order to reach the target number of schools in each stratum, replacement schools were drawn from within the same stratum into the sample when those originally selected re-

fused to participate. The tables that follow (Table 4.4-2 and Table 4.4-3) present two sets of completion statistics for the four study components that constitute the NELS:88 core sample. The statistics are presented according to the sampling stratification variables.

Table 4.4-2 displays weighted and unweighted completion rates based on the overall study/sample design in which the participating student constitutes the basic unit of analysis. For purposes of this table, the completion rate was calculated as the ratio of the number of completed interviews divided by the number of in-scope sample members. Note that the student population is, in the strictest sense, the sole independent sample, and that the other populations, for example parent and teacher, are defined in relation to participating students. Because the parent or teacher of a base year student nonparticipant was defined as out-of-scope (even though they may have completed questionnaires), these out-of-scope respondents have been subtracted from both the numerator and the denominator in the response rate calculation. Given this definition of response rate, weighted completion rates exceed 93 percent for each class of respondents as well as for the teacher ratings of students. In the case of teacher, the statistics given represent more strictly a coverage rate than a teacher response rate. Note that reports were sought from two teachers of each student. The teacher ratings statistics in Table 4.4-2 depict the percentage of base year participating students for whom observations were obtained from one or more teachers.

Table 4.4-3, in contrast, presents the weighted and unweighted completion rates for each survey based on the initial sample selections--that is, the response rate denominator includes base year nonparticipants, even though the parents and teachers of base year nonparticipant respondents were defined as out of scope. Utilizing this definition, the completion rates decrease by several points to around the 90 percent mark. Because in both instances ineligible (or out-of-scope) schools and students were removed from the sample prior to data collection, completion rates are computed directly by simply dividing the number of participating respondents/schools by the number of selections. As in figure 4.4-2, the teacher survey represents a coverage rate, rather than a teacher response rate.



Table 4.4-1.--NELS:88 base year school sample selections and realization

Stratum	Estimated <sup>a</sup> size	Eligible original selections	Target N	Total N cooperating schools	Sample realization (% of target achieved)	Cooperating original selections	Cooperating alternative selections
<b>Total</b>	38,837	1,002	1,032	1,057	102%	698	359
<b>Public schools <sup>b</sup></b>	22,690	774	800	817	102%	522	295
<b>Catholic schools <sup>c</sup></b>	6,928	91	95	104	109%	70	34
<b>Other private schools</b>	9,219	137	137	136	99%	106	30

<sup>a</sup> Estimated as the sum of the school-level weights for each school type.

<sup>b</sup> Stratified by nine Census divisions; racial compositions; grade 8 enrollment; and urbanicity (central city, suburban within SMSA county, rural [non SMSA]).

<sup>c</sup> Stratified by nine Census divisions; racial composition; grade 8 enrollment; and urbanicity (central city, suburban within SMSA county, rural [non-SMSA]).

**Table 4.4-2.--NELS:88 base year completion rates for student, parent, teacher and school surveys, adjusted for out-of-scopes**

	Student questionnaire Completion rates		Student 8th grade test Completion rates		Parent questionnaire Completion rates		Teacher ratings <sup>a</sup> Completion rates		School questionnaire Completion rates	
	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted
<b>Total</b>	93.41	93.05	96.53	96.35	93.70	92.08	95.91	94.26	98.92	98.38
Participated	24,599		23,701		22,651		23,188		1,035	
Selected	26,435		24,599		24,599		24,599		1,052	
<b>School type</b>										
Public	93.15	92.79	96.32	96.11	94.21	93.72	96.57	95.82	98.73	98.28
Catholic	95.67	94.99	98.08	97.52	89.85	83.55	90.95	84.76	100.0	100.0
Other Private	94.06	93.15	97.34	96.94	91.57	88.34	93.18	92.11	98.25	97.74
<b>Urbanicity</b>										
Urban	92.36	92.19	95.89	95.96	91.48	90.00	94.62	93.20	98.94	97.48
Suburban	92.17	92.38	96.36	96.29	93.32	91.44	95.56	93.85	98.12	98.18
Rural	95.26	95.13	97.29	96.94	96.08	95.40	97.46	96.09	99.64	99.66
<b>Region</b>										
Northeast	92.81	91.85	96.31	95.52	90.58	84.45	91.75	86.42	98.67	97.72
South	94.11	94.03	96.93	96.92	95.93	95.87	97.44	97.00	99.19	98.89
North Central	94.70	94.79	96.85	96.96	94.92	94.72	97.71	97.82	99.75	98.88
West	91.17	90.83	95.50	95.40	90.18	89.62	94.18	93.25	97.10	97.54
<b>Ethnicity</b>										
Hispanic	90.86	90.24	94.95	94.88	88.35	87.57	92.58	92.50	NA	NA
Asian/Pacific Islander	89.70	90.12	98.18	97.84	90.76	91.53	94.06	93.69	NA	NA
Other	93.75	93.63	96.64	96.45	94.28	92.72	96.28	94.53	NA	NA
<b>Minority schools</b>										
Schools with more than 19% minority students	89.64	89.43	95.21	95.44	89.94	88.79	92.78	92.44	98.54	98.04
Schools with less than or equal to 19% minority students	93.83	93.51	96.67	96.45	94.09	92.47	96.24	94.48	98.93	98.42

<sup>a</sup> Indicates a coverage rate.

**Table 4.4-3.--NELS:88 base year completion rates for student, parent, teacher and school surveys:  
In-scope completions as a proportion of the total initial sample**

	Student questionnaire Completion rates		Student 8th grade test Completion rates		Parent questionnaire Completion rates		Teacher ratings <sup>a</sup> Completion rates		School questionnaire Completion rates	
	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted
<b>Total</b>	93.41	93.05	90.17	89.65	87.53	85.68	89.59	87.72	98.92	98.38
Participated		24,599		23,701		22,651		23,188		1,035
Selected		26,435		26,435		26,435		26,435		1,052
<b>School type</b>										
Public	93.15	92.79	89.73	89.18	87.75	86.97	89.95	88.92	98.73	98.28
Catholic	95.67	94.99	93.83	92.63	85.96	79.37	87.01	80.51	100.0	100.0
Other Private	94.06	93.15	91.56	90.29	86.14	82.27	87.65	85.79	98.25	97.74
<b>Urbanicity</b>										
Urban	92.36	92.19	88.56	88.46	84.49	82.97	87.39	85.92	98.94	97.48
Suburban	92.71	92.38	89.34	88.96	86.52	84.47	88.60	86.70	98.12	98.18
Rural	95.26	95.13	92.68	92.14	91.52	90.74	92.85	91.41	99.64	99.66
<b>Region</b>										
Northeast	92.81	91.85	89.39	87.73	84.06	77.56	85.15	79.37	98.67	97.72
South	94.11	94.03	91.23	91.14	90.28	90.14	91.71	91.21	99.19	98.89
North Central	94.70	94.79	91.71	91.91	89.89	89.78	92.53	92.72	99.75	98.88
West	91.17	90.83	87.07	86.69	82.21	81.40	85.87	84.69	97.01	97.54
<b>Ethnicity</b>										
Hispanic	90.86	90.24	86.27	85.63	80.28	79.02	84.11	83.48	NA	NA
Asian/Pacific Islander	89.70	90.12	88.07	88.17	81.41	82.49	84.37	84.43	NA	NA
Other	93.75	93.63	90.61	90.31	88.39	86.81	90.26	88.51	NA	NA
<b>Minority schools</b>										
Schools with more than 19% minority students	89.64	89.43	85.35	85.36	80.63	79.41	83.17	82.67	98.54	98.04
Schools with less than or equal to 19% minority students	93.83	93.51	90.70	90.19	88.29	86.47	90.30	88.35	98.93	98.42

<sup>a</sup> Indicates a coverage rate.