

# 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test Methodology Report

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# **2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test Methodology Report**

**Working Paper Series**

**June 2008**

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# Executive Summary

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The 2008 National Postsecondary Student Aid Study (NPSAS:08), conducted for the U.S. Department of Education's National Center for Education Statistics (NCES), collected comprehensive data regarding how students and their families pay for postsecondary education. The first NPSAS study was conducted in 1986–87 to meet the need for national-level data about significant financial aid issues. Since 1987, NPSAS has been conducted every 3 to 4 years, with the last cycle, NPSAS:04, conducted during the 2003–04 academic year. The primary objective of NPSAS:08 is to produce reliable national estimates of characteristics related to financial aid for postsecondary students.

NPSAS:08 also serves as the base year of data collection for the Baccalaureate and Beyond Longitudinal Study (B&B), which will follow a cohort of baccalaureate recipients and collect further data from them in 1 year, and again in 4 years.

NPSAS:08 included a new set of instrument items to obtain baseline measures of the awareness of two new federal grants—the Academic Competitiveness Grant (ACG) and the National Science and Mathematics Access to Retain Talent (SMART) grant—introduced in 2006.

This report describes the methodology and findings of the NPSAS:08 field test, which took place during the 2006–07 school year. The NPSAS:08 field test was used to plan, implement, and evaluate methodological procedures, instruments, and systems proposed for use in the full-scale study scheduled for the 2007–08 school year.

## Sample Design

The NPSAS:08 field test was based on a sample of all students (both those who had received financial aid and those who had not) in postsecondary institutions throughout the United States and Puerto Rico during the 2006–07 academic year.

The institutional sample included public, private not-for-profit, and private for-profit institutions at the 4-year, 2-year, and less-than-2-year levels. The field test and full-scale samples were selected at the same time, prior to the field test study. Because some institutions were to be in the full-scale sample with certainty, 300 institutions were selected for the field test sample from the pool of institutions that were not selected to participate in the full-scale study. This process minimized the possibility that an institution would be burdened with participation in both the field test and full-scale samples, yet it was effective in maintaining the representativeness of the full-scale sample. Of the 300 eligible field test institutions, 270 provided enrollment lists for the student sample.

Next, from the 270 institutional enrollment lists, approximately 3,000<sup>1</sup> undergraduate, graduate, and first-professional students were chosen for the NPSAS:08 field test sample. The

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<sup>1</sup> The numbers appearing in the tables and text of this report were rounded to the nearest tens to maintain the confidentiality of study respondents.

student sample was selected on a continual basis as the lists were received, reconciled, and unduplicated (if necessary). Of the 3,000 students sampled, 50 students were determined to be ineligible for the study, resulting in 2,950 eligible student sample members.

## **Instrumentation**

The NPSAS:08 field test student interview was designed as a web-based instrument to be used both for self-administered respondents and for computer-assisted telephone interviewing (CATI) respondents. The mixed-mode design required that several important features be embedded in the instrument, such as extensive help text to assist respondents and warnings to alert them when a response was out of range.

The instrument consisted of nine sections grouped by topic. The first section determined student eligibility for the NPSAS:08 study and the future B&B studies and obtained enrollment history. The second section contained questions relating to student expenses and financial aid. Included in this section were items regarding aid-based employment at the NPSAS institution, such as work-study participation, assistantships, and fellowships, as well as the new ACG/SMART grant items. Section three focused on non-aid-based employment and personal finances. The fourth section, only administered to B&B eligible students, addressed postgraduation employment plans. The fifth section of the student interview collected postgraduation education plans from B&B eligible respondents. Section six, again applicable only to B&B eligible sample members, served to identify the teacher pipeline. Included in this section were items asking whether students had previously taught at the K-12 level, whether they were considering teaching at the K-12 level, and what steps they had taken to prepare to teach at that level. The seventh section, for all sample members, included questions about educational experiences such as languages studied, distance education courses, and transfer credit history. The eighth section of the interview gathered background and demographic information about students and their family members. The final section requested contact information from B&B eligible sample members for the follow-up studies.

## **Data Collection Design and Outcomes**

### **Institutional Contacting**

Once an institution was chosen for the sample, attempts were made to contact the Chief Administrator of the institution (e.g., the president or chancellor) to verify institutional eligibility, solicit participation, and request the appointment of an Institutional Coordinator (IC) to oversee data collection within the institution. ICs were asked to provide lists or data files of all students enrolled at any time between July 1, 2006, and April 30, 2007. Several checks of quality and completeness of student lists were implemented before the lists were used to sample students. Of the 300 eligible institutions sampled for the field test, 270 provided enrollment lists, resulting in an overall institutional participation rate of about 90 percent.

## **Institutional Record Abstraction**

A web-based computer-assisted data entry (CADE) software system was used for the abstraction of student records from institutions. The CADE system consisted of three components (student financial aid information, student registration and admissions information, and student enrollment and tuition information), focusing on eight topics: locating information, demographic characteristics, admissions tests, enrollment, tuition, financial aid awards, needs analysis, and institutional student information records (ISIRs). CADE record abstraction was requested only from the institutions used to compile the student sample. Institutions were given the option of completing CADE using their own staff or, upon request, having a field data collector complete the record abstraction process at the institution. Prior to the initialization of the CADE software system for an institution, records for all students sampled from an institution were requested from the U.S. Department of Education's Central Processing System (CPS), which contains financial aid application data. This information was preloaded into the CADE system to provide edit checks for the data entered by an institution and assist with locating.

Institutional participation for student record abstraction was very high. Overall, about 99 percent of eligible institutions provided student record data. At the student level, CADE data were provided by participating institutions for nearly all eligible sample members (99.7 percent). Institutions could choose from among three modes for student record abstraction: (1) self-CADE, in which institutional staff entered data directly into the web-based system; (2) data-CADE, in which institutional staff provided student record information in data files according to specifications; and (3) field-CADE, in which trained field data collectors used laptops to abstract student record data into the CADE system. The most common abstraction method chosen by institutions was self-CADE, representing 90 percent of all submissions. About 9 percent of institutions submitted data-CADE. To fully test field-CADE procedures, 1 percent of institutions were asked to participate via field-CADE.

## **Interviewer Training**

Field test training programs were developed for two types of project staff: telephone interviewers and help desk operators. Telephone interviewers were trained on how to locate and interview sample members. Their training also included the purpose of NPSAS:08 and the uses of the data to be collected; administrative procedures required for case management; quality control of interactions with sample members, parents, and other contacts; and the organization and operation of the web-based student instrument to be used in data collection. Help desk operators received essentially the same training as telephone interviewers because they were expected to complete the interview over the telephone if requested by a caller; however, help desk operators also received specific training on frequently asked questions about the instrument and technical issues related to completion of the instrument via the Web. All data collection staff also received extensive training on data security and confidentiality procedures.

## **Student Locating and Interviewing**

The NPSAS:08 field test data collection design involved several stages. For initial locating of sample members, batch-locating activities were employed to update students' address and telephone information. Sources for this task included the U.S. Department of Education's Central Processing System (CPS), the U.S. Postal Service National Change of Address system, and Telematch. Students were then sent a notification mailing containing a lead letter, informational brochure, and username and password for completing the interview via the Web.

After initial locating of sample members, a period of 3 weeks was allotted for students to complete the self-administered interview via the Web. All respondents who completed the student interview during the early response period were offered a \$30 incentive. About halfway into the early response period, randomly selected NPSAS:08 sample members were called to remind them of the ongoing data collection. Sample members who did not complete the NPSAS:08 field test interview during the early response period were contacted by telephone interviewers during the production interviewing phase. The final phase of student interviewing involved the nonresponse conversion of refusal cases and of those students who were difficult to locate. Respondents who completed the student interview during the final phase were offered a \$30 incentive.

Locating and tracing activities by telephone interviewers occurred simultaneously with efforts to gain cooperation from sample members. Any case in which the interviewer had exhausted all tracing options and was unable to gain any contact with the sample member was sent to RTI's Tracing Operations Unit (TOPS). Telephone interviewers followed up with cases in which TOPS obtained further contact information. Sample members for whom no additional information could be obtained were finalized as unlocatable.

Of the approximately 2,950 eligible sample members, 2,020 (68 percent) completed the student interview. Of these, 1,220 were identified as graduating seniors, and are included in the B&B:08 cohort for the longitudinal study. On average, it took students about 27 minutes to complete the interview. Self-administered respondents were able to complete the interview in approximately 26 minutes, while CATI interviews were completed in about 30 minutes.

## **Study Respondents**

Key variables were identified across the various contributing data sources to determine the minimum requirements to support the analytic needs of the study. Sample members who met these minimum requirements were classified as "study respondents." In order to be a study respondent sample members were required to have data for three critical variables—student type, gender, and date of birth. In addition, sample members were required to have data—from any source—for at least eight variables out of a set of 15 additional pre-specified variables. Of the approximately 2,950 eligible sample members, 98 percent were classified as study respondents. For the majority of study respondents (approximately 80 percent) data were available from at least two of the major data sources (e.g., student interview, institutional student records, or financial aid application data from the CPS).



## Field Test Experiments

The NPSAS:08 field test study included experiments to evaluate the impact of strategies to increase response rates. Two experiments focused on response rates during the early response period, during which students are asked to complete a self-administered interview. The first examined whether the use of Priority Mail to send study materials produced a higher response rate in the early response period than First-Class Mail. The other test examined the effect of prompting calls made about halfway through the early response period to remind sample members about the study and assist with login information if needed. Results showed that both Priority Mail and prompting calls were associated with higher early response rates.<sup>2</sup>

Another experiment considered the use of prepaid incentives during the final phase of data collection—the nonresponse conversion phase. All sample members had been randomly assigned to receive either a prepaid or a promised incentive during nonresponse conversion. The sample members who became eligible for nonresponse conversion (e.g., those who had not completed the student interview and had at some point refused or were particularly difficult to locate) were offered a \$30 incentive. One-half were sent a check for \$10 in the letter that offered \$20 upon interview completion. The other group was promised a \$30 incentive after the interview was completed. There was no difference, however, in response rates between those who received the prepaid and those who received the promised nonresponse conversion incentive.

## Evaluation of Operations and Data Quality

The NPSAS:08 field test was used to plan, implement, and evaluate methodological procedures, instruments, and systems proposed for use in the full-scale study scheduled for the 2007–08 school year. Therefore, assessments of operations, procedures, and data quality were critical at this stage. Evaluations of operations and procedures focused on the timeline for data collection from institutions (CADE) and students, tracing and locating procedures for the student sample, efforts to convert interview refusals, the effectiveness of packaging and prompting, incentives for increasing response rates via the Web and for refusal conversion, and the length of the student interview.

Evaluations of data quality included an examination of items with high rates of missing data, the reliability of the items included in the student record abstraction and the student interviews, the accuracy of data collected with coding systems, and telephone interview question delivery and data entry quality control procedures. Further evaluations included an experiment embedded in the NPSAS:08 field test student interview that was designed to test the difference between checkbox and radio-button question formats. Radio-button question formats were found to provide more affirmative responses from sample members than checkbox question formats. Additionally, respondents were found to spend more time answering radio-button question formats than checkbox question formats. The results of the field test experiments and evaluations were used to inform revisions to the full-scale instrument.

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<sup>2</sup> Unless otherwise indicated, a criterion probability level of .05 was used for all tests of significance.

## **Data Files**

Data collected as part of the NPSAS:08 field test are not released to the public, and all data file processing procedures were tested rigorously in preparation for the full-scale effort. Online coding and editing systems, range and consistency checks for all data, and the editing process for the post-data-collection phase were examined for efficiency. Detailed documentation was also developed to describe question text, response options, logical imputations, and recoding.

## **Planned Changes for the NPSAS:08 Full-Scale Study**

The final chapter of this report summarizes the changes planned for the NPSAS:08 full-scale study based on the results of the field test. For efficiency and improved clarity, slight changes are suggested for the processes involved in enrollment list acquisition, institutional record abstraction, tracing and locating, and student interviewing. More substantial changes planned for the NPSAS:08 full-scale study include the following:

- The sampling rates for the baccalaureate strata within each institutional stratum will be increased in the full-scale study, while the sampling rates for the other undergraduate stratum within each institutional stratum will be decreased to ensure an adequate number of accurate B&B identifications.
- SMART grant recipients will be oversampled in the full-scale study to ensure a sufficient number of cases for analyses. Oversampling will be considered for ACG recipients but may not be necessary because of the higher number of ACG recipients nationwide.
- Enrollment list instructions to institutions will be revised to clarify that graduate students should be included on the student enrollment lists.
- The frequently asked questions (FAQs) list for institutions will be revised for clarity. An additional FAQ will be added reminding institutions to provide either a date of birth or a date of birth flag on the student enrollment lists.
- Minor improvements will be made to the content of project management reports used for contacting institutions and to student record abstraction systems.
- Based on results of field test experiments, Priority Mail will be used to send the initial contact mailing to all sample members. Prompting calls will also be used for targeted subgroups of sample members.
- The Virtual Call Center (VCC) will be used to supplement the in-house call center for telephone interviews.

# Working Paper Foreword

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In addition to official NCES publications, NCES staff and individuals commissioned by NCES produce preliminary research reports that include analyses of survey results and presentations of technical, methodological, and statistical evaluation issues.

The *Working Paper Series* was initiated to promote the sharing of the valuable work experience and knowledge reflected in these preliminary reports. These reports are viewed as works in progress and have not undergone a rigorous review for consistency with NCES Statistical Standards prior to inclusion in the Working Paper Series.

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# Foreword

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This report describes and evaluates the methods and procedures used in the field test of the 2008 National Postsecondary Student Aid Study (NPSAS:08). NPSAS is the only periodic, nationally representative survey of student financial aid. The fundamental purpose of the NPSAS series of studies is to create a dataset that brings together information about federal, state, and private student financial aid programs and gathers additional demographic and enrollment data to establish the appropriate context. The resultant dataset allows researchers and policy analysts to address basic issues about the affordability of postsecondary education and the effectiveness of existing financial aid programs.

NPSAS:08 includes an important addition worth noting. Two new federal grant programs were created out of the Higher Education Reconciliation Act of 2005: the Academic Competitiveness Grant (ACG) and the National Science and Mathematics Access to Retain Talent (SMART) grant. These grants were first available to students in 2006. In an effort to learn more about students' knowledge of these new grant programs, the NPSAS:08 field test included a set of items about these grants ranging from where the student learned about these grants to whether the student has considered changing his or her major to be eligible for the grants. These items will be administered in the NPSAS:08 full-scale study to help policymakers learn more about the success of these two grant programs.

We hope that the information provided in this report will be useful to readers. Additional information about NPSAS:08 is available on the Internet at <http://www.nces.ed.gov/surveys/npsas>.

Tom Weko  
Associate Commissioner  
Postsecondary Studies Division



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# Chapter 1.

## Overview of NPSAS:08

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This document provides a description, summary, and evaluation of methodological procedures and results for the field test of the 2008 National Postsecondary Student Aid Study (NPSAS:08). NPSAS:08, including the field test and the subsequent full-scale study, is being conducted for the National Center for Education Statistics (NCES) of the U.S. Department of Education. The current study is authorized by Title I, Section 153, of the Education Sciences Reform Act (PL 107–279). For reference, previous cycles of NPSAS and its spin-off studies, the Beginning Postsecondary Students Longitudinal Study (BPS) and the Baccalaureate and Beyond Longitudinal Study (B&B), were authorized by the following legislation:

The General Education Provisions Act, as amended, 20 U.S.C. § 1221 e-1 (2001);

The Higher Education Act of 1965, as amended by the Higher Education Amendments of 1986, Title XIII(a), Section 1303, and Title XIV, 20 U.S.C. § 1070 et seq. (1994);

The Higher Education Act of 1965, Augustus F. Hawkins – Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988, 20 U.S.C. § 2911 to 2976 (2001); and

Sections 404(a), 408(a), and 408(b) of the National Education Statistics Act of 1994, 20 U.S.C. § 9001 et seq. (2002).

This introductory chapter describes the background and purpose of NPSAS:08, the study’s schedule and products, and the unique purposes of the field test. Chapter 2 contains details on field test design and methodology. In chapter 3, the outcomes of institutional and student data collection are reviewed, along with the results of special experiments conducted in the field test. Chapter 4 provides an evaluation of procedures used to collect information from institutions and students and the quality of data collected.<sup>1</sup> Chapter 5 summarizes the major changes, based on field test findings, planned for the full-scale study design and implementation. The materials used during the field test study are provided in the appendixes and are cited in the text where appropriate.

### 1.1 Background and Purpose of NPSAS

The first NPSAS study was conducted in 1986–87 to meet the need for national-level data about significant financial aid issues. Since 1987, NPSAS has been conducted every 3 to 4 years, with the last cycle, NPSAS:04, conducted during the 2003–04 academic year. Beginning in 1990, each NPSAS data collection has provided the base-year data and sample for either BPS or B&B, in alternating cycles. NPSAS:08 will serve as the base-year study for the B&B:08 cohort. These students will be surveyed again in 2009 and in 2012.

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<sup>1</sup> Unless otherwise indicated, a criterion probability level of .05 was used for all tests of significance.

NPSAS is a comprehensive nationwide study implemented to determine how students and their families pay for postsecondary education. The study is based on a nationally representative sample of all students in postsecondary educational institutions. The sample is composed of undergraduate, graduate, and first-professional students. These students attend all types and levels of institutions, including public, private for-profit, and private not-for-profit institutions at all levels, ranging from less-than-2-year to 4-year institutions.

The main objective of NPSAS:08 is to produce reliable national data estimates related to financial aid for postsecondary students. No other single national database contains student-level records for students receiving financial aid from all of the numerous and disparate programs funded by the federal government, the states, postsecondary institutions, employers, and private organizations. The data are part of NCES's comprehensive information on student financial aid and characteristics of those enrolled in postsecondary education. The study focuses on three general questions having important policy implications for financial aid programs:

1. How do students and their families finance postsecondary education?
2. Who applies for and who receives financial aid?
3. What is the impact of financial aid on persistence for students enrolled in postsecondary institutions?

## 1.2 Purpose of the Field Test

The major purpose of the NPSAS:08 field test was to plan, implement, and evaluate operational and methodological procedures, instruments, and systems that were proposed for use in the full-scale study, particularly procedures that had not been previously tested. Some of the major topics tested and evaluated in the field test included the following:

- introduction of a virtual call center (VCC) to supplement the existing in-house call center;
- implementation of experiments to increase student response rates; and
- inclusion of instrument items to obtain baseline measures of the awareness of the federal Academic Competitiveness Grant (ACG) and the National Science and Mathematics Access to Retain Talent (SMART) grant.

The results of past surveys have served to improve subsequent design and methods throughout the NPSAS series. A comprehensive field test has always been used to enhance and advance the methodologies of the full-scale survey. Results from the NPSAS:08 field test have led to modifications of the full-scale study plan that will maximize operational efficiency, response rates, and data quality.

## 1.3 Schedule and Products of NPSAS:08

Table 1 provides a summary of the schedule for the field test, as well as the proposed schedule for the full-scale study in 2008. Electronically documented, restricted-access research files, with associated electronic codebooks, as well as NCES Data Analysis Systems (DAS) for

public release, will be constructed from the full-scale data and distributed to a variety of organizations and researchers. The full-scale methodology report will provide details on sample design and selection procedures, data collection procedures, weighting methodologies, estimation procedures and design effects, and the results of nonresponse analyses. Other products will include four descriptive reports of significant study findings. Topics of past descriptive summaries include student financing of undergraduate education (Berkner and Wei 2006), student financing of graduate and professional education (Choy and Cataldi 2006), and a profile of undergraduates at U.S. postsecondary institutions (Horn and Nevill 2006).

**Table 1. Schedule of major NPSAS:08 activities: 2006–08**

Activity	Start date <sup>1</sup>	End date <sup>2</sup>
Field test	10/3/2005	6/29/2007
Select institutional sample	10/3/2005	8/29/2006
Mail information and make phone contact with Chief Administrator	10/23/2006	11/22/2006
Mail information and make phone contact with Institutional Coordinator	11/27/2006	2/9/2007
Obtain enrollment lists for student sampling	2/1/2007	6/29/2007
Select student samples	2/5/2007	5/1/2007
Request/obtain CPS data	2/6/2007	6/29/2007
Preload CPS data into CADE records	2/6/2007	6/29/2007
Conduct CADE record abstraction	2/8/2007	6/29/2007
Conduct student interviews		
Self-administered	3/1/2007	6/29/2007
Interviewer-administered	3/29/2007	6/29/2007
Full-scale study <sup>3</sup>	4/2/2007	8/29/2008
Select institutional sample	4/2/2007	6/29/2007
Mail information and make phone contact with Chief Administrator	10/2/2007	11/30/2007
Mail information and make phone contact with Institutional Coordinator	10/9/2007	12/20/2007
Obtain enrollment lists for student sampling	1/15/2008	7/15/2008
Select student samples	1/16/2008	7/15/2008
Request/obtain CPS data	1/15/2008	8/29/2008
Receive list of SMART/ACG recipients	12/31/2007	12/31/2007
Preload CPS data into CADE records	1/15/2008	8/29/2008
Conduct CADE record abstraction	2/1/2008	8/29/2008
Conduct student interviews		
Self-administered	2/6/2008	8/29/2008
Interviewer-administered	2/27/2008	8/29/2008

<sup>1</sup> Date the activity was initiated for the first applicable institution or its associated students.

<sup>2</sup> Date the activity was completed for the last applicable institution or its associated students.

<sup>3</sup> Dates for the full-scale study are approximate.

NOTE: ACG = Academic Competitiveness Grant; CADE = computer-assisted data entry; CATI = computer-assisted telephone interviewing; CPS = Central Processing System; SMART = Science and Mathematics Access to Retain Talent grant.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The remainder of this report provides detail on the field test sampling design, methodology, and data collection results at the institutional and student levels. It also presents

the results of analyses conducted to evaluate the effectiveness of the procedures used in the field test, in preparation for implementation of the full-scale data collection.

# Chapter 2.

## Design and Methodology of the Field Test

---

This chapter provides a detailed summary of the design of the 2008 National Postsecondary Student Aid Study (NPSAS:08) field test and the methods implemented in the study. All procedures and methods were developed in consultation with a Technical Review Panel composed of nationally recognized experts in higher education. A complete listing of members of this panel is provided in appendix A. The multiple stages of sampling are described in detail. Sampling has particular implications for the future Baccalaureate and Beyond Longitudinal Study (B&B), because the cohort will be generated from the NPSAS:08 sample and interview. In addition, institutional contacting procedures, instrument development, student data collection procedures, study experiments, data quality evaluations, and data management systems are described.

### 2.1 Respondent Universe

The field test institutional sample included all levels (less-than-2-year, 2-year, and 4-year) and control (public, private not-for-profit, and private for-profit) of Title IV eligible<sup>2</sup> postsecondary institutions in the United States or Puerto Rico. The student sample was randomly selected from lists of students enrolled at sampled institutions between July 1, 2006, and April 30, 2007.

#### 2.1.1 Institutional Sample and Eligibility

To be eligible for the field test, institutions had to meet the following conditions during the 2006–07 academic year:

- meet the following conditions required to distribute federal Title IV aid:
  - offer an educational program designed for persons who have completed at least a high school education; and
  - offer at least one academic, occupational, or vocational program of study lasting at least 3 months or 300 clock hours;
- offer courses that were open to more than the employees or members of the company or group (e.g., union) that administers the institution;
- be located in the 50 states, the District of Columbia, or Puerto Rico; and
- not be a U.S. service academy institution.

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<sup>2</sup> A Title IV eligible institution is an institution that has a written agreement (program participation agreement) with the U.S. Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance programs other than the State Student Incentive Grant (SSIG) and the National Early Intervention Scholarship and Partnership (NEISP) programs.

Institutions providing only avocational, recreational, or remedial courses or only in-house courses for their own employees or members were excluded. U.S. service academies were excluded because of their unique funding/tuition base.

The above institutional eligibility conditions were consistent with all previous NPSAS studies. However, the requirement that an institution be eligible to distribute federal Title IV aid was implemented beginning with NPSAS:2000. Also, NPSAS:04 was the first NPSAS study to include institutions that offered only correspondence courses, provided these same institutions were also eligible to distribute federal Title IV student aid.

The institutional sampling frame for the NPSAS:08 field test was constructed using the 2004–05 Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics, Completions, and Fall Enrollment files. The institution samples for the field test and full-scale studies were selected simultaneously, prior to the field test study. For the field test, 300 institutions were selected from the pool of institutions that were not selected to participate in the full-scale study. The 300 institutions sampled for the field test yielded 270 that provided the enrollment lists necessary for creating the student sample. This process minimized the possibility that an institution would be burdened with participation in both the field test and full-scale samples, yet it was effective in maintaining the representativeness of the full-scale sample.<sup>3</sup>

To the extent possible, the field test sample of institutions was selected to approximate the same distribution by institutional strata as used in the full-scale study. However, several institutions were designated as “certainty institutions” for the full-scale sample (i.e., they were certain to be selected for the full-scale sample) and were not used in the field test institutional sample. Also, because of the limited size of the NPSAS:08 field test institutional sampling frame and the need to ensure sufficient baccalaureate recipients for the follow-up B&B field test, the NPSAS:08 field test sample included a higher percentage of 4-year institutions than the full-scale sample. Public 4-year doctorate-granting institutions were designated as “certainty institutions” and automatically included in the full-scale sample; therefore, they were excluded from the field test sample.

Table 2 displays the distribution of sampled institutions by institutional strata. This table shows eligibility rates, rates of providing student enrollment lists, and past NPSAS participation, by stratum among the sampled institutions. Overall, about 99 percent of the sampled institutions met the eligibility requirements; of those, approximately 90 percent provided enrollment lists.

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<sup>3</sup> After the field test data collection was completed, the full-scale sample was augmented to provide state-level representation of students in selected states and sectors. Twenty of the institutions added to the full-scale sample were in the field test sample, so these institutions will participate in both the field test and full-scale components. The plans for the full-scale augmentation are discussed in section 5.1.



**Table 2. Unweighted percentage of sampled, eligible, and participating NPSAS:08 field test institutions, by sampling stratum: 2007**

Institutional sampling stratum	Sampled institutions	Eligible institutions		Provided lists		Past NPSAS participant	
		Number	Percent <sup>1</sup>	Number	Percent <sup>2</sup>	Number	Percent <sup>2</sup>
All institutions	300	300	99.3	270	89.7	200	65.2
<b>Public</b>							
Less-than-2-year	#	#	100.0	#	100.0	#	#
2-year	10	10	100.0	10	100.0	10	62.5
4-year non-doctorate-granting	100	100	100.0	100	93.3	80	76.0
4-year doctorate-granting <sup>3</sup>	#	#	#	#	#	#	#
<b>Private not-for-profit</b>							
Less-than-4-year	#	#	75.0	#	33.3	#	33.3
4-year non-doctorate-granting	140	130	99.3	120	91.8	80	59.0
4-year doctorate-granting	30	30	100.0	30	84.8	30	87.9
<b>Private for-profit</b>							
Less-than-2-year	10	10	100.0	#	57.1	#	#
2-year-or-more	10	10	100.0	10	66.7	#	44.4

# Rounds to zero.

<sup>1</sup>Percentage is based on number of sampled institutions within row.<sup>2</sup>Percentage is based on number of eligible institutions within row.<sup>3</sup>All institutions in this category are included in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 2.1.2 Student Sample and Eligibility

To be eligible for the NPSAS:08 field test, students had to be enrolled in a NPSAS eligible institution in any term or course of instruction at any time from July 1, 2006, through April 30, 2007. Students also had to meet the following requirements:

- be enrolled in any of the following: (a) an academic program, (b) at least one course for credit that could be applied toward fulfilling the requirements for an academic degree, or (c) an occupational or vocational program that required at least 3 months or 300 clock hours of instruction to receive a degree, certificate, or other formal award;
- not be currently enrolled in high school; and
- not be solely enrolled in a General Educational Development (GED) or other high school completion program.

Students who were concurrently enrolled in high school were not eligible. Also excluded were students taking courses only for remedial or vocational purposes and not receiving credit (i.e., those only auditing courses and those taking courses only for leisure, rather than as part of an academic, occupational, or vocational program or course of instruction).

The NPSAS:08 study year covers the time period between July 1 and June 30, to coincide with the federal financial aid award year. However, to facilitate timely completion of data collection and data file preparation, institutions were asked to submit enrollment lists for all eligible students enrolled at that institution at any time between July 1 and April 30. Previous

cycles of NPSAS have shown that the terms beginning in May and June add relatively little to enrollment and aid totals. Furthermore, to include the “May-June” starters would increase the complexity and difficulty of data collection because of the inherent delays in re-receiving enrollment lists, and subsequent sampling, locating, interviewing, and file processing. Excluding May-June starters enables schools to provide enrollment lists earlier therefore allowing the student interview process to begin earlier. In the full-scale study, poststratification of survey estimates based on U.S. Department of Education administrative records on enrollment and financial aid distributed (e.g., IPEDS, the National Student Loan Data System [NSLDS]), will adjust for the survey year’s inclusion of any terms that begin by April 30 and the consequent exclusion of a small number of students newly enrolled in May or June.

To create student sampling frames, each participating institution was asked to submit a list of eligible students. The requests for student enrollment lists specifically indicated how institutions should handle special cases, such as students taking only correspondence or distance learning courses, foreign exchange students, continuing education students, extension division students, and nonmatriculated students. The data required for each enrollee were the student’s name, identification (ID), Social Security number (used for abstracting student records), date of birth, degree level during the last term of enrollment (undergraduate, master’s, doctoral, other graduate, or first-professional), class level if undergraduate (first year, second year, third year, fourth year, or fifth year or higher), major, Classification of Instruction Program (CIP) code, and baccalaureate<sup>4</sup> degree status. Contacting information, such as local telephone number and address, permanent telephone number and address, campus e-mail address, and permanent e-mail address, was also requested.

The student sample sizes for the field test were formulated to obtain various types of students. Specifically, the sample included a large number of potential baccalaureate recipients to provide sufficient sample size for the B&B:08/09 field test. As shown in table 3, the NPSAS:08 field test was designed to sample approximately 3,000 students, including about 2,400 potential baccalaureate students, 500 other undergraduate students, and 100 graduate and first-professional students. There were seven student sampling strata:

- three sampling strata for undergraduate students:
  - bachelor’s business;<sup>5</sup>
  - bachelor’s nonbusiness; and
  - other undergraduate;
- three sampling strata for graduate students:
  - master’s;

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<sup>4</sup> Institutions were asked to identify students who received or were expected to receive their baccalaureate degree between July 1, 2006, and June 30, 2007.

<sup>5</sup> Because of the high proportion of business majors, students receiving a baccalaureate degree in business were placed in a separate stratum so that they would be selected at a lower sampling rate than other baccalaureate recipients. Sampling business majors at the same rate as other baccalaureate recipients would have resulted in inclusion of more business majors than desired.

- doctorate; and
- other graduate students; and
- one sampling stratum for first-professional students.

**Table 3. Expected and actual student samples for NPSAS:08 field test, by student type and level of institution: 2007**

Student type and level of institution	Student sample size	
	Expected <sup>1</sup>	Actual
Total	3,000	3,000
Potential bachelor's recipient	2,400	2,460
Less-than-2-year	#	#
2-year	#	#
4-year	2,400	2,450
Other undergraduate	500	430
Less-than-2-year	120	80
2-year	40	50
4-year	340	300
4-year		
Master's	50	80
Doctor's	30	20
Other graduate	10	10
First-professional	20	10

# Rounds to zero.

<sup>1</sup> Based on sampling rates, using the 2004–05 Integrated Postsecondary Education Data System (IPEDS) header, Fall Enrollment, and Completion files counts.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

To be eligible for the B&B field test, students had to have received their bachelor's degree between July 1, 2006, and June 30, 2007. Table 4 shows the number of baccalaureates who received or were expected to receive their bachelor's degree between those dates. Given that institutions were asked to identify potential bachelor's degree recipients before degree completion, the identification of those who would actually complete the degree was expected to be somewhat inaccurate. Therefore, the NPSAS sampling rates for those identified by the sample institutions as potential baccalaureate recipients and other undergraduate students were adjusted to determine the expected sample sizes after accounting for expected false positive rates. The false positive baccalaureate rate experienced in NPSAS:2000 (the most recent NPSAS to include a B&B base-year cohort) was used to set appropriate sampling rates for the NPSAS:08 field test.<sup>6</sup>

<sup>6</sup> In NPSAS:2000, 13 percent of students identified by the sample institution as potential baccalaureate recipients at the time of sampling were later determined during the interview to be other undergraduate or graduate students. The false negative rate was 3 percent for those identified at the time of sampling as other undergraduate or graduate students but determined during the interview to be baccalaureate degree students. Given that potential baccalaureates are identified earlier in NPSAS:08 than in NPSAS:2000, a false positive rate of 15 percent was assumed for sampling purposes, and the false negative rate was ignored because it was expected to be minimal.

The student sampling procedures implemented in the field test were as comparable as possible to those planned for the full-scale study. For example, students were sampled at fixed rates according to student education level and institutional sampling strata, the same as will be done in the full-scale study. Sample yield was monitored and sampling rates adjusted when necessary. This approach was used to achieve the required sample size in the field test and will also be used in the full-scale study.

Student samples for the field test were selected from the first 150 institutions that provided lists that passed quality control checks (described in section 2.3.3). These 150 institutions provided sufficient variation and numbers of sample students for the field test. If the 3,000 expected sample students had been selected from all 300 participating institutions, the sample size per institution would have been too small for field test purposes. However, to allow for an adequate test of sampling procedures, samples were selected from the remaining institutions that provided enrollment lists but were not used for data collection.

The expected and actual student sample sizes, by student type and level of institution, are shown in table 3. Overall, the application of predetermined sampling rates yielded a sample that met expectations. The bachelor's, master's, and other graduate degree students yielded overall samples exceeding expectations, and doctoral and first-professional students yielded overall samples slightly below expectations. Sample sizes will be monitored closely in the full-scale study to ensure that the desired sample distribution is achieved.

Table 4 presents the field test student sample by institution type. About 49 percent of the overall student sample was enrolled in public institutions, 47 percent were enrolled in private not-for-profit institutions, and 3 percent were enrolled in private for-profit institutions. About 74 percent of all students sampled were enrolled in 4-year non-doctorate-granting institutions.

**Table 4. Initial classification of NPSAS:08 field test student sample, by institution and student type: 2007**

Institution type	Student type sample							
	Total sample		Potential bachelor's		Other undergraduate		Graduate/first-professional <sup>1</sup>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	3,000	100.0	2,460	100.0	430	100.0	120	100.0
Institutional level								
Less-than-2-year	90	2.9	#	#	80	19.4	#	#
2-year	50	1.6	#	#	50	11.2	#	#
4-year non-doctorate-granting	2,230	74.5	1,940	78.8	230	52.8	70	62.4
4-year doctorate-granting	630	21.1	520	21.1	70	16.6	40	37.6
Institutional control								
Public	1,480	49.4	1,260	51.3	190	43.9	30	29.1
Private not-for-profit	1,420	47.3	1,160	47.3	170	40.7	80	70.9
Private for-profit	100	3.3	30	1.4	70	15.4	#	#
Institutional sector								
Public								
Less-than-2-year	20	0.7	#	#	20	4.7	#	#
2-year	40	1.3	#	#	40	9.3	#	#
4-year non-doctorate-granting	1,420	47.3	1,260	51.2	130	29.9	30	29.1
4-year doctorate-granting <sup>2</sup>	#	#	#	#	#	#	#	#
Private not-for-profit								
2-year-or-less	10	0.2	#	#	10	1.4	#	#
4-year non-doctorate-granting	780	26.0	640	26.2	100	22.7	40	33.3
4-year doctorate-granting	630	21.1	520	21.1	70	16.6	40	37.6
Private for-profit								
Less-than-2-year	60	1.9	#	#	60	13.3	#	#
2-year-or-more	40	1.4	30	1.4	10	2.1	#	#

# Rounds to zero.

<sup>1</sup> Includes master's, doctor's, other graduate, and first-professional.<sup>2</sup> All institutions in this category are included in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

## 2.2 Sources of Data

Information for the NPSAS:08 field test was obtained from several sources, including the following:

- **Student Record Abstraction (computer-assisted data entry [CADE]):** Data from institutional financial aid and registrar records at the sampled institutions currently attended. These data were entered at the institution by institutional personnel or field data collectors in 2006–07 using a web-based CADE program (web-CADE) or directly downloaded to a data file (data-CADE).
- **Student Interview:** Data collected directly from sampled students via web-based self-administered or interviewer-administered questionnaires.
- **Central Processing System (CPS):** U.S. Department of Education database of federal financial aid applications for the 2006–07 academic year. Data were provided by students on the Free Application for Federal Student Aid (FAFSA) form.
- **National Student Loan Data System (NSLDS):** U.S. Department of Education database of federal Title IV loans and Pell Grants. The accessed NSLDS Pell Grant and loan files included information for the year of interest, as well as a complete federal grant or loan history for each applicable student.
- **Integrated Postsecondary Education Data System (IPEDS):** U.S. Department of Education, National Center for Education Statistics, database of descriptive information about individual postsecondary institutions attended by sample students.

These diverse and sometimes overlapping data sources provided some information that could not be collected directly from institutions or students. They also provided a way to “fill in” certain data that were also gathered via student record abstraction or the student interview but were missing for individual sample members (e.g., demographics). Finally, these overlapping data sources sometimes served to check or confirm the accuracy of similar information obtained from other sources.

## 2.3 Data Collection Design

As mentioned in the previous section, NPSAS data are gathered from multiple sources, some directly from institutions and students, and some from extant data sources. The various data collections will be described in the following sections. As with previous rounds of NPSAS, the first step involved contacting the institutions, describing the nature and purpose of the study, identifying institutional coordinators, and asking for institutional participation. Next, institutions were asked to provide lists of enrolled students from which the student sample could be selected. Student-level data were then collected via the institutional student record abstraction and the student interview.

As with NPSAS:04, student contact information was obtained with the enrollment lists, so that student interviewing could occur simultaneously with CADE and, thereby, reduce the amount of time required for data collection. The student interview was a single web-based instrument for both self-administered and interviewer-administered student interviews. The

following sections describe the procedures implemented at each stage of data collection in more detail.

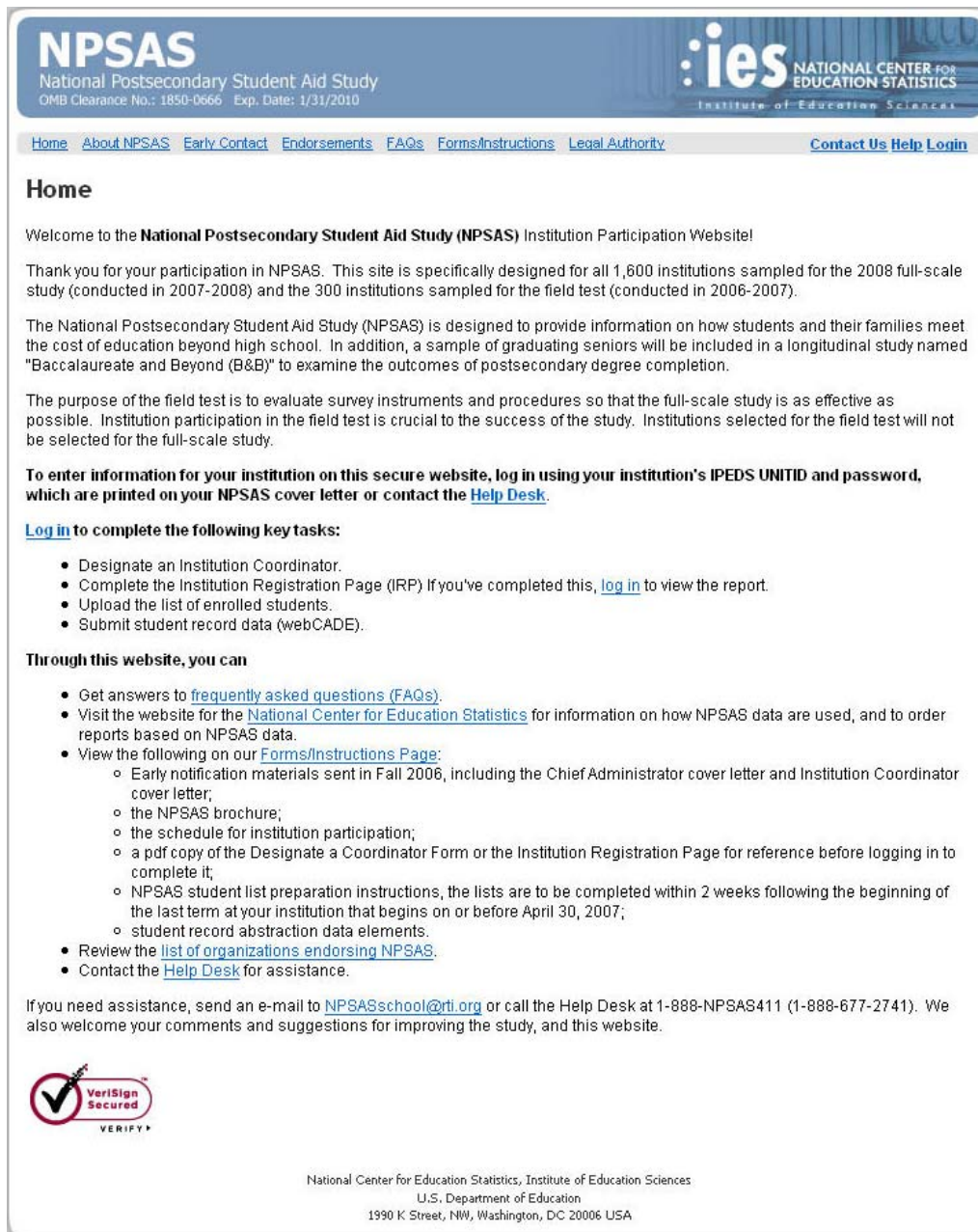
### 2.3.1 Institutional Website

The NPSAS:08 field test institutional website was designed to provide institutions with reliable, user-friendly access to all study documents and instructions, as well as a secure platform for providing the requested electronic enrollment lists and student record data. Visitors to the website were provided with the following links:

- *About NPSAS*—information on the study purpose and research objectives for the student component of NPSAS, with a link to NC
- ES reports from previous study cycles;
- *Early Contact*—rationale for contacting sampled institutions a few months prior to the data collection effort;
- *Endorsements*—national organizations that endorse NPSAS;
- *Frequently Asked Questions (FAQs)*—questions and answers concerning all stages of data collection for the institution component of NPSAS:08;
- *Forms/Instructions*—sample letters, forms, and instructions sent to institutions;
- *Legal Authority*—sponsorship of the study and the laws that authorize NCES and its agents to collect data for NPSAS;
- *Contact Us*—address information for RTI;
- *Help*—help desk toll-free number and e-mail address for contacting project staff, along with instructions for login; and
- *Login*—fields for entering a username and password, giving access to all data collection pages, such as the Designate a Coordinator Form, Institution Registration Page, and interface for upload of student enrollment lists.

Figure 1 presents the home page of the NPSAS:08 field test institutional website.

Figure 1. NPSAS institutional website home page: 2007



SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

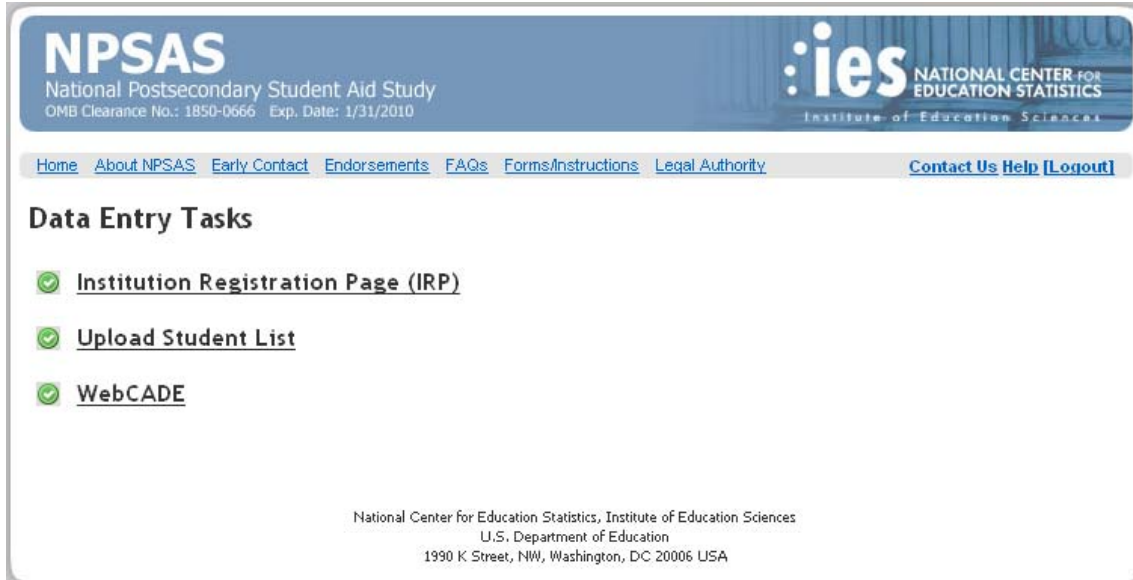
All data entry applications were protected by Secure Sockets Layer (SSL) encryption. Additional security was provided by an automatic “time out” feature, through which a user was automatically logged out if the system was idle for 30 minutes or longer. In accordance with the U.S. Department of Education’s privacy policy, the system did not use any persistent “cookies.”

Institutional data collection included three primary data entry tasks: (1) Institution Registration Page (IRP), (2) Upload Student List, and (3) WebCADE. Once each stage was completed, the institution was no longer able to access it via the Web. A status screen (figure 2)



for each institution indicated which stages of institutional data collection that institution had completed, as denoted by a check mark.

**Figure 2. NPSAS institutional website status screen: 2007**



NOTE: The WebCADE link was used only to enter self-CADE data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 2.3.2 Contacting Institutions

To encourage institutional participation and to emphasize the importance of the study, endorsements were solicited from relevant organizations, including those that had previously endorsed NPSAS and new endorsements that were deemed helpful. In all, 26 organizations endorsed NPSAS:08. The list of endorsing organizations was featured on project correspondence, including all letters and brochures, as well as the project website and is included in appendix B. Appendix C provides copies of all letters and brochures sent to Chief Administrators and Institutional Coordinators.

The institutional recruitment effort was preceded by a call to each sampled institution to verify the address, confirm eligibility for the sample (as appropriate), and collect contact information for the institution's Chief Administrator (e.g., the president or chancellor).

Institution recruitment began with an initial mailing and follow-up call to the Chief Administrator, who was asked to log in to the NPSAS website and, using the Designate a Coordinator form, to designate an Institutional Coordinator (IC)—an individual who would be responsible for overseeing data collection tasks for that institution. Contact materials stressed that the IC should be someone familiar with student financial aid records, such as the financial aid director. If the Chief Administrator was unable or unwilling to log in to the website to designate a coordinator, the Chief Administrator or a member of his or her staff could provide the information over the telephone. Project staff conducted follow-up telephone calls to prompt for and complete the institutional Designate a Coordinator Form.

Chief Administrators at institutions sampled for NPSAS received the following materials by mail:

- a cover letter printed on NCES letterhead providing background information on NPSAS—the letter requested that the Chief Administrator designate an IC and provide the user ID, password, and web address necessary to access the NPSAS Designate a Coordinator Form online; and
- a NPSAS brochure summarizing the study’s objectives and providing background information and key findings from past NPSAS cycles.

Mailings containing instructions for participation in the study were then sent to ICs as they were designated by the Chief Administrators. The following materials were included:

- a cover letter describing the study and providing the institution’s password and IPEDS unit ID and the web address necessary to access the NPSAS website;
- the NPSAS:08 field test study brochure; and
- a schedule and a flowchart of all NPSAS data collection activities.

ICs were asked to confirm their participation in the study and to provide, on the website Institution Registration page, basic information about the institution’s academic terms (e.g., semester or quarter) and state- and institution-specific grants and scholarships. This information was used to schedule an approximate deadline for the institution to provide its student enrollment list and to create customized data fields about each institution’s grants and scholarships, thereby minimizing burden in using the computer-assisted data entry (CADE) program.

To expedite completion of the Institution Registration Page (IRP), information about academic terms and student financial aid programs was preloaded for institutions that had participated in the NPSAS:04 study. In addition to minimizing institutional burden, this step also highlighted the institutions’ previous cooperation in NPSAS. Information available on the Internet was preloaded for institutions that were not part of the previous cycles. This process gave ICs prepared information that could simply be amended, updated, or corrected, thus making the form easier to complete.

### **2.3.3 Student List Acquisition and Sampling**

Instructions for completing the student enrollment list were made available to ICs on the NPSAS institutional website. For convenience, ICs could also ask for these instructions by e-mail. However, in the NPSAS:08 field test, no ICs expressed difficulty in working with instructions on the Web, and none requested that hard copies of instructions be mailed. (In previous cycles, a binder of instructions was mailed to institutions.)

ICs were instructed to upload their student enrollment list using the secure upload interface on the website. Institutions could also provide enrollment lists as compressed, encrypted files by e-mail.<sup>7</sup> As a last resort, they could fax the list to a secure fax machine in a locked room after confirming the correct fax number with a test page of nonsensitive data.

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<sup>7</sup> Institutions were instructed to zip the list using the software WinZip10 and to use an RTI-supplied password.

Because of the potential risk to data security, institutions were not given the option of mailing the list, and no institution requested that option.

Follow-up calls to ICs were conducted to prompt timely completion of the IRP and delivery of the student enrollment list. ICs also received e-mail prompts reminding them of upcoming deadlines. A help desk telephone number and e-mail address were also provided for institutions that required assistance in project tasks.

The student enrollment list requested of each institution was to contain all eligible students enrolled at any time at that institution between July 1, 2006, and April 30, 2007. (Enrollment lists were not considered complete until after the institution's last applicable academic term had begun.) To ensure security, electronic enrollment lists containing students' Social Security numbers were deleted after the student sample was selected. The following data items were requested for each listed student:

- full name;
- student ID number;
- Social Security number (possibly identical to student ID);
- date of birth or (if unavailable) an indicator of whether the student was over or under the age of 18;<sup>8</sup>
- education level—undergraduate, master's, doctorate, other graduate, or first-professional—during the *last* term of enrollment during the study-defined year;
- class level for undergraduates—first, second, third, fourth, or fifth or higher year;
- indicator of whether the student received or expected to receive a bachelor's degree between July 1, 2006, and June 30, 2007 (yes, no, or don't know);
- major field of study for which the bachelor's degree was, or was to be, awarded;
- Classification of Instruction Program (CIP) code (as defined by NCES) for the student's major; and
- contact information—local and permanent address, local and permanent telephone number, campus e-mail address, and permanent e-mail address.

Prior to student sampling, the enrollment lists underwent several quality checks. Institutions providing student enrollment lists that failed any one of these checks were called and asked to correct the problem. ICs were called if any of the following issues were found in the student enrollment lists:

- The education level of each student—undergraduate, master's, doctorate, other graduate, or first-professional—was not included or was unclear.

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<sup>8</sup> Institutions were asked to provide date of birth or to identify minors on the enrollment list so that parental consent could be obtained prior to contacting the student to conduct an interview. Fewer than 5 minors were included on enrollment lists in the NPSAS:08 field test. See Appendix C for a copy of the consent letter to parents of minors.

- Bachelor's degree recipients and graduating seniors were not identified (unless the list came from a less-than-4-year institution or the institution explicitly indicated that no such students were enrolled at the institution).
- Major fields of study or CIP codes were not clearly identified for baccalaureates.
- The number of students listed was inconsistent with the latest IPEDS data, as described below.

Quality control checks were performed by reviewing the unduplicated counts from the enrollment lists provided by institutions against the unduplicated student full-year enrollment counts from the 2005 IPEDS Fall Enrollment file. For 4-year institutions, counts were reviewed for four student types: total undergraduates, total graduates, first-professionals, and baccalaureates. Upper and lower bounds were formed around the IPEDS counts to create a range. If the student enrollment list count was within the prescribed range, the enrollment list passed quality control; otherwise, it failed.<sup>9</sup>

For total undergraduates, total graduates, and total first-professionals, upper and lower bounds were initially set from previous NPSAS studies and then expanded, as necessary, until it was determined that the bounds worked well. For baccalaureates, bounds were set similarly to those for undergraduates and then later adjusted. Enrollment lists failed the quality control check if the number of undergraduates, graduates, first-professionals, or baccalaureates differed significantly from the IPEDS count. For undergraduates, graduates, and first-professionals, the failure occurred if the list count was either 50 percent less or 50 percent more than the IPEDS enrollment count. For baccalaureates, the failure occurred if the list count was either 50 percent less or 75 percent more than the IPEDS completion count. To keep institutional burden to a minimum, no lists were failed if the absolute difference between the student list count for a particular student level (undergraduate, graduate, first-professional, or baccalaureate) and the IPEDS count for that level was less than 200 and the student list count was not zero. Likewise, if the IPEDS count was zero for any student level and the institution provided a list of any number of students at that particular level, then the count passed the quality control check.

The NPSAS:08 field test student sample was selected on a flow basis as enrollment lists were received, reconciled, and unduplicated (when necessary).<sup>10</sup> Stratified systematic sampling procedures were used to select samples from both electronic and faxed enrollment lists. For each institution, student sampling rates, rather than student sample sizes, were predetermined to ensure the proper distribution.

Several institutional systems submitted a single student enrollment list for multiple institutions or campuses. However, in each of these cases, the list was subdivided by institution or campus so that the quality control checks could be conducted for, and student samples taken from, each of the institutions or campuses rather than from the system as a whole.

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<sup>9</sup> In the event that an institution had an imputed IPEDS enrollment count, lists were compared with IPEDS but were not failed.

<sup>10</sup> Prior to sampling, electronic lists were unduplicated using Social Security or student ID numbers.

### 2.3.4 Overview of Extant Data Sources for Student Data

The previous sections described the procedures used to select the institutional and student samples. The next section will focus on the sources of data collected for the student sample as part of the NPSAS:08 field test.

A portion of the student data for the NPSAS:08 field test was obtained from two extant U.S. Department of Education databases: the Central Processing System (CPS) and the National Student Loan Data System (NSLDS). These additional data sources were useful in several ways. First, they provided some information that could not be collected from institutions or students. Second, they enabled the project staff to obtain certain data items that were usually obtained from institutional record abstraction or the student interview but were missing for individual sample members (e.g., demographics).

To reduce institutional burden, information related to student applications for federal financial aid was obtained from the CPS. Students enter financial status information about themselves and their family on the U.S. Department of Education's Free Application for Federal Student Aid (FAFSA) form. The information is then converted to an electronic format, analyzed, and provided to requesting institutions and other approved parties. As in NPSAS:2000 and NPSAS:04, RTI was assigned a "special designation code" by CPS allowing access to the FAFSA data. Under this procedure, financial aid application data were requested through a standard Federal Data Request process. The CPS was accessed daily to download the requested data.

Student-level data on the nature and amount of Pell Grants and federal student loans received were obtained from the NSLDS database. The electronic data interchange with NSLDS was performed once during the data collection period to submit the most up-to-date data possible for matching. A successful match with the NSLDS database required that the student have a valid application record within the database. The accessed NSLDS Pell Grant and loan files included both information for the year of interest and a complete federal grant or loan history for each student. The data transfer is secured through an NCES system that uses their NCES member site and Secure Sockets Layer (SSL) technology.

### 2.3.5 CADE Data Abstraction From Student Records

**Instrument Development.** The NPSAS:08 field test used three modes for student record abstraction: (1) institutions entered data directly into the web-based CADE system (referred to as self-CADE); (2) institutions provided student record information in data files according to specifications described below (data-CADE); and (3) trained field data collectors traveled to the institution, abstracted the student record data, and entered it into the web-based CADE system (field-CADE). Each of these modes is described in greater detail later in this section.

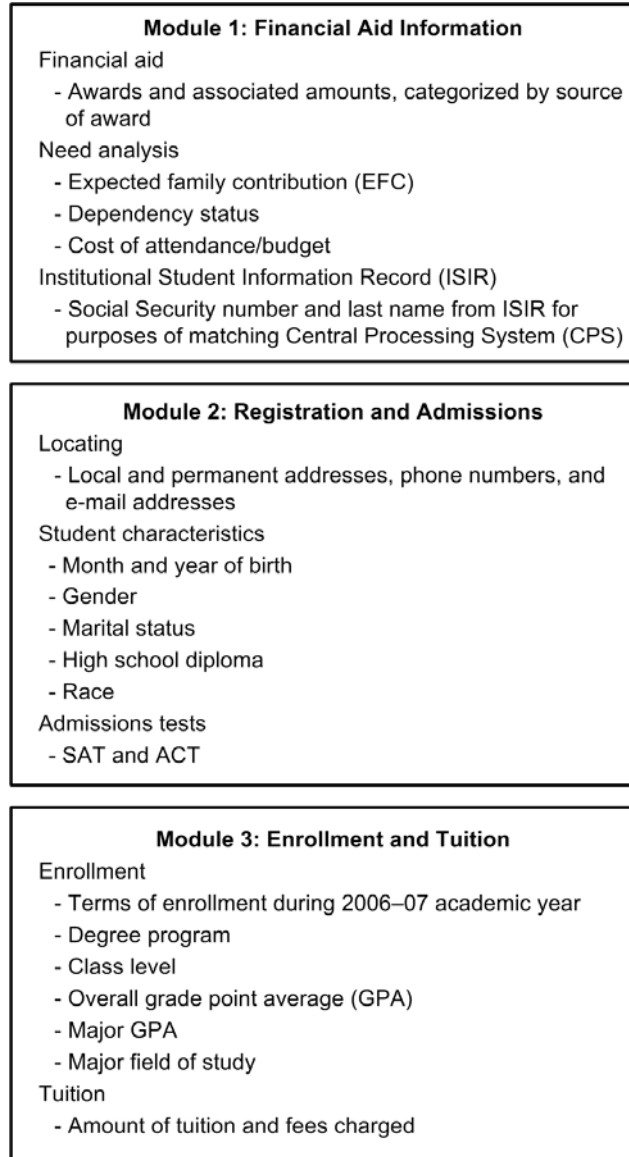
The web-based CADE system was created using ASP.NET technology combined with a structured query language (SQL) server database. The overall content of the NPSAS:08 CADE instrument was similar to the instruments used in NPSAS:04, NPSAS:2000, and NPSAS:96 and was effective in obtaining the desired data elements from the institutions. However, the

instrument was modified so that NPSAS:04 items specific to the Beginning Postsecondary Students Longitudinal Study (BPS) cohort were deleted and items necessary to identify the B&B cohort were added. In addition, a small number of items were added (e.g., major grade point average [GPA] and CIP code for major) and deleted (e.g., High School state).

Improvements were made to the appearance and navigation of the CADE instrument in the NPSAS:08 field test to increase efficiency. Within each section, all items were included on one web page, whereas the NPSAS:04 instrument included only a few items on the screen at a time. The student selection and section selection screens were also combined. Also, once a student was selected, the user could click on links to navigate to other sections for that student without returning to a section selection screen. Users only needed to return to the selection screen when they began to enter data for another student.

Appendix D presents a facsimile of the CADE instrument. The instrument consisted of three components grouped by topic. Module 1, which collected student financial aid information, included three subsections: financial aid awards, need analysis, and the Institutional Student Information Record (ISIR). Module 2 collected student registration and admissions information and also contained three subsections: locating (i.e., contact information), student characteristics, and admissions tests. Module 3 consisted of two subsections: enrollment and tuition. All eight instrument sections were available from the selection page and also from every data entry screen once the user selected a specific student. Figure 3 shows the structure of the CADE instrument along with additional details from each section.

**Figure 3. Structure and content of computer-assisted data entry (CADE) student record abstraction instrument: 2007**



SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

**Pre-Data-Collection and Support Activities.** The first step in the CADE record abstraction process involved sending the student sample to CPS to obtain student financial aid application data. Upon completion of CPS matching (typically a 24-hour turnaround), a number of data elements retrieved from CPS were preloaded into the CADE database, thus initializing the CADE system for each institution. These preloaded elements included an indicator of whether the student had been matched successfully to the CPS system, as well as selected CPS variables for use in CADE software edit checks. In addition, the CADE system was customized for each institution with preloaded names of institutional financial aid programs and up to 12 state financial aid programs to assist in identifying common types of financial aid received by students.

Once CADE was initialized for a particular institution, an informational packet on the CADE system was sent to the designated IC. These packets included instructions for accessing the NPSAS:08 field test institutional website and a list of the data elements. In addition, call center staff made follow-up telephone calls to notify institutions that the CADE data collection could begin. Using daily status reports that summarized the progress of the self-CADE and data-CADE institutions, calls were made periodically to the ICs to prompt completion of the record abstraction. Institutions using the field-CADE option were also notified by mail and contacted by the field data collector, at which time an appointment was made for the field data collector to visit the institution.

Packets sent to self-CADE institutions also included a *NPSAS 2008, National Postsecondary Student Aid Study WebCADE User's Guide*, which included complete specifications, instructions, and system requirements needed for self-CADE submission. The user's guide also discussed the study's confidentiality procedures and included information on alternative methods of data submission. Packets sent to data-CADE institutions included specific instructions on how to construct the requested data files.

The NPSAS:08 institutional website allowed institutions to access an electronic list of sample members from their institution, which enabled them to create programs to provide the requested data for only the sampled students. Several system features of the website—including help text, a help desk telephone number, and an e-mail generator for problem reports—assisted institutions with data entry. The help desk provided assistance if institutional staff had questions or encountered problems and ensured that institutional staff and project staff worked together to correct data during submission.

Training for field staff who were involved in abstracting data and entering data into field-CADE for institutions included the following: a description of the study's objectives and schedule, an explanation of how the financial aid process works on campuses, an outline of procedures for working with the IC and other staff at the institutions, and instructions for locating records. The training also included a review of, and practice with, each section of the CADE instrument and electronic transmission of completed cases. Procedures for contacting supervisors and other administrative tasks were discussed. A laptop computer was provided to the trainee for use during training and subsequent field work. Field interviewer training also emphasized the importance of data security and procedures to maintain confidentiality.

**Data Collection.** Institutional record data for sampled students were collected using procedures similar to those successfully tested and implemented during NPSAS:04. As indicated above, institutions could choose between three modes for student record abstraction: (1) self-CADE, in which institutional staff entered data directly into the web-based system; (2) data-CADE, or provision of student record information in data files according to specifications; and (3) field-CADE, in which trained field data collectors used laptops to abstract student record data into the CADE system. Each of these modes is described in detail below.

*Self-CADE.* Figure 4 shows the main menu of the webCADE instrument on the NPSAS:08 institutional website. Visitors to the website (i.e., ICs) were first asked to complete



their institution-level defaults (credit vs. clock-hour programs, GPA scale, and institutional grants and scholarships). After completing these defaults, the ICs entered all data for each student by clicking on the *Enter Student Level Data* link. Finally, the user locked each complete case to indicate that it was ready for processing. If cases were locked in error, the user could unlock a case if it had not been locked for longer than 3 days (after 3 days, the user would have to call the help desk for any data changes). The website also provided the help desk telephone number and e-mail address.

**Figure 4. Self-CADE menu of the NPSAS:08 institutional website: 2007**

**NPSAS**  
National Postsecondary Student Aid Study  
OMB Clearance No.: 1850-0803 Exp. Date: 08/31/2007

**ies** NATIONAL CENTER FOR EDUCATION STATISTICS  
Institute of Education Sciences

[Home](#) [About NPSAS](#) [Early Contact](#) [Endorsements](#) [FAQs](#) [Forms/Instructions](#) [Legal Authority](#) [Contact Us](#) [Help](#) [Logout](#)

**NPSAS webCADE Main Menu** [Return to Main Menu](#)

**SET DEFAULTS.** Before you begin entering student level data, please open Set Institution Level Defaults by clicking on the link below. Complete the three questions concerning all students attending your institution. Once you respond to the questions, the application will use default options associated with your responses throughout subsequent pages.

**ENTER STUDENT DATA.** After responding to the questions that set your institution level defaults, enter data from your institution's records for those students sampled.

- To access a list of selected students, click on the **Enter Student Level Data** link below.
 

Select one student and begin entering data for one of three modules: Registration/Admissions, Enrollment/Tuition, or Financial Aid. Each module has two or three sections. You may choose to either complete all sections for one specific student, or complete a specific section for all sampled students. Multiple users may access different sections at any given time.

**REQUEST UNLOCKING CASES.** Once locked, a student's data are not accessible within any of the webCADE modules. You may select **Request Unlocking a Case(s)** to access a section for a student within 3 days of locking that student's case. After 3 days, you will not be able to unlock the student's case on this website.

- [Set Institution Level Defaults](#)
- [Enter Student Level Data](#)
- [Printable List of Sampled Students](#)
- [Request Unlocking a Case\(s\)](#)

Please refer to the NPSAS webCADE User's Guide for further details and "how-to" instructions. The NPSAS Help Desk is available Monday through Friday between 9:00am and 7:00pm (ET) at 1-888-NPSAS41 (1-888-677-2741) or send e-mail to [NPSASschool@rti.org](mailto:NPSASschool@rti.org)

National Center for Education Statistics, Institute of Education Sciences  
U.S. Department of Education  
1990 K Street, NW, Washington, DC 20006 USA

NOTE: CADE = computer-assisted data entry.

Source: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) website.

*Data-CADE.* As an alternative to keying data into the web-based CADE application (self-CADE), institutions—particularly those with larger sample sizes—were given the option of submitting data files containing student record data. This method of data abstraction was first used in NPSAS:2000. Explicit instructions for uploading comma-separated or delimited flat files were provided to institutions that chose this option (see appendix C). Institutions that used data-CADE were required to submit eight data files (including student-level, term-level, and aid-

award-level files) that were similar in structure to the database underlying the web-based CADE application (self-CADE). Upon completion of the data-CADE file preparation, institutions submitted their data files through a secure server on the NPSAS:08 institutional website. Upon submission, an automated quality control system processed the files and instantly reported back to the institutions any problems in the data (e.g., incorrect student identification variables, lack of term-level data for sample students, or incorrect file names) so they could be corrected and re-submitted.

*Field-CADE.* Consistent with procedures implemented in past NPSAS studies, institutions were also given the option of having a field data collector visit the institution and provide student record data-entry services at no expense to the institution. Field data collectors used laptops, with a local version of the web-based CADE application loaded, to enter data abstracted from student records. All features in the web version were present in the laptop version, including real-time edit features to help detect out-of-range or inconsistent entries. In addition, data previously obtained from CPS were preloaded into the system before data collection began. Upon completing data entry, the field data collectors transmitted the data to the same database used by the web-based CADE application, helping to maintain all completed student records in one location.

### **2.3.6 Student Instrument Development**

The NPSAS:08 field test student interview was developed as a web-based instrument to be accessed by students either through self-administration or by a telephone interview. The overall content of the instrument was based on the student interviews created for NPSAS:04 and NPSAS:2000, so that trend data could be obtained (which allows for data users to make comparisons over time). Items relevant to B&B were drawn from NPSAS:2000, the last cycle that produced a B&B cohort. The NPSAS:08 instrument was also adapted to include current policy issues and topics relevant to researchers.

The NPSAS:08 field test student interview instrument consisted of nine sections grouped by topic:

- Section 1 determined eligibility for the NPSAS:08 field test and identified those students eligible for inclusion in the B&B:08/09 field test cohort. This section also obtained information about degree program, field of study, and enrollment history.
- Section 2 contained questions relating to student expenses and financial aid. Included in this section were items regarding financial-aid-based employment at the NPSAS institution, such as work-study participation, assistantships, and fellowships.
- Section 3 focused on employment and personal finances.
- Section 4, applicable only to the B&B cohort, addressed postbaccalaureate employment plans.
- Section 5, applicable only to the B&B cohort, related to plans for postbaccalaureate education.

- Section 6, applicable only to the B&B cohort, served to identify the teacher pipeline, an important analytic focus of the B&B follow-up study. Included in this section were items asking whether students had previously taught at the K-12 level, whether they were considering teaching at the K-12 level, and any steps they may have taken to prepare to teach at that level.
- Section 7 included educational experiences such as languages studied, distance education courses, and transfer credit history.
- Section 8 gathered background and demographic information about students and their family members.
- The final section, applicable only to the B&B cohort, requested contact information to facilitate follow-up contact with these respondents for follow-up studies.

At the conclusion of the student interview, respondents were asked to complete a short series of questions related to their experiences completing the survey. See appendix D for a facsimile of the complete web-based instrument.

*Mixed-mode design.* Although the use of mixed-mode data collection provides many benefits, it also introduces certain issues that must be considered to avoid mode effects. In the past, data collection was done primarily via CATI. The presence of an interviewer provided the respondent with an opportunity to clarify question meanings, and interviewers could probe when responses were unclear. The goal in developing a mixed-mode web-based instrument is to replicate the features that a telephone interviewer would provide. The student instrument was designed to account for the mixed-mode presentation, to ensure that high-quality data were obtained, and to make the interview process as efficient as possible. Key features of the mixed-mode design include the following:

- ensuring that question wording worked in both aural and visual presentations;
- including help text to provide definition, clarify meaning, etc.;
- adding pop-up warning boxes to the instrument when out-of-range values were entered by the respondent as a value for an item;
- removing “don’t know” response options for all items except key items, such as parent income (respondents could refuse to answer a question by leaving the screen blank and proceeding with the next question in the interview); and
- adding prompts if a respondent implicitly refused to answer (i.e., left blank) three consecutive screens. The prompting box reiterated the importance of the study and the need for completeness of data and requested that the respondent return to and answer the questions left blank.

The determination of efficient skip logic (e.g., routing respondents past questions that do not apply to them) for this large and complex instrument was critical, because sending respondents from one screen to another can add considerable transit time to web-based instruments. The added time can increase the burden on the respondent and lead to increased data collection costs as interviewers wait for screens to load. Respondents were guided through each section of the interview according to skip logic that took into account both their current interview answers and any preloaded data available from institutional enrollment lists.

The NPSAS:08 field test student interview used coding systems to standardize the collection of data on institutions attended and major or field of study. For the institution coding system, a database was constructed using the set of institutions in the 2004–05 IPEDS, developed by NCES. Within the assisted coder, respondents could enter the institution’s city, state, and school name into a text box. Once the information was submitted, the coder searched a database and provided a list of matches. The respondent then selected the correct institution.

The coding system for major or field of study worked similarly to the institution coding system. The major coding system used a database constructed to parallel the Classification of Instructional Programs taxonomy, also developed by NCES. Respondents initially entered their major or field of study into a text box in the assisted coder. The coder then conducted a search of the database using the keywords entered and provided a list of matches. The respondent then selected the correct major or field of study. If no areas matched, respondents were able to manually code their major through the use of two dropdown boxes: Respondents selected their general major category from the first dropdown box, and then selected their specific major category from a second dropdown box.

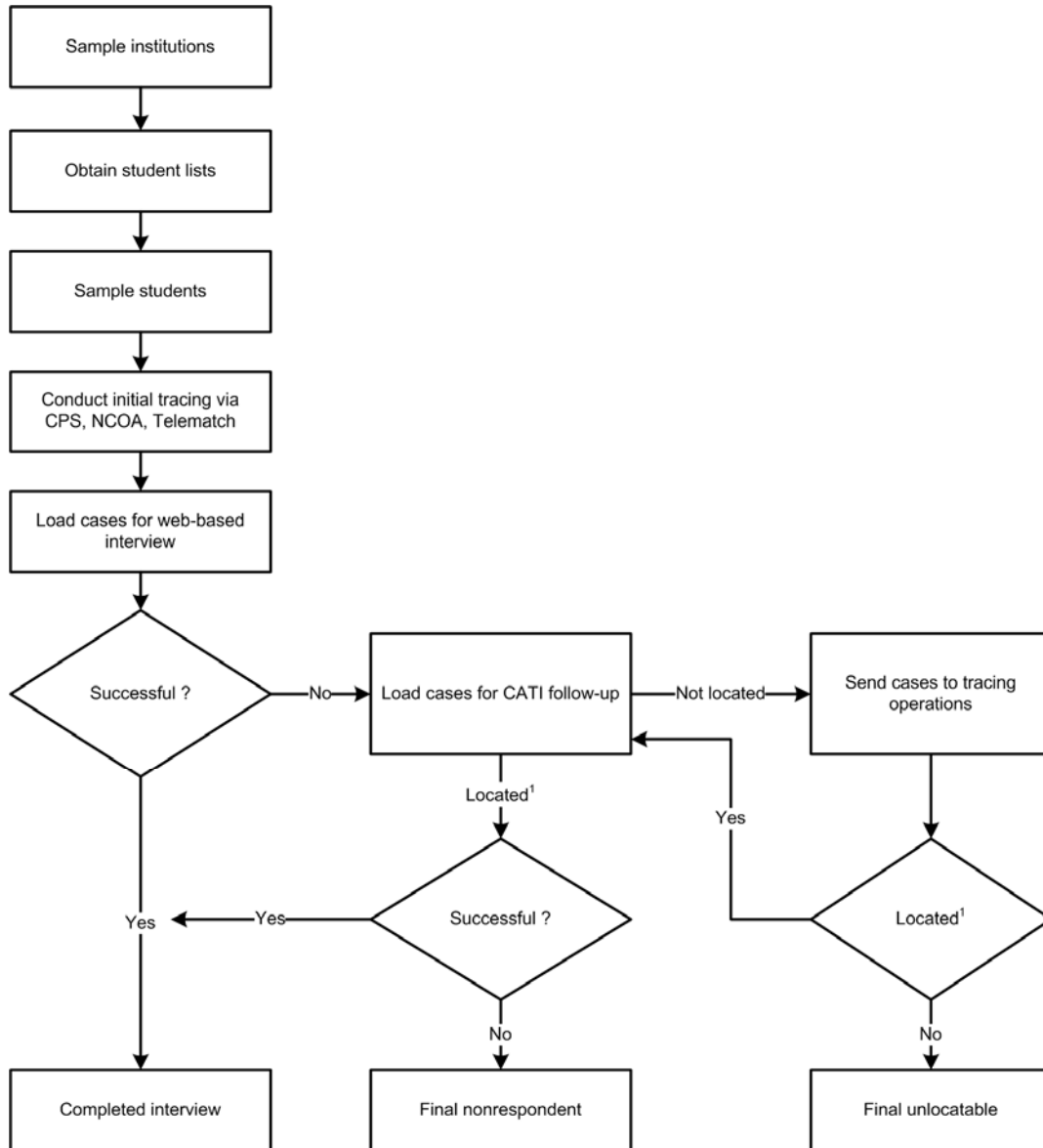
Every web screen (i.e., form) within the student instrument had help text attached. The help text provided more detail to the respondent to clarify the meaning of interview questions. It also included a section for basic NPSAS:08 student interview help. This section explained how to use the different question formats in the instrument (e.g., radio button, text boxes). Respondents could access the help text by clicking on the *Help* link in the lower right corner of each screen. Pop-up messages were used to clarify any inconsistent and out-of-range values provided by the respondent.

Once the instrument was developed and programmed, rigorous testing was conducted. Project staff and NCES staff used mock scenarios to test the skip logic, question wording, screen layout, and overall efficiency of the instrument. This testing was done from a variety of locations, using a range of connection options, and at various times of day to identify any problems. The entire instrument development process was facilitated by the use of RTI’s Instrument Development and Documentation System (IDADS), which is described in detail in section 2.4.1. The use of IDADS allowed project staff to coordinate testing efforts with NCES.

### **2.3.7 Student Contacting and Locating**

The data collection design for the NPSAS:08 field test student interviews involved the following: initial locating of sample members, a period of time for the student to complete the self-administered interview via the Web, following up with nonrespondents after 3 weeks, and interviewer-administered interviews, if necessary. As shown in figure 5, data collection activities included pre-data-collection batch-locating activities, notification letter mailings, CATI tracing, intensive tracing procedures, interviews, and nonrespondent follow-ups.

Figure 5. Field test student data collection overview: 2007



<sup>1</sup> Cases designated by tracing operations as “located” were reloaded for CATI follow-up. If the CATI follow-up failed to confirm the new locating information, the case was sent to tracing operations a second time. Cases sent to tracing operations twice but remaining unlocated were coded as “final unlocatable.”

NOTE: CATI = computer-assisted telephone interviewing; CPS = Central Processing System; NCOA = National Change of Address.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

**Pre-Data-Collection Batch Locating.** Upon receipt of student lists from the participating institutions, batch locating activities were conducted to update address and telephone information for the selected sample members. This was a multistep task. Initially, information received from the institutions was entered into the NPSAS:08 locator database. This database served as a central repository for all locating information obtained for the students. Several databases were then used to update the student locating information provided by the institutions.

First, cases with a valid Social Security number were sent to the CPS for updating. The information obtained from the CPS was compared with that already obtained from the institutions; any updates were loaded into the locator database. Next, all cases with one or more valid addresses were sent to the U.S. Postal Service National Change of Address (NCOA) system. The NCOA database consists of change-of-address data submitted to the U.S. Postal Service and is updated every 2 weeks, with records stored for 3 years. New address information provided another update for the locator database. Finally, all student addresses and telephone numbers were sent to Telematch for telephone number updating. Telematch offers a computerized residential telephone number updating service consisting of over 170 million Directory Assistance consumer and business listings. The service uses a name, street address, and ZIP code as search criteria and returns a telephone number for each match. These new numbers were then added to the NPSAS:08 database.

In some cases, the batch database searches confirmed or updated the contact information provided by the institution; in other cases, the searches resulted in new contact information. All locating information obtained as a result of these searches was loaded into the NPSAS:08 database, with the source for each piece of information listed.

**Initial Student Notification Letter Mailing.** After addresses were updated, a notification mailing was sent to all student sample members. Letters were sent approximately once a week on a flow basis, depending on when student information was received from the institution and when batch-tracing procedures for the case were complete. The initial student mailing contained a lead letter and brochure (see appendix C), along with an insert about the self-administered web instrument. The materials contained information about the study, responses to commonly asked questions, information about confidentiality and security, contact information for project and NCES staff and the NPSAS:08 help desk, and details on how to access the self-administered web instrument (including username and password). An experiment was designed to test how delivery methods may affect response rates, so the sample members were randomly assigned to receive the initial mailing either via Priority Mail or by First-Class Mail (see section 3.5 for a description of the field test experiments and results).

**CATI Locating.** Telephone contacting of self-administered web nonrespondents began 3 weeks after the initial mailing. When assigned a nonrespondent case, the interviewer called the telephone number that the CATI system designated as having the greatest potential for reaching the sample member and then attempted an interview. If the person answering the call said that the sample member could not be reached at that number, the interviewer asked the person how to contact the sample member. If this approach did not provide the information needed, the interviewer initiated tracing procedures (using all other available information for other contact persons in an attempt to locate the student). When all tracing options available to the interviewer were exhausted, the case was assigned to RTI's Tracing Operations Unit (TOPS) for intensive tracing.

**Intensive Tracing Efforts.** Two types of cases were sent to TOPS for intensive tracing: (1) cases that had no telephone number to be loaded into CATI and (2) cases that were designated as a "dead end" in CATI (i.e., no more telephone numbers were available for the

case). TOPS accessed both public-domain and proprietary locating databases. The proprietary databases provided real-time access to several consumer databases (TransUnion, Equifax, and Experian), which contain current address and telephone listings for the majority of consumers with a credit history. TOPS also accessed a variety of other information sources that provided information on current addresses, telephone numbers, names and telephone numbers of any neighbors who might be able to assist in finding the sample member, and the sample member's status (deceased, incarcerated, incapacitated, or military personnel).

TOPS used a two-tiered intensive tracing plan to locate NPSAS:08 student sample members. The first tier involved identifying sample members with Social Security numbers for tracing through consumer databases. If a search generated a new telephone number, that case was sent back to CATI for telephone interviewing. If a new address, but not a new telephone number, was generated, tracers called Directory Assistance or accessed other databases to obtain telephone numbers. This first level of effort minimized the time that cases were out of production.

All remaining cases (those lacking new information from the Social Security number search) underwent a more intensive level of tracing in the second tier. The second tier of tracing activities included the following:

- checking Directory Assistance for telephone listings at various addresses;
- using electronic reverse-match databases to obtain the names and telephone numbers of neighbors, and then calling the neighbors;
- contacting the current or last known residential sources, such as the neighbors, landlords, current residents, tax assessors, realtors, and other business establishments related to previous addresses associated with the sample member; and
- using various tracing websites (e.g., MySpace).

Tracers checked new leads produced by these steps to confirm the addresses and telephone numbers for the sample members. When information for a case was confirmed, the case was returned to CATI for telephone interviewing. If TOPS located a new e-mail address for a sample member, the information was loaded into the database for future e-mail correspondence to nonrespondents. Cases that could not be located (e.g., there were no working telephone numbers, or numbers for relevant neighborhood sources were unpublished) were reviewed by supervisors and (if necessary) were finalized as unlocatable.

**Nonresponse Conversion.** Once sample members were classified as a refusal or as hard to reach (i.e., they had refused at least once or were called at least 15 times with minimal or no contact, or were not locatable in TOPS), they moved into the third phase of data collection, the nonresponse conversion phase. Although it was clear in some cases that the person refusing was the selected sample member, in many cases it was difficult to determine whether the person refusing was the sample member or another contact. In addition, many hard to reach respondents were likely passive refusals. A passive refusal is a case in which the sample member declines to participate in the interview without explicitly refusing (screening their calls, promising to complete the web interview, repeatedly asking for a call back, etc.). Once a case entered the

nonresponse conversion phase they were sent an additional letter informing them that they were now eligible for the \$30 incentive. A final mailout was sent via Priority Mail about two weeks before the end of the data collection period to all remaining nonrespondents asking for their participation.

### 2.3.8 Student Interviewing

The student interview design for the NPSAS:08 field test consisted of three phases. The first phase, the early response phase, allowed sample members to complete the student interview over the Web. This phase lasted approximately 3 weeks from the time the student was sampled. Sample members who completed the interview during this phase received an incentive of \$30. The second phase of data collection was the production phase. During this phase, telephone interviewers made outbound calls to sample members to complete the interview over the telephone. No incentive was given to respondents during this phase. The final phase of data collection was the nonresponse conversion phase. Once sample members were classified as a refusal or as hard to reach (i.e., they were called at least 15 times with minimal or no contact or were not locatable in TOPS) they became eligible for a nonresponse conversion incentive. Sample members who completed the interview during this phase were offered an incentive of \$30.<sup>11</sup> Sample members could access the self-administered web interview throughout the entire data collection period.

**Staff Training.** The mixed-mode design of the NPSAS:08 field test data collection required the development of three separate training programs: help desk training, telephone interviewer training, and training of tracing staff. Separate training sessions were held for each of these groups, on the dates shown in table 5.

**Table 5. Field test training sessions for student interviewing and tracing staff: 2007**

Activity	Date	Number of staff
Help desk staff	February 26–28, 2007	6
CATI telephone interviewers	March 26–28, 2007	9
Tracing supervisors and tracing specialists	April 5, 2007	7

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The interviewer training program was designed to maximize the trainees’ active participation. Manuals included a training guide, an interviewer’s manual, a question-by-question specification manual, and “Frequently Asked Questions.” Interviewer training sessions consisted of lectures, demonstrations, and hands-on practice exercises with the student instrument and online coding modules. Trainees were introduced to the procedural aspects of data collection for NPSAS:08 and were given a thorough review of the instrument. Sessions for help desk staff and telephone interviewers included a study overview, a review of the confidentiality requirements, a demonstration interview, an in-depth review of the instrument,

<sup>11</sup> An experiment was conducted among nonrespondents to test the effectiveness of a \$10 prepaid incentive, followed with \$20 once the student completed the interview, versus promising the entire amount (\$30) when the student completed the interview. The results of the experiment are provided in section 3.5.3.



hands-on practice exercises with the instrument, and open-ended coding modules. The help desk and CATI telephone training sessions were customized as follows:

- *Help desk agents* reviewed the “Frequently Asked Questions” in detail, including responses to instrument-specific questions, as well as technical issues and instructions for documenting each call to the study hotline.
- *Telephone interviewers* were trained in techniques for gaining cooperation of sample members, parents, and other contacts, as well as techniques for avoiding refusal and addressing the concerns of reluctant participants.

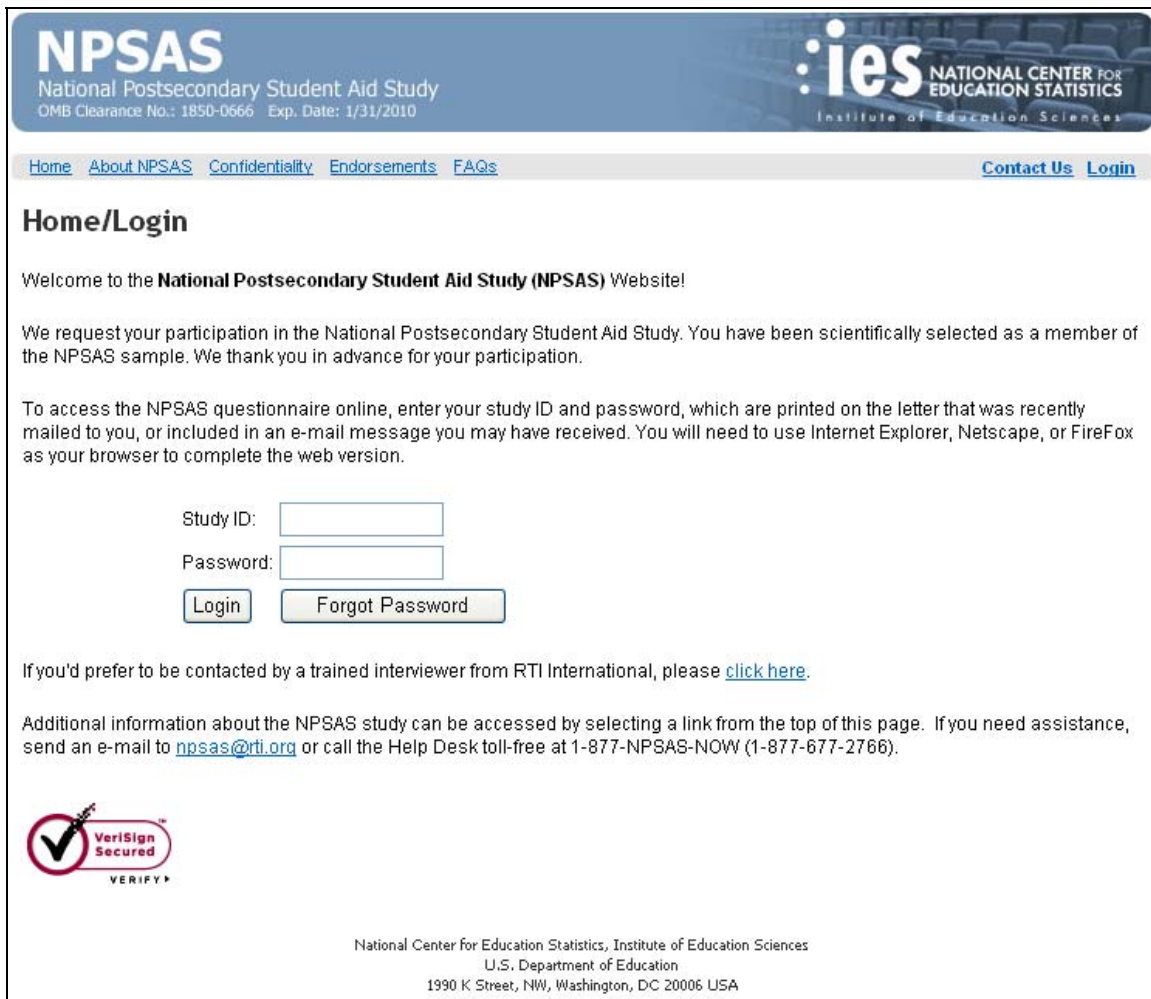
See appendix E for a copy of the telephone interviewer training agenda and the training manual’s table of contents.

Tracing staff, including supervisors, tracers, and quality control specialists, received an overview of the study. The session focused on the design of NPSAS:08, the characteristics of the sample population, and the tracing techniques best suited for locating such a diverse and mobile population.

In addition to these sessions, help desk agents and select telephone interviewers received a brief training in preparation for prompting calls to randomly selected sample members who had not completed the interview by a specified date. Other trainings, such as refusal training, were conducted as necessary.

**Student Website.** The student website for the NPSAS:08 field test provided general information about the study, background on the study, the selected sample, the study sponsor, the study contractor, and confidentiality assurances. In addition to the information available on the website, links were provided to other relevant websites (e.g., NCES). The student website also provided a way for sampled students to securely log in and complete the interview from the NPSAS home page. Figure 6 shows the home page of the NPSAS:08 field test student website.

Figure 6. NPSAS:08 field test student website home page: 2007



SOURCE: U.S. Department of Education, National Center for Education Statistics, 2004 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The initial login page provided the link to the self-administered web instrument. The login process involved entering a specific study username and password, which were provided to the respondent in the lead letter. Respondents could also obtain their study username and password by clicking on the “Forgot Password” button (to send a request to the project’s e-mail address) or by contacting a help desk agent at the NPSAS toll-free number. The initial login page also provided a way for respondents to submit their telephone number to be contacted by an interviewer.

The student website also had a variety of information about the study for sample members. Visitors to the website were provided with the following links from the home page:

- *About NPSAS*. Information on the purpose and research objectives for NPSAS, with a link to NCES reports from previous study cycles and a PDF example of the student letter and study pamphlet. This page also contains a link to an overview of NPSAS, questionnaire content, previous findings, use of NPSAS results, and NPSAS’s legal authority;

- *Confidentiality*. An explanation of confidentiality procedures and a PDF example of the Confidentiality Agreement and Affidavit of Nondisclosure statements signed by project staff, as well as a link to the procedures required by NCES for maintaining confidentiality;
- *Endorsements*. National organizations that endorse NPSAS;
- *Frequently Asked Questions (FAQs)*. Questions and answers concerning NPSAS and the student questionnaire; and
- *Contact Us*. Help desk toll-free telephone number and hours, and contact information for NCES and RTI staff.

**Self-Administered Interviews.** The web-interviewing option was introduced to sample members in the lead letter packet. During the first 3 weeks of data collection, only self-administered web interviews were completed unless a student called the help desk for assistance and asked to complete the telephone interview. As part of another field test experiment, one-half of the student sample was randomly selected to receive a telephone prompting call approximately 10 days after the beginning of the students' data collection period. Sample members who were selected to receive a prompting call but had already completed the student interview were not prompted. The prompting call was to remind sample members that they had been selected to participate in NPSAS and to encourage them to log in to the study website and complete the self-administered interview. The website was accessible 24 hours per day, 7 days per week, throughout the data collection period, giving sample members the option to complete interviews online at any time.

**Help Desk Operations.** The NPSAS:08 help desk opened on March 5, 2007, in anticipation of the first student calls after the introductory mailing. Help desk staff were available to assist sample members who had questions or problems accessing and completing the self-administered interview. A toll-free hotline was set up to accept incoming help desk calls. If technical difficulties prevented a sample member from completing a self-administered interview, a help desk staff member, who was also trained to conduct telephone interviews, would encourage the sample member to complete a telephone interview rather than to attempt the self-administered interview.

The help desk interface documented all incoming calls from sample members. In addition to this primary documentation function, it provided the following:

- information needed to verify a sample member's identity;
- login information allowing a sample member to access the web interview;
- systematic documentation of each call; and
- a means for tracking calls that could not be resolved immediately.

The help desk application also provided project staff with reports on the type and frequency of problems experienced by sample members, as well as a way to monitor the resolution status of all help desk inquiries.

**Telephone Interviewing.** CATI follow-up locating and interviewing began approximately 3 weeks after the start of data collection. CATI procedures included attempts to locate, gain cooperation from, and interview sample members who had not completed the online interview. Upon reaching the sample member, the interviewer would encourage him or her to complete the interview by telephone; however, the interviewer informed sample members that they could still complete the interview online if that was the student's preference.

The case management system (CMS) included an automated call scheduler program that assigned cases to interviewers by time of day, day of week, existence of previously scheduled appointments, and type of case. Case assignment was designed to maximize the likelihood of contacting and interviewing sample members, and cases were assigned to various queues for this purpose. For example, the CMS included queues for new cases that had not been called, Spanish language cases,<sup>12</sup> initial refusals, and various appointment queues (appointments set by the sample member, appointments suggested by locator sources, and appointments for cases that were initial refusals).

For each case, a call roster prioritized sample member names and telephone numbers for the interviewers. The roster included locating information provided by institutions and students and obtained through tracing activities. For example, this information might include a student's permanent and local address and telephone number, a telephone number for the student's parents, and the address and telephone number for all other contacts listed for the student. New roster lines were added as the result of CATI tracing and intensive tracing efforts.

To gain cooperation from those who initially refused to participate (including locator sources who acted as "gatekeepers" to prevent access to the sample member), a subset of interviewers were trained in refusal-conversion techniques. Sample members and their locator sources who spoke only Spanish were assigned to bilingual interviewers.

The virtual call center (VCC) was used for the first time in the NPSAS:08 field test study. The VCC—a system designed to supplement traditional call center telephone-administered interviews—allowed telephone interviewers to accomplish, remotely from their homes, the same tasks that are accomplished in the call center (e.g., help desk, prompting, locating, and interviewing). For the full-scale study, the VCC will allow for the recruitment of large numbers of telephone interviewers with specialized skills. In addition, the VCC will decrease the overall data collection costs by reducing the need to find additional physical space for telephone interviewers.

Seventy-nine percent of NPSAS:08 field test telephone interviewers participated in the VCC evaluation. To participate in the VCC evaluation, telephone interviewers were required to have a dedicated broadband internet connection in their home. In addition, VCC interviewers

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<sup>12</sup> A Spanish partial interview will be available for the full-scale study but was not available for the field test study. Cases identified in initial calls as needing a Spanish interpreter were contacted by a trained, Spanish-speaking, bilingual interviewer. The interviewer assessed the sample member's capability of completing the interview in English. If the interview could not be conducted in English, the case was finalized as "Spanish language nonrespondent." If the sample member spoke a language other than English or Spanish and was not able to complete the interview in English, the case was coded as "other language nonrespondent."

were required to have an area of their home that was isolated (such as a home office) so they could ensure professionalism and confidentiality. These telephone interviewers worked, in alternating shifts, both through the VCC and at the in-house call center.

The VCC system employed the latest Voice over Internet Protocol (VoIP) technology to access call center applications hosted on RTI's secure call center and corporate network infrastructure. VCC interviewers were provided with specially configured laptops enabled with McAfee virus protection and with Pointsec security software, which automatically encrypts everything on the hard drive of the laptop. Once logged into Pointsec, VCC interviewers were required to log into the call center domain and pass through two security firewalls in the call center network utilizing domain login encryption. Once successfully logged in, VCC users had an encrypted connection to the call center network.

Like the workstations in the call center, the VCC laptops were enabled for video monitoring that allowed call center supervisors to view the VCC computer screens as the interviews were progressing. The VoIP system allowed the call center staff to conduct audio monitoring of the VCC interviewers in the same way that in-house call center interviews are monitored. Because all voice and data connections occurred on RTI systems behind multiple security layers, both voice and data transmissions were secure and could be managed from the in-house call center.

The NPSAS:08 field test was used to evaluate the feasibility of using the VCC for large-scale studies, such as NPSAS. Several facets of data quality, such as completion time, rates of missing data, and interviewer productivity, were evaluated for both the in-house call center and the VCC to determine its comparability. The results of the VCC evaluation are presented in section 4.5.3.

## **2.4 Data Collection Systems**

### **2.4.1 Instrument Development and Documentation System and Hatteras**

The NPSAS:08 instruments were developed using two systems, the Instrument Development and Documentation System (IDADS) and the Hatteras survey engine. The first system, IDADS, is a web-based tool for importing and editing instrument specifications and for producing documentation on instrument variables. Project staff used IDADS to develop, review, modify, and communicate changes to specifications, code, and documentation for the NPSAS:08 instrument. The Hatteras Engine rendered instrument specifications obtained from IDADS dynamically based upon code stored in SQL tables. The NPSAS:08 field test was the first time the Hatteras Engine had been used for a NPSAS study.

The first step in creating the instrument involved creating initial specifications within the IDADS *specification module*. This module enabled access for searching, reviewing, commenting on, updating, exporting, and importing information associated with instrument development. All records were maintained individually for each item and provided a historical account of all changes requested by both project staff and NCES. The specifications that were entered into IDADS also updated the database tables that created the instrument.

The Hatteras Engine created ASP.NET v2.0 web pages dynamically from the specifications residing in the database tables; therefore, any updates to the specifications were merely table updates rather than web pages needing programmer updates. Programmer intervention was needed only for routing changes and any customized screen modifications. However, those changes were also database table updates that were available immediately upon completion and testing.

The IDADS *documentation module* contained the finalized version of all instrument items including the screen wording for each, and variable and value labels. Also included in this module were the more technical descriptions of items such as variable types (alpha or numeric), information regarding those to whom the item was administered, and frequency distributions for response categories. The documentation module was used to generate the instrument facsimiles and the deliverable electronic codebook (ECB) input files.

#### **2.4.2 Integrated Management System**

All aspects of the field test data collection were monitored through an Integrated Management System (IMS). The IMS is a comprehensive set of desktop tools designed to give project staff and NCES easy access to a centralized repository for project data and documents. The NPSAS:08 IMS comprises several modules: the management module, the Receipt Control System (RCS), and the web-based CATI CMS.

The *management* module of the IMS contains tools and strategies to assist project staff and the NCES project officer in managing the study. Important study management information, such as the current project schedule, monthly progress reports, daily data collection reports and status reports, project plans and specifications, key project information and deliverables, instrument specifications, staff contacts, the project bibliography, and a document archive are located in the management module of the IMS, accessible via a secure desktop environment. The IMS also has a download area from which the client and subcontractors can retrieve files when necessary.

The RCS is an integrated set of systems that monitors all activities related to data collection, including tracing and locating. Through the RCS, project staff were able to perform stage-specific activities, track status of cases, identify problems early, and implement solutions effectively. RCS locator data were used for a number of daily tasks related to sample maintenance. Specifically, the mailout program sent mailings to sample members, the e-mail system sent e-mails to sample members, the query system enabled administrators to review the locator information and status for a particular case, and the mail return system enabled project staff to update the locator database with postal return information. The RCS also interacts with the CMS and TOPS databases, sending locator data between the three systems as necessary.

The CMS is the technological infrastructure that connects the various components of the CATI system, including the questionnaire, utility screens, databases, call scheduler, report modules, links to outside systems, and other system components. It uses a call scheduler to assign cases to interviewers in a predefined priority order. In addition to delivering appointments to interviewers at the appropriate time, the call scheduler also calculates the priority scores (the

order in which cases need to be called according to preprogrammed rules), sorts cases in nonappointment queues, and computes time zone adjustments to ensure that cases are not called outside the specified calling hours. The call scheduler also permits callbacks to be set and assigns status codes to the case. In addition, each case contains one or more roster lines that detail specific contact information for a case (e.g., home and work telephone numbers). The call scheduler uses a call algorithm to determine, based on the previous call results, which roster line should be called next.





# Chapter 3.

## **Institutional and Student Data Collection Outcomes**

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This chapter provides a summary of institutional and student outcomes from the NPSAS:08 field test data collection. Response rates for individual data sources are shown and, where appropriate, are presented by institutional and/or student characteristics. This chapter also provides the definition of a study respondent and presents the study response rates. Additionally, this chapter discusses rates of matching to extant databases, locating results, and interviewing outcomes (by mode of survey administration). Finally, the results of the NPSAS:08 field test experiments are summarized.

### **3.1 Response Rates**

#### **3.1.1 Institutional Participation**

Eligible sample institutions were asked to participate at two points in the survey process: (1) at the sample selection stage, by providing a comprehensive list of enrolled students for sample selection and (2) after the sample selection stage, by providing data from student records for the sample students. Consequently, the potential for institutional nonresponse existed at these two points in the survey process after the sample selection stage.

Of the 300 eligible institutions, 96 percent of the Chief Administrators agreed to participate; all of these appointed an Institutional Coordinator (IC) to assist with study requirements. The first request of the ICs was to provide a student enrollment list to be used for selecting the student sample. Ten institutions refused to provide an enrollment list, and another 10 did not provide the lists in the time frame allocated for the activity. The remaining 270 eligible institutions (90 percent) provided lists. As previously shown in table 2, list provisions varied by type of institution considered. The percentage of institutions providing enrollment lists across strata ranged from about 33 percent to 100 percent. The lowest participation rates were among the private not-for-profit less-than-4-year institutions and private for-profit institutions, all of which had a small sample size. The second request of the ICs was to provide student records for the sample students. Of the 150 institutions from which students were sampled, 99 percent provided data from student records (CADE) for the sample students.

Institutions were asked to provide enrollment list information for all students enrolled at any time between July 1, 2006, and April 30, 2007 (see section 2.3.3). The preferred type of list was an electronic list submitted either as a secure upload to the NPSAS website or as an encrypted attachment to an e-mail sent to the project e-mail address. Faxed lists were accepted as a last resort (see section 2.3.3). Table 6 presents the types of lists provided by participating institutions. Of the 270 institutions that submitted lists, 4 percent did so by e-mail, 96 percent uploaded the list to the NPSAS:08 website, and less than 1 percent sent the list by fax.

**Table 6. Number of student enrollment lists provided, by transmittal mode and institutional sampling stratum: 2007**

Institutional sampling stratum	Institutions providing lists					
	Total		Transmittal mode			
			Electronic encrypted e-mail		Uploaded <sup>1</sup>	
Number	Percent	Number	Percent	Number	Percent	
All institutions	270	100.0	10	100.0	260	100.0
Public						
Less-than-2-year	#	1.5	#	#	#	1.5
2-year	10	2.9	#	#	10	3.1
4-year non-doctorate-granting	100	35.5	10	45.5	90	35.2
4-year doctorate-granting <sup>2</sup>	#	#	#	#	#	#
Private not-for-profit						
Less-than-4-year	#	0.7	#	#	#	0.8
4-year non-doctorate-granting	120	45.1	10	54.5	120	44.8
4-year doctorate-granting	30	10.6	#	#	30	11.1
Private for-profit						
Less-than-2-year	#	1.5	#	#	#	1.1
2-year-or-more	10	2.2	#	#	10	2.3

# Rounds to zero.

<sup>1</sup> Faxed lists were accepted only as a last resort. Less than 1 percent of institutions sent faxed enrollment lists therefore they are not shown separately.

<sup>2</sup> All institutions in this category are included in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible institutions within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Some key factors in study design may have affected institutional participation rates in the field test. For example, because most “research” (public and private doctorate-granting) institutions were sampled with certainty for the full-scale study, they were excluded from the field test sample. In past full-scale collections, these institutions have been among the most cooperative. However, the majority of the NPSAS:08 field test sample institutions were 4-year institutions, which historically have higher participation rates than 2-year and less-than-2-year institutions.

Table 7 provides institutional participation rates for the current field test, as well as those achieved in field tests in the previous three cycles of NPSAS. The response rate was 90 percent for the current field test, 89 percent for the NPSAS:04 field test, 84 percent for the NPSAS:2000 field test, and 90 percent for the NPSAS:96 field test.

**Table 7. Institutional participation rates, by NPSAS field test cycle: 1996–2007**

NPSAS field test cycle	Eligible institutions	Number providing list	Percent participation
1996	70	70	90.4
2000	70	60	83.6
2004	200	170	88.7
2008	300	270	90.4

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible institutions within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test; National Postsecondary Student Aid Study: 1996 Field Test Methodology Report, Working Paper No. 96–17; National Postsecondary Student Aid Study: 2000 Field Test Methodology Report, Working Paper No. 2000–17; National Postsecondary Student Aid Study: 2004 Field Test Methodology Report, Working Paper No. 2005–02.

### 3.1.2 NPSAS:08 Field Test Study Respondents

Key variables were identified across the various contributing data sources to determine the minimum requirements to support the analytic needs of the study. Sample members who met these minimum requirements were classified as “study respondents.” A study respondent was defined as any sample member who was determined to be eligible for the study (using the eligibility criteria specified in chapter 2) and, minimally, had valid data from any source for the following:

- student type (undergraduate or graduate/first-professional);
- date of birth or age;
- gender; and
- at least 8 of the following 15 variables:
  1. dependency status;
  2. marital status;
  3. any dependents;
  4. income;
  5. expected family contribution (EFC);
  6. degree program;
  7. class level;
  8. baccalaureate status;
  9. months enrolled;
  10. tuition;
  11. received federal aid;
  12. received nonfederal aid;
  13. student budget;
  14. race; and
  15. parent education.

In the full-scale study, the use of study respondents as the unit of analysis will provide researchers more complete data for each case, thereby simplifying the use of the single study weight that will be provided to users of the data. The unweighted response rate for NPSAS:08 study respondents was 98 percent (table 8) with very little variation across student types.

**Table 8. Response rates for study respondents, by institutional characteristic and student type: 2007**

Institutional characteristic and student type	Eligible sample	Study respondents <sup>1</sup>	
		Number	Percent
Total	2,950	2,880	97.8
Institutional level			
Less-than-2-year	80	80	97.5
2-year	40	40	97.7
4-year non-doctorate-granting	2,200	2,140	97.4
4-year doctorate-granting	630	620	99.2
Institutional control			
Public	1,450	1,400	96.8
Private not-for-profit	1,400	1,390	98.8
Private for-profit	100	90	97.9
Institutional sector			
Public			
Less-than-2-year	20	20	100.0
2-year	40	30	97.1
4-year non-doctorate-granting	1,390	1,350	96.7
4-year doctorate-granting <sup>2</sup>	#	#	#
Private not-for-profit			
2-year-or-less	10	10	100.0
4-year non-doctorate-granting	770	760	98.4
4-year doctorate-granting	630	620	99.2
Private for-profit			
Less-than-2-year	50	50	96.2
2-year-or-more	40	40	100.0
Student type <sup>3</sup>			
Total undergraduate	2,750	2,690	97.7
B&B eligible	1,990	1,930	97.1
Other undergraduate	760	760	99.2
Graduate/first-professional	200	200	98.5

# Rounds to zero.

<sup>1</sup> A study respondent is defined as any sample member who is determined to be eligible for the study and, minimally, has valid data from any source for the following: student type (undergraduate or graduate/first-professional); date of birth or age; gender; and at least 8 of the following 15 variables: dependency status, marital status, any dependents, income, expected family contribution, degree program, class level, baccalaureate status, months enrolled, tuition, received federal aid, received nonfederal aid, student budget, race, and parent education.

<sup>2</sup> All institutions in this category are included in the full-scale sample with certainty and not included in the field test study.

<sup>3</sup> Student type is based on the interview for interviewed students and on enrollment list data for noninterviewed students.

NOTE: Detail may not sum to totals because of rounding. Excludes cases determined to be ineligible for the study either in CADE or during the student interview. All percentages are unweighted and based on the number of eligible students within the row under consideration. B&B = Baccalaureate and Beyond Longitudinal Study; CADE = computer-assisted data entry.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Most study respondents exceeded the minimum requirements to be classified as a study respondent. Overall data completeness was quite high. Table 9 shows that over two thirds of study respondents had both student interview and CADE student record data. Approximately 45 percent of study respondents had data from all three of the primary data sources (CADE student record data, student interview data, and Central Processing System [CPS] data).

**Table 9. Data completeness for NPSAS:08 study respondents, by data source: 2007**

Sources of data	Study respondents	
	Number	Percent
Total	2,900	100.0
Student interview, CADE student record, and CPS data	1,300	45.0
Student interview and CADE student record data	690	23.7
CADE student record and CPS data	590	20.5
Student interview and CPS data	20	0.6
CADE student record data only	290	9.8
Student interview data only	10	0.5

NOTE: Detail may not sum to totals because of rounding. CADE = computer-assisted data entry; CPS = Central Processing System.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.1.3 Student Record Matching

**Central Processing System.** Table 10 summarizes the results of matching and downloading student data from the U.S. Department of Education’s Central Processing System (CPS) overall and by institutional and student characteristics. The CPS contains data provided to the U.S. Department of Education by students and their families when they complete the Free Application for Federal Student Aid (FAFSA). Therefore, successful matching to CPS can occur only for sample members who are federal student financial aid applicants.

The CPS matching process began after the student sample had been selected for an institution but before student record (computer-assisted data entry [CADE]) data collection activities had begun. This matching was against the CPS data for the 2006–07 financial aid year. Because data obtained from CPS were relevant in determining study response status, match rates are presented for all eligible sample members for whom a Social Security number was available. Sample members for whom a Social Security number was not available were not submitted to the CPS for matching.

**Table 10. Results of Central Processing System (CPS) matching for 2006–07, by institutional characteristics and student type: 2007**

Institutional characteristic and student type <sup>1</sup>	Eligible students <sup>2</sup>	Matched to 2006–07	
		Number	Percent
All students	2,900	1,910	66.0
Institutional level			
Less-than-2-year	80	60	67.9
2-year	40	30	61.9
4-year non-doctorate-granting	2,160	1,420	65.6
4-year doctorate-granting	610	410	67.5
Institutional control			
Public	1,430	870	60.6
Private not-for-profit	1,370	970	70.9
Private for-profit	100	70	76.8
Type of institution			
Public less-than-2-year	20	10	45.5
Public 2-year	30	20	58.8
Public 4-year non-doctorate-granting	1,370	840	60.9
Public 4-year doctorate-granting <sup>3</sup>	#	#	#
Private not-for-profit 2-year-or-less	10	10	85.7
Private not-for-profit 4-year non-doctorate-granting	760	560	73.5
Private not-for-profit 4-year doctorate-granting	610	410	67.5
Private for-profit less-than-2-year	50	40	75.0
Private for-profit 2-year-or-more	40	30	79.1
Student type			
Total undergraduate	2,700	1,840	68.0
B&B eligible	1,930	1,300	67.1
Other undergraduate	770	540	70.2
Graduate/first-professional	200	80	39.0

# Rounds to zero.

<sup>1</sup> Both institutional and student classifications were verified to correct classification errors on the sampling frame.

<sup>2</sup> Includes all eligible sample members for whom Social Security numbers, obtained before CADE, were available.

<sup>3</sup> All institutions in this category are included in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration. B&B = Baccalaureate and Beyond Longitudinal Study; CADE = computer-assisted data entry.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The overall matching rate for the 2006–07 CPS data was 66 percent. Match rates varied by type of institution, ranging from 46 percent for public less-than-2-year institutions to 86 percent for private not-for-profit 2-year-or-less institutions.

Approximately 68 percent of undergraduate students matched to the 2006–07 CPS. Approximately 67 percent of potential baccalaureate recipients, 70 percent of other

undergraduates, and 39 percent of graduate/first-professional students matched to CPS. As part of the undergraduate aid packaging process, nearly all institutions require undergraduate aid applicants to file a FAFSA to determine their eligibility for federal Pell Grants, federal campus-based aid, and federal loans. Graduate/first-professional students are not usually required to file a FAFSA unless they are specifically applying for federal loans, the only type of federal aid generally available to graduate students. Graduate students often apply directly through their institution or department for fellowships and assistantships, which are usually not need-based and do not require the completion of the federal financial aid forms on which CPS matching is based.

**National Student Loan Data System.** Results of the matching to the National Student Loan Data System (NSLDS) loan and Pell Grant files are shown in table 11. Results presented are based only on study respondents with social security numbers, because NSLDS data were not required to determine study response status. Successful matching to NSLDS can occur only for sample members who have received federal loans and/or Pell Grants. NSLDS files are historical; thus, information about receipt of such loans and grants was available not only for the NPSAS study year, but also for prior years (where applicable). Therefore, table 11 shows historical match rates for eligible study respondents, which does not necessarily mean that the match was for the current NPSAS year.

In total, 2,050 study respondents<sup>13</sup> (71 percent of eligible study respondents) were matched to the NSLDS historical loan database. NSLDS match rates ranged from 41 percent for public less-than-2-year institutions to 90 percent for private for-profit less-than-2-year institutions.

NSLDS Pell Grant matches were obtained for 1,290 study respondents (44 percent of those submitted). The Pell match rate ranged from 32 percent for private not-for-profit 4-year doctorate-granting institutions to 86 percent for private not-for-profit 2-year-or-less institutions.

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<sup>13</sup> See section 3.1.2 for a detailed definition of a NPSAS:08 study respondent.

**Table 11. Results of NSLDS matching, by institutional characteristics and student type: 2007**

Institutional characteristic and student type <sup>2</sup>	Study respondents <sup>3</sup>	Sent to NSLDS		Matched to NSLDS loan <sup>1</sup>		Matched to NSLDS Pell <sup>1</sup>	
		Number	Percent	Number	Percent	Number	Percent
All students	2,950	2,900	98.2	2,050	70.8	1,290	44.4
Institutional level							
Less-than-2-year	80	80	97.5	60	75.9	50	64.6
2-year	40	40	95.3	20	56.1	20	46.3
4-year non-doctorate-granting	2,200	2,150	97.8	1,550	71.9	1,010	47.1
4-year doctorate-granting	630	620	99.7	420	67.4	200	32.4
Institutional control							
Public	1,450	1,410	97.4	980	69.4	690	48.8
Private not-for-profit	1,400	1,390	99.0	990	71.2	550	39.4
Private for-profit	100	90	97.9	80	87.1	50	52.7
Type of institution							
Public less-than-2-year	20	20	100.0	10	40.9	10	45.5
Public 2-year	40	30	94.3	20	48.5	20	48.5
Public 4-year non-doctorate-granting	1,390	1,360	97.4	960	70.3	660	48.8
Public 4-year doctorate-granting <sup>4</sup>	#	#	#	#	#	#	#
Private not-for-profit 2-year-or-less	10	10	100.0	10	85.7	10	85.7
Private not-for-profit 4-year non-doctorate-granting	770	760	98.4	560	74.2	340	44.6
Private not-for-profit 4-year doctorate-granting	630	620	99.7	420	67.4	200	32.4
Private for-profit less-than-2-year	50	50	96.2	50	90.0	40	70.0
Private for-profit 2-year-or-more	40	40	100.0	40	83.7	10	32.6
Student type							
Total undergraduate	2,750	2,700	98.1	1,920	71.1	1,220	45.2
B&B eligible	1,990	1,920	96.7	1,390	72.1	860	44.7
Other undergraduate	760	780	102.0	530	68.7	360	46.5
Graduate/first-professional <sup>5</sup>	200	200	98.5	130	66.7	60	32.8

# Rounds to zero.

<sup>1</sup> Matching was completed on historical files. Matching was conducted only for cases with correct Social Security numbers.<sup>2</sup> Both institutional and student classifications were verified to correct classification errors on the sampling frame.<sup>3</sup> Includes all eligible study respondents for whom apparently legitimate Social Security numbers were available.<sup>4</sup> All institutions in this category are included in the full-scale sample with certainty and not included in the field test study.<sup>5</sup> The NSLDS provides historical files; thus it is possible for graduate/first-professional students to have Pell grant records.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration. B&amp;B = Baccalaureate and Beyond Longitudinal Study; NSLDS = National Student Loan Data System.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.1.4 Student Record Abstraction

As described previously, institutions were given three options for abstracting information about sampled students from institutional records. The first option was for the institution's staff to use the web-based CADE application (self-CADE), the second option was for the institution's staff to create data files and upload them to the NPSAS website (data-CADE), and the third option was to have a trained field data collector visit the institution and abstract the data (field-CADE). Self-CADE and data-CADE were the recommended options, because the small sample sizes were well suited for entering the data for each student individually (self-CADE) and because both options were less expensive than field-CADE.



At the institution level, an institution was classified as having completed CADE if data were obtained for at least one sample student. Table 12 shows the CADE student records abstraction methods by institutional characteristics. Most institutions (90 percent) chose the self-CADE option. The high proportion of institutions using self-CADE indicates that there were no major hindrances for institutional record abstraction in the field test. However, it should be noted that student sample sizes from each institution were small (a range of 10 students to 40 students per school) in the field test, which could also have been a contributing factor in an institution choosing the self-CADE option. Because of these small student sample sizes, it was anticipated that very few institutions would choose the field-CADE option; therefore, to test the procedures for the NPSAS:08 full-scale study, a small number institutions were selected for field data collection.

**Table 12. CADE student record abstraction methods, by institutional type and highest offering: 2007**

Institutional type	Sample size	Student record abstraction method					
		Self-CADE		Data-CADE		Field-CADE	
		Number	Percent	Number	Percent	Number	Percent
Total	150	140	90.2	10	8.5	#	1.3
Institutional level							
Less-than-2-year	10	10	100.0	#	#	#	#
2-year	10	10	83.3	#	#	#	16.7
4-year non-doctorate-granting	120	110	90.2	10	9.0	#	0.8
4-year doctorate-granting	20	20	89.5	#	10.5	#	#
Institutional control							
Public	60	50	82.0	10	16.4	#	1.6
Private not-for-profit	90	80	95.4	#	3.5	#	1.2
Private for-profit	10	10	100.0	#	#	#	#

# Rounds to zero.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible institutions within the row under consideration. CADE = computer-assisted data entry.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Table 13 presents student record abstraction rates, by institutional characteristics. Approximately 99 percent of institutions provided student record data for the NPSAS:08 field test study. Further, student record data was obtained for more than 99 percent of eligible sample members.

**Table 13. Student record abstraction results, by institutional and student characteristics: 2007**

	Total CADE eligible institutions	Institution-level response rate		Total CADE eligible students <sup>1</sup>	Student-level response rate	
		Number	Percent		Number	Percent
Total	150	150	99.4	2,950	2,940	99.7
Institutional level						
Less-than-2-year	10	10	100.0	80	80	100.0
2-year	10	10	100.0	40	40	100.0
4-year non-doctorate-granting	120	120	99.2	2,200	2,190	99.6
4-year doctorate-granting	20	20	100.0	620	620	100.0
Institutional control						
Public	60	60	100.0	1,450	1,450	100.0
Private not-for-profit	90	90	98.9	1,400	1,390	99.4
Private for-profit	10	10	100.0	100	100	100.0
Institutional sector						
Public						
Less-than-2-year	#	#	100.0	20	20	100.0
2-year	10	10	100.0	40	40	100.0
4-year non-doctorate-granting	50	54	100.0	1,400	1,400	100.0
4-year doctorate-granting <sup>2</sup>	#	#	#	#	#	#
Private not-for-profit						
2-year-or-less	#	#	100.0	#	#	100.0
4-year non-doctorate-granting	70	70	98.5	770	760	98.8
4-year doctorate-granting	20	20	100.0	620	620	100.0
Private for-profit						
Less-than-2-year	#	#	100.0	50	50	100.0
2-year-or-more	#	#	100.0	40	40	100.0

# Rounds to zero.

<sup>1</sup> These were students determined to be eligible through CADE, also known as CADE respondents. Some of these students may subsequently have been deemed ineligible during the student interview. For purposes of this analysis, eligibility is based solely on CADE.

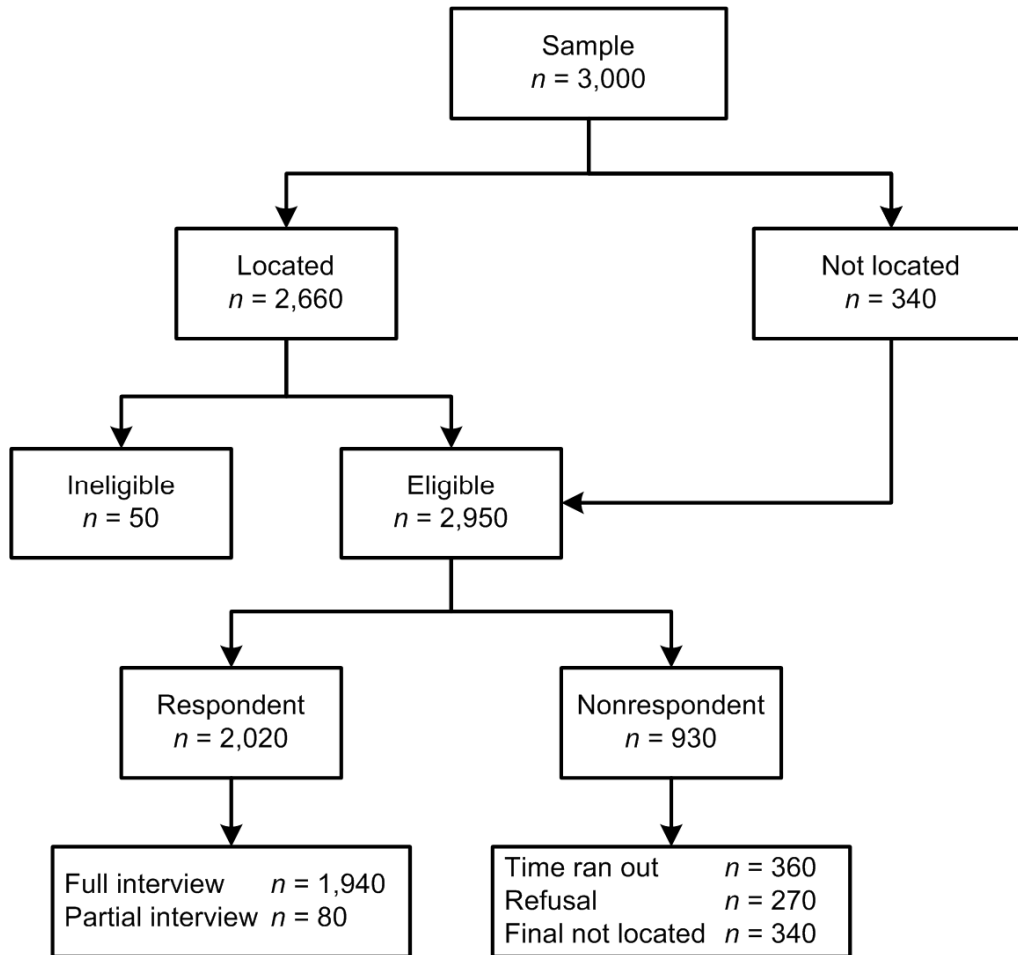
<sup>2</sup> All institutions in this category are included in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration. CADE = computer-assisted data entry.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.1.5 Student Locating and Response Rate Summary

Overall locating and interviewing outcomes are shown in figure 7. Of the eligible sample members, 89 percent were located. An additional 50 sample members were located but determined to be ineligible for the study. Of the eligible sample members, 2,020 (68 percent) completed either a full interview ( $n = 1,940$ ) or enough of the questionnaire to be considered a partial interview ( $n = 80$ ). Students who completed the enrollment section of the questionnaire but did not complete the entire survey were considered partial interviews.

**Figure 7. Student locating and interviewing outcomes: 2007**

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

## 3.2 Locating

### 3.2.1 Student Locating Overview

It is common for students to move frequently throughout their time in college, particularly at the end of an academic year. Many do not update their contact information in a timely manner. When dealing with a mobile group such as the NPSAS:08 student sample, locating sample members can be one of the more difficult tasks. A variety of approaches was used during the NPSAS:08 field test to locate and interview the sampled students. These approaches included the use of an initial mailing to all students, follow-up letters and e-mails to interview nonrespondents, telephone tracing (calling local and permanent numbers, as well as any other numbers obtained during the course of contacting), and intensive tracing (i.e., using consumer databases, web searches, and criss-cross directories) for sample members who were hard to reach.

As shown in table 14, of the 2,950 confirmed or potentially eligible sample members, 89 percent were located. The highest location rates were for students attending private not-for-profit 2-year-or-less institutions (100 percent), while the lowest location rates were among those students attending private for-profit less-than-2-year institutions (77 percent) ( $\chi^2 = 14.31$ ,  $p < .05$ ). Graduate/first-professional students were the easiest group to find, with 95 percent of these students successfully located. There was a 93 percent location rate for students in the “other undergraduates” category and an 87 percent rate for B&B eligible students ( $\chi^2 = 28.99$ ,  $p < .001$ ).

**Table 14. Student locating results, by institutional characteristic and student type: 2007**

Institutional characteristic and student type	Total	Located	
		Number	Percent
Total	2,950	2,620	88.6
Institutional level			
Less-than-2-year	80	60	79.0
2-year	40	40	90.5
4-year non-doctorate-granting	2,200	1,950	88.5
4-year doctorate-granting	630	560	90.0
Institutional control			
Public	1,450	1,290	89.0
Private not-for-profit	1,410	1,250	88.7
Private for-profit	100	80	80.0
Institutional sector			
Public			
Less-than-2-year	20	20	77.3
2-year	30	30	91.2
4-year non-doctorate-granting	1,390	1,240	89.2
4-year doctorate-granting <sup>1</sup>	#	#	#
Private not-for-profit			
2-year-or-less	10	10	100.0
4-year non-doctorate-granting	770	680	87.6
4-year doctorate-granting	630	560	90.0
Private for-profit			
Less-than-2-year	50	40	76.9
2-year-or-more	40	40	83.7
Student type			
Total undergraduate	2,750	2,430	88.1
B&B eligible	1,970	1,700	86.4
Other undergraduate	780	730	92.5
Graduate/first-professional	200	190	94.9

# Rounds to zero.

<sup>1</sup> All institutions in this category are included in the full-scale sample with certainty and not included in the field test study.

NOTE: Details may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration. B&B = Baccalaureate and Beyond Longitudinal Study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.2.2 Database Batch Tracing Before Data Collection

To locate students for the NPSAS:08 field test study, institutions were asked to provide local and permanent telephone numbers and addresses for students on their enrollment lists. This information was then confirmed or updated by matching to three locating databases: CPS, National Change of Address (NCOA), and Telematch.

The CPS database contains information from students who have applied for federal student aid loans. If a student is in the CPS database, additional locating information often can be obtained. This information can include new (or previous) local and permanent addresses and telephone numbers, locating information for the student's parents or guardians, and information about other potential contacts. Of the 2,950 cases sent to and processed through CPS prior to the end of data collection, 1,920 (65 percent) were returned with new or confirmed information (table 15).

**Table 15. Batch processing record match rates, by tracing source: 2007**

Method of tracing <sup>1</sup>	Number of records sent	Number of records matched	Percent matched
Total	9,390	3,990	42.5
CPS	2,950	1,920	65.3
NCOA	3,000	190	6.3
Telematch	3,000	1,790	59.6
Accurint	450	80	2.7

<sup>1</sup>These rows are not mutually exclusive. If a student could not be located, the case was sent to one or more of the tracing sources.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration. CPS = Central Processing System; NCOA = National Change of Address.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

All student address information obtained from the institutions and from CPS was then sent to NCOA to search for updates. NCOA, a database consisting of change of address data submitted to the U.S. Postal Service, contains almost 113 million records. NCOA records are updated every 2 weeks and stored for 3 years. Of the 3,000 cases sent to NCOA for processing, 190 (6 percent) were returned with updated address information.

Finally, all contact information was sent to Telematch for batch processing to determine whether a new telephone number was available for any student addresses obtained from the institutions, CPS, or NCOA. Telematch uses name, street address, and ZIP code as search criteria and returns either a telephone number update/confirmation or an indication that no telephone match was available for a particular address. Of the 3,000 cases sent to Telematch, over one-half (60 percent) of the cases were returned with new or confirmed telephone information

### 3.2.3 Intensive Tracing During Data Collection

Intensive tracing efforts were required in cases for which no interview was obtained via the self-administered web interview and for which the preloaded CATI locating information did not result in contact with the sample member. These cases were assigned to RTI's Tracing Operations Unit (TOPS) for intensive centralized tracing. Intensive centralized tracing involved searches of public and proprietary databases, the Web, and a variety of information directories. Overall, just over 11 percent of the potential or confirmed eligible sample members required intensive tracing efforts (table 16). This rate ranged from a high of 14 percent for students from public institutions to a low of 5 percent for students from private for-profit 2-year-or-more institutions.

**Table 16. Students requiring intensive tracing procedures, by institutional characteristic and student type: 2007**

Institutional characteristic and student type	Total	Cases requiring intensive tracing efforts	
		Number	Percent
Total	2,950	330	11.1
Institutional level			
Less-than-2-year	80	10	13.6
2-year	40	#	9.5
4-year non-doctorate-granting	2,200	260	11.7
4-year doctorate-granting	630	60	8.9
Institutional control			
Public	1,450	200	13.7
Private not-for-profit	1,410	120	8.7
Private for-profit	100	10	9.5
Institutional sector			
Public			
Less-than-2-year	20	#	13.6
2-year	30	#	8.8
4-year non-doctorate-granting	1,390	190	13.8
4-year doctorate-granting <sup>1</sup>	#	#	#
Private not-for-profit			
2-year-or-less	10	#	14.3
4-year non-doctorate-granting	770	70	8.4
4-year doctorate-granting	630	60	8.9
Private for-profit			
Less-than-2-year	50	10	13.5
2-year-or-more	40	#	4.7
Student type			
Total undergraduate	2,750	320	11.5
B&B eligible	1,970	230	11.7
Other undergraduate	780	90	10.8
Graduate/first-professional	200	10	6.6

# Rounds to zero.

<sup>1</sup> All institutions in this category are in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration. B&B = Baccalaureate and Beyond Longitudinal Study.  
 SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Of the 330 cases requiring intensive tracing, 190 (57 percent) were ultimately located. Further, 130 of the 330 cases (41 percent) that were located were also interviewed (table 17).

**Table 17. Locating and interviewing rates, by intensive tracing efforts: 2007**

Intensive tracing status	Total	Located		Interviewed	
		Number	Percent	Number	Percent
Total	2,950	2,620	88.6	2,020	68.4
Intensive tracing required	330	190	56.5	130	40.7
No intensive tracing required	2,620	2,430	92.6	1,890	71.9

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration.  
 SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.3 Interviewing Outcomes

Overall, 2,020 of approximately 2,950 (68 percent) eligible sample members completed either a full or partial student interview. The following sections discuss student interview completion results by data collection phase, by student and institutional characteristics, and by mode of administration.

#### 3.3.1 By Data Collection Phase

As described in section 2.3.8, the NPSAS:08 field test involved three phases of data collection: 1) early response phase, 2) production interviewing phase, and 3) nonresponse conversion phase. Interview completion results for each phase are presented below.

The first stage of data collection was the early response phase. After initial locating of sample members, a period of 3 weeks was allotted for students to complete the self-administered interview via the Web. About 1,050 interviews (36 percent of the eligible sample) were completed during the early response phase and were thus eligible for the \$30 incentive.

The second stage of data collection was the production interviewing phase, during which telephone interviewers made outbound calls to obtain interviews with sample members. This phase included all eligible sample members who did not complete the interview during the early response period. Approximately 400 interviews (21 percent) were completed out of the 1,900 remaining sample members who were included in this phase. No incentive was offered for interviews completed during the production interviewing phase.

The final phase of student interviewing involved the nonresponse conversion of refusals, students who were difficult to locate, and for whom several call attempts has been made with no contact. Among the 1,500 sample members who were eligible for the nonresponse conversion phase about 34 percent ( $n = 490$ ) completed the interview. All sample members who completed

interviews during this phase were eligible to receive a \$30 incentive. Attempts were made to obtain interviews with nonrespondents and to complete partial interviews that had already begun. Thus, all eligible sample members who were nonrespondents or only partially completed an interview during the early response and production phases were offered the nonresponse conversion incentive.

The response rates for each phase of data collection are presented in table 18.

**Table 18. Interview completions, by data collection phase: 2007**

Data collection phases	Eligible sample	Number of completed interviews <sup>1</sup>	Percent completed <sup>2</sup>
All phases	2,950	1,940	65.7
Early response phase: \$30	2,950	1,050	35.6
Production interviewing phase: \$0 <sup>4</sup>	1,900	400	21.2
Nonresponse conversion phase: \$30 <sup>5</sup>	1,500	490	32.4

<sup>1</sup> The number of completed interviews does not include partially completed interviews.

<sup>2</sup> Percent is based on the number of eligible sample members within the row under consideration.

NOTE: Detail may not sum to totals because of rounding. The data collection phases are mutually exclusive. All eligible sample members were included in the early response phase. Sample members who did not complete an interview during the early response phase were included in the production interviewing phase. All eligible sample members who did not complete an interview during the production interviewing phase were included in the nonresponse conversion phase. Sample members who partially completed an interview remained in the data collection phase progression until they completed their interview. Those sample members who never finished a partially completed interview ( $n = 80$ ) remained in the eligible sample for the nonresponse conversion phase.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.3.2 By Institution and Student Type

In the NPSAS:08 field test, the unweighted response rate for the student interview was 68 percent (2,020 full or partial interviews out of 2,950 confirmed or potentially eligible sample members). Unweighted response rates by type of institution and type of student are shown in table 19. Comparing the different types of institutions, student response rates were highest among those sampled from 4-year doctorate-granting institutions (70 percent). Response rates were lowest among students from less-than-2-year institutions (53 percent) ( $\chi^2 = 12.38, p < .01$ ). In terms of student type, response rates were highest among graduate students (83 percent), followed by non-B&B undergraduates (81 percent) and potential B&B undergraduates (62 percent) ( $\chi^2 = 114.76, p < .001$ ).



**Table 19. Student interview results, by institutional characteristic and student type: 2007**

Institutional characteristic and student type	Total	Interview Mode					
		Interviewed		Self-administered		Interviewer-administered	
		Number	Percent <sup>1</sup>	Number	Percent <sup>2</sup>	Number	Percent <sup>2</sup>
Total	2,950	2,020	68.4	1,480	73.4	540	26.6
<b>Institutional level</b>							
Less-than-2-year	80	40	53.1	20	37.2	30	62.8
2-year	40	20	57.1	20	75.0	10	25.0
4-year non-doctorate-granting	2,200	1,510	68.6	1,090	72.1	420	27.9
4-year doctorate-granting	630	440	70.3	360	81.0	80	19.0
<b>Institutional control</b>							
Public	1,450	1,000	69.2	720	71.5	290	28.5
Private not-for-profit	1,410	970	68.6	740	76.6	230	23.4
Private for-profit	100	50	53.7	30	49.0	30	51.0
<b>Institutional sector</b>							
<b>Public</b>							
Less-than-2-year	20	10	50.0	10	45.5	10	54.5
2-year	30	20	61.8	20	81.0	#	19.0
4-year non-doctorate-granting	1,390	970	69.7	700	71.6	280	28.4
4-year doctorate-granting <sup>3</sup>	#	#	#	#	#	#	#
<b>Private not-for-profit</b>							
2-year-or-less	10	10	71.4	#	#	10	100.0
4-year non-doctorate-granting	770	520	67.1	380	73.6	140	26.4
4-year doctorate-granting	630	440	70.3	360	81.0	80	19.0
<b>Private for-profit</b>							
Less-than-2-year	50	30	51.9	10	40.7	20	59.3
2-year-or-more	40	20	55.8	10	58.3	10	41.7
<b>Student type</b>							
Total undergraduate	2,750	1,860	67.4	1,370	73.7	490	26.3
B&B eligible	1,970	1,220	61.9	920	75.7	300	24.3
Other undergraduate	780	640	81.0	440	69.8	190	30.2
Graduate/first-professional	200	160	82.8	110	69.5	50	30.5

# Rounds to zero.

<sup>1</sup> Percentages are based on the total.

<sup>2</sup> Percentages are based on the total interviewed.

<sup>3</sup> All institutions in this category are in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding. B&B = Baccalaureate and Beyond Longitudinal Study; CATI = computer-assisted telephone interviewing.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.3.3 By Mode of Administration

Students responding to the NPSAS:08 field test varied significantly in terms of the mode by which they completed the survey (see table 19). Of all completed and partial interviews, more were obtained via self-administration (73 percent) than with a telephone interviewer (27 percent) ( $z = 19.05, p < .001$ ). Students from public 2-year institutions and students from private not-for-profit 4-year doctorate-granting institutions (both 81 percent) were more likely than students from other institution types to complete the interview through self-administration ( $\chi^2 = 64.27,$

$p < .001$ ). Potential B&B undergraduate students were more likely than other student types to choose the self-administered mode to complete the interview (76 percent). Graduate students and other undergraduates were more likely to choose the interviewer-administered interview (30 percent) than were potential B&B undergraduate students (24 percent) ( $\chi^2 = 10.24, p < .05$ ).

## 3.4 Response Burden and Effort

### 3.4.1 Timing Analysis

It is important to review the burden associated with the NPSAS:08 field test student interview. The amount of time it took students to complete the interview was examined, with special attention paid to how long it took different completion modes, internet connection speeds, and student types. This information is particularly useful because it provides feedback that can be used to reduce respondent burden, reduce data collection effort and cost, and improve data quality for the full-scale study.

To calculate the time to complete the NPSAS:08 field test student interview, the student instrument was developed with time stamps embedded on each screen. A time stamp was associated with each web page that a respondent viewed. Each time a respondent clicked the “Next” button on a particular web page, a time stamp was set to the clock time on the respondent’s or interviewer’s computer. This approach allowed for the computation of specific interview item times, online coding program times, individual interview section times, and total interview completion time.

The timing analysis included complete cases with one-session logins only. Multisession cases—including cases that stopped and resumed the interview at a later time, and those that were automatically logged off because of an extended period of inactivity—were excluded from this analysis, as were partially completed interviews. Outlier cases were defined as those whose time exceeded 2 standard deviations from the average time, and were identified within section and over the total interview. Outliers were also excluded from analysis presented here, so it is possible that a case was identified as an outlier for a particular section, but not for the total interview. Therefore, individual section times may not sum to the total interview time and the number of cases for each section may not sum to the total. The number of cases per section also varies because sections D, E, and F do not apply to all respondents.

Table 20 presents the average interview completion times, overall and by interview section. The average interview time was calculated by adding each respondents total interview completion time and dividing it by the total number of respondents. Overall, the average time to complete the NPSAS:08 field test student interview was 26.9 minutes.

**Table 20. Average time to complete the NPSAS field test student interview, by interview section: 2007**

Interview section	All respondents	
	Number of cases	Average time in minutes
Total interview	1,400	26.9
Section A Enrollment	1,340	7.8
Section B Financial Aid	1,400	4.2
Section C Current Employment	1,340	4.3
Section D Employment Plans	770	0.4
Section E Education Plans	790	1.0
Section F Teaching	810	0.4
Section G Education Experiences	1,310	2.4
Section H Background	1,330	3.8
Section I Locating	760	3.1

NOTE: Detail may not sum to totals because of rounding. Outliers were identified separately for each section and for the total interview; therefore, individual section times do not sum to the total interview times. An outlier was defined as any case whose completion time exceeded two standard deviations above or below the average time for a given section. Interview times are presented only for completed interviews (partial interviews and multisession completions were excluded).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The longest section to complete was the enrollment section, taking 7.8 minutes for all respondents. This outcome was expected, because this section is critical to the progression of the interview and therefore the lengthiest and most complex. It includes items used to determine eligibility and student status, and it collects information on enrollment experiences at all schools attended during the study year. The routing and question wording for respondents for the remainder of the interview were based on the responses in the enrollment section; therefore, it was necessary to obtain a detailed enrollment history.

Overall, respondents took 4.2 minutes to complete the section concerning financial aid. Items in this section focused on the application for federal student aid, types and amounts of aid received, graduate fellowships and assistantships, and work-study programs, and a new set of items concerning knowledge about the Academic Competitiveness Grant (ACG) and the National Science and Mathematics Access to Retain Talent (SMART) grant.

Completion of the current employment section took approximately 4.3 minutes. This section pertained to employment during enrollment in the study year, and also contained items about personal finances. Included were items related to the effects that working had on education, affordability of education without employment, reasons for working, spousal income, receipt of federal assistance, assets, and credit card burden. Table 21 illustrates the differences in section time by job status. Respondents who were employed took an average of 5.1 minutes to complete this section, while respondents who were not employed took 2.3 minutes on average to complete this section.

**Table 21. Average time to complete the current employment section of the field test instrument, by employment status: 2007**

Employment status	Number of cases	Section time
Employed	970	5.1
Not employed	370	2.3

NOTE: Outliers were identified for the Current Employment section. An outlier was defined as any case whose completion time exceeded two standard deviations above or below the average time for the section. Interview times are presented only for completed interviews (partial interviews and multisession completions were excluded).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The employment plans section applied only to B&B eligible respondents and was the shortest section in the interview, containing only three items related to respondent's future plans for work. This section took 0.4 minutes on average.

Another section applying only to B&B eligible students asked about plans for additional education. The average completion time for this section was 1 minute. Items in this section included graduate school admissions tests taken, application and acceptance to graduate school, intended graduate degree, and reasons for applying to, postponing, or not applying to graduate school.

The teaching section was the final section applying only to B&B eligible students. This section included four items, which pertained to experiences in teaching and preparations for teaching at the K-12 level. The average overall completion time for the teaching section was 0.4 minutes.

The education experiences section took about 2.4 minutes for all respondents to complete. Many items in this section pertained to subgroups of respondents. Items that applied only to undergraduate respondents included distance education, remedial classes, high school coursework, and frequency of major changes. Other items in this section were administered to B&B eligible respondents only, including items such as transfer credits, studying abroad, and foreign languages. Table 22 presents section times by B&B eligibility status; B&B eligible respondents spent an average of 2.8 minutes completing this section while non-B&B eligible respondents spent an average of 1.9 minutes.

**Table 22. Average time to complete the education experiences section of the field test instrument, by B&B eligibility status: 2007**

Eligibility status	Number of cases	Section time
B&B eligible	740	2.8
Not B&B eligible	570	1.9

NOTE: Outliers were identified for the education experiences section. An outlier was defined as any case whose completion time exceeded two standard deviations above or below the average time for the section. Interview times are presented only for completed interviews (partial interviews and multisession completions were excluded).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The background section collected demographic information about respondents and their families and took an average of 3.8 minutes to complete. It also contained items related to

number of dependents, parent education, disability status, citizenship status, and community service work.

The final section collected locating information for the next follow-up study and applied only to students identified as eligible for the B&B cohort. The locating section took about 3.1 minutes to complete. Contact information such as parent addresses, permanent addresses, and e-mail addresses were collected in this section.

It is also important to monitor average interview times by administration mode to understand the impact that mode of administration can have on the survey experience for respondents. Table 23 displays total interview time and individual section times for self-administered and interviewer-administered completions. The interviewer-administered respondents, with an average time of 29.9 minutes, took longer to complete the field test interview than self-administered respondents, who took 25.6 minutes ( $t = 7.56, p < .001$ ). This outcome is not unexpected, and it is largely due to the conversational nature of the telephone interview experience. Exchange and verification of information and the verbal administration of questions and response options tend to increase completion time.

**Table 23. Average time to complete the NPSAS:08 field test student interview, by mode of administration and interview section: 2007**

Interview section	Self-administered		Interviewer-administered	
	Number of cases	Average time	Number of cases	Average time
Total interview	1,000	25.6	400	29.9
Section A Enrollment	960	7.4	380	8.8
Section B Financial Aid	1,000	4.2	400	4.3
Section C Current Employment	970	4.0	380	5.2
Section D Employment Plans	580	0.4	190	0.5
Section E Education Plans	600	1.0	200	1.3
Section F Teaching	610	0.3	200	0.5
Section G Education Experiences	930	2.3	380	2.6
Section H Background	960	3.5	377	4.6
Section I Locating	580	2.8	184	3.7

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration. Outliers were identified separately for each section and for the total interview; therefore, individual section times do not sum to the total interview times. An outlier was defined as any case whose completion time exceeded two standard deviations above or below the average time for a given section. Interview times are presented only for completed interviews (partial interviews and multi-session completions were excluded).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Variations in respondent burden by Internet connection type were assessed as well. Table 24 provides the timing results based on connection type for self-administered respondents. Respondents using a dial-up modem took nearly 13 minutes longer to complete the interview than those using a fast connection type ( $t = 5.71, p < .001$ ). However, very few respondents used a dial-up connection—out of 1,000 self-administered respondents included in this analysis, only 4.4 percent completed the interview with a dial-up modem, while 86.4 percent of respondents

completed it with a fast connection. Given the additional time associated with dial-up connections, study materials will encourage respondents without fast connections to complete a telephone interview.

**Table 24. Average minutes to complete the self-administered student interview, by web connection type: 2007**

Internet connection type	Number of cases	Percent of cases	Interview time
Total	1,000	100.0	25.6
Dial-up modem	40	4.4	37.9
Fast connection (DSL, ISDN, cable modem, office LAN)	860	86.4	24.9
Do not know connection type	90	9.2	26.8

NOTE: Detail may not sum to totals because of rounding. Interview times are presented only for completed interviews (partial interviews and multisession completions were excluded). Outliers were identified for this analysis. An outlier was defined as any case whose completion time exceeded two standard deviations above or below the average time for the interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

It is also useful to evaluate interview times for different types of students to understand the burden associated with the various interview paths. Table 25 presents the average time to complete the interview by B&B eligibility as well as current employment status, and student status.

**Table 25. Average time to complete the student interview and screen counts, by respondent type: 2007**

Respondent type	Number of cases	Total interview time	Total screen count
Total interview	1,400	26.9	122
Non-B&B eligible			
Not currently employed			
Undergraduate	120	22.1	101
Graduate	20	17.7	74
Currently employed			
Undergraduate	340	24.8	112
Graduate	110	19.6	86
B&B eligible			
Not currently employed			
Undergraduate	230	28.0	126
Graduate	#	29.2	100
Currently employed			
Undergraduate	570	30.4	139
Graduate	10	26.2	110

# Rounds to zero.

NOTE: Detail may not sum to totals because of rounding. Interview times are presented only for completed interviews (partial interviews and multi-session completions were excluded). Outliers were identified for this analysis. An outlier was defined as any case whose completion time exceeded two standard deviations above or below the average time for the interview. B&B = Baccalaureate and Beyond Longitudinal Study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

As noted earlier, the employment plans, education plans, teaching, and locating sections of the interview applied only to students identified as B&B eligible students. Therefore, the highest interview time came from B&B eligible undergraduate students who were currently employed. This type of respondent took, on average, 30.4 minutes to complete the interview. In addition to having the longest average completion time, B&B eligible undergraduates who were currently employed also received the highest number of screens in the instrument (139 on average). In contrast, graduate students who were not currently employed had the lowest average interview time, 17.7 minutes, and also received the fewest screens (74 on average).

The use of coding systems is also an important factor when considering interview completion time. Two different coding systems were used in the NPSAS:08 instrument, the institutional coding system and the major or field-of-study coding system. The institutional coding system collected information on additional schools attended, and provided various ways to search for schools, including by city, state, and/or school name. The major or field-of-study coding system used an assisted-coding approach, such that the entry of text strings interfaced with a database to identify the best match or provide a set of comparable matches. On average, it took less than 1 minute to code institutions and major or field of study. No differences in timing by administration mode were found in coding system timing.

Overall, the average time to complete the NPSAS:08 field test student interview was 26.9 minutes. This time varied by administration mode, internet connection, and student type. The timing analysis suggests that, because of the conversational nature of the phone interview, respondents who completed a telephone interview took longer than those who completed a self-administered interview. Also, respondents completing the self-administered interview using a dial-up connection took longer to complete than those on a fast connection. Additionally, respondents who were B&B eligible undergraduates who were employed completed the interview with a longer average time and a higher screen count than graduate students who were not employed. This information will aid in reducing respondent burden, reducing data collection effort and cost, and improving data quality for the NPSAS:08 full-scale study.

### **3.4.2 Help Desk**

Help desk staff members provided live telephone assistance to students with technical or other questions about the self-administered web interview and were trained to conduct telephone interviews as needed. Help desk agents also responded to voicemail messages left by respondents when the call center was closed.

To gain a better understanding of the problems encountered by students attempting to complete the self-administered web interview, a program recorded each help desk incident that occurred during data collection. For each occurrence, help desk staff confirmed contact information for the sample member and recorded the type of problem, a description of the problem and resolution, the incident status (pending or resolved), and the approximate time it took to assist the caller.

Table 26 provides a summary of help desk incidents. The majority of the problems reported by students who called the help desk were requests for study identification (ID)

numbers or passwords (72 percent). Other problems reported included perceived problems with the questionnaire programming (8 percent), problems with the student's browser settings or computer (5 percent), the study website being unavailable (9 percent), and general questions about the study (1 percent). Additionally, about 3 percent of help desk incidents were sample members who called in to complete a telephone interview. The remaining incidents (2.9 percent) were miscellaneous situations that could not be coded into one of the principal categories provided.

**Table 26. Help desk incident type: 2007**

Type of incident	Total incidents recorded	Percent of total incidents
Total	411	100.0
Program error	31	7.5
Need study identification number/password	296	72.0
Browser settings/computer problems	21	5.1
Website unavailable	35	8.5
Question about study	5	1.2
Called in to complete interview	11	2.7
Other	12	2.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.4.3 Number of Calls

A total of 2,470 telephone interviewer hours (exclusive of training, supervision, monitoring, administration, and quality circle meetings) were expended to obtain completed or partial interviews from 2,020 sample members. Because the time to administer the interview on the telephone was, on average, approximately 30 minutes, the large majority of interviewer time was spent on other case-related activities. A small percentage of this time was required to access a case from the CMS, review its history, and close the case (with appropriate reschedule, comment, and disposition entry) when completed. The bulk of an interviewer's time, however, was devoted to locating and contacting sample members.

A total of 29,820 call attempts were made as part of the NPSAS:08 field test, averaging 10 calls per case (see table 27). Among all completed cases, an average of 6 call attempts was required, compared with an average of 18 calls for those not interviewed ( $t = 34.2, p < .001$ ).



**Table 27. Call counts, by interview status and mode of completion: 2007**

Interview status and completion mode	Number of cases	Number of calls	Average calls per case
Total	3,000	29,820	9.9
Interviewed	2,020	12,060	6.0
Not interviewed	980	17,760	18.1
By mode			
Self-administered complete, no telephone follow-up	970	†	†
Self-administered complete, with telephone follow-up	510	6,770	13.2
Interviewer-administered in-house complete	470	4,500	9.7
VCC complete	70	790	10.8

† Not applicable.

NOTE: Detail may not sum to totals because of rounding. CATI = computer-assisted telephone interviewing; VCC = virtual call center.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The average number of calls varied across the mode of data collection. Of the 2,020 completed cases, approximately 970 (48 percent) were completed via the self-administered web instrument and required no telephone contact. However, the remaining 510 self-administered student completions required an average of 13 calls. Approximately 470 of the completions were obtained via CATI by an in-house call center telephone interviewer and required an average of 10 call attempts. In addition to in-house CATI interviews, 70 completions were obtained by VCC<sup>14</sup> telephone interviews with an average of 11 call attempts.

Table 28 shows significant variation in the number of calls per case across different types of students and institutions. Students from less-than-2-year institutions required 14 calls on average, while those from either 4-year non-doctorate-granting or 4-year doctorate-granting institutions averaged 10 calls ( $F = 4.8, p < .01$ ). Students at private for-profit institutions required more calls (12 call attempts on average) than respondents at public institutions and private not-for-profit institutions ( $F = 2.4, p < .1$ ). Students attending institutions in the public less-than-2-year sector had the highest average with 18 call attempts. NPSAS:08 field test respondents were called less frequently than NPSAS:08 field test nonrespondents, with an average of 10 calls as opposed to 14 calls ( $t = 3.9, p < .01$ ). B&B eligible students required more calls than both other undergraduates and graduate/first-professional students ( $F = 12, p < .01$ ).

<sup>14</sup> The NPSAS:08 field test was used to test the procedures and data quality for the virtual call center (VCC).

**Table 28. Number and result of calls made to sample members, by institutional characteristic and student type: 2007**

Institutional characteristic and student type	Total sample	Total number of calls to sample cases	Average calls per case
Total	3,000	29,820	9.9
Institutional level			
Less-than-2-year	90	1,190	13.9
2-year	50	560	11.7
4-year non-doctorate-granting	2,230	21,860	9.8
4-year doctorate-granting	630	6,210	9.8
Institutional control			
Public	1,480	14,610	9.9
Private not-for-profit	1,420	13,980	9.9
Private for-profit	100	1,220	12.2
Institutional sector			
Public			
Less-than-2-year	20	390	17.8
2-year	40	380	9.5
4-year non-doctorate-granting	1,420	13,840	9.8
4-year doctorate-granting <sup>1</sup>	#	#	#
Private not-for-profit			
2-year-or-less	10	60	8.1
4-year non-doctorate-granting	780	7,720	9.9
4-year doctorate-granting	630	6,210	9.8
Private for-profit			
Less-than-2-year	60	740	13.1
2-year-or-more	40	470	11.0
Respondent status			
NPSAS:08 respondent	2,900	28,410	9.8
NPSAS:08 nonrespondent	100	1,410	13.6
Student type			
Total undergraduate	2,750	27,900	10.1
B&B eligible	1,970	21,000	10.7
Other undergraduate	780	6,900	8.8
Graduate/first-professional	200	1,390	7.0

# Rounds to zero.

<sup>1</sup> All institutions in this category are in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding. B&amp;B = Baccalaureate and Beyond Longitudinal Study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Call screening by sample members has been a continuing problem in studies that use the telephone as a mode of contact. Devices such as telephone answering machines can be used to screen unwanted calls, but they also serve as a means of staying in touch, particularly for college-aged students and others with busy lifestyles. Table 29 looks at the success in locating and interviewing “hard to reach” sample members. These students were defined as those who

were called at least 15 times with minimal or no contact or were not locatable in TOPS. Of the 1,170 hard to reach students, 74 percent were located and 42 percent completed the NPSAS interview. Location rates among these students varied significantly, according to the percentage of time a telephone answering machine was reached on those calls. Only 58 percent of students were located when there were no answering machine events, compared with 76 percent when an answering machine was reached on less than one-half of the call attempts or when an answering machine was reached on one-half or more of the call attempts ( $\chi^2 = 23.1, p < .01$ ). Additionally, only 39 percent of hard to reach sample members completed the interview with no answering machine events, compared with 50 percent when an answering machine was reached on less than one-half of the call attempts and 38 percent when an answering machine was reached on one-half or more of the call attempts ( $\chi^2 = 15.8, p < .01$ ).

**Table 29. Location and interview rates for hard to reach sample members, by percentage of call attempts in which an answering machine was reached: 2007**

Percent of call attempts resulting in answering machine	Total hard to reach sample members <sup>1</sup>	Located		Total complete	
		Number	Percent	Number	Percent
Total	1,170	860	73.7	490	41.9
None	160	90	58.1	60	38.8
Less than half	360	280	76.3	180	50.4
Half or more	650	490	76.0	250	37.9

<sup>1</sup> Hard to reach sample members either had at least 15 call attempts with minimal or no contact or were not locatable in RTI's Tracing Operations Unit (TOPS).

NOTE: Detail may not sum to totals because of rounding. Calculations include only hard to reach cases. All percentages are unweighted and based on the number of eligible students within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Patterns were examined in the types of telephone numbers that ultimately resulted in finding a sample member, as well as how these patterns changed over the course of the study. Telephone numbers for the 470 CATI interviews completed during the production phase of data collection were coded as "local number" or "permanent number" based on information provided on the enrollment lists obtained from institutions. In many cases, the institutions had the same number listed as "local" and "permanent"; these were coded as "permanent number". Finally, if a completion was obtained at a number other than local or permanent, then the number was coded as "other number." As shown in table 30, 13 percent of completed cases were obtained using the student's local number and 46 percent using the student's permanent number. For the remaining 42 percent of completed cases, a number other than local and permanent number was used.

**Table 30. Telephone number type for respondent interview completion: 2007**

Type of telephone number	Number	Percent
Total <sup>1</sup>	470	100
Local	60	12.7
Permanent <sup>2</sup>	210	45.7
Other	190	41.6

<sup>1</sup> Represents cases completed via a telephone interview on or after March 29, 2007.

<sup>2</sup> Includes cases with the same telephone number listed for local and permanent.

NOTE: Detail may not sum to totals because of rounding. Self-administered interview completions are not included in this analysis. All percentages are unweighted and based on the number of eligible students within the row under consideration. CATI = computer-assisted telephone interviewing.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.5 Data Collection Experiment Results

Three experiments were conducted during the NPSAS:08 field test. These experiments assessed the following questions:

1. Would cases receiving telephone prompting calls during the early response period produce higher response rates during the early response period than cases who did not receive prompting calls?
2. Would lead letter materials sent via Priority Mail produce higher response during the early response period than materials sent via First-Class Mail?
3. Would a \$10 prepaid nonresponse/refusal incentive (\$10 up front, followed by a promise of \$20 upon interview completion) for nonrespondent/refusal cases produce higher participation rates than those who were offered the promise of a \$30 incentive upon interview completion?

#### 3.5.1 Analysis of Priority Mail

Much research about survey response has focused on the impact of procedures and materials used in contacting sample members, including the number of contacts made, the timing of contacts, and the presentation of materials (Heberlein and Baumgartner 1978). Some studies have suggested that, in addition to the content and timing of study materials, the packaging or presentation of information sent to sample members is important to increasing survey response (Dillman 2000). In particular, the method of mail delivery has been found to be an important factor. For instance, Abreu and Winters (1999) found that Priority Mail was effective when used as a method to increase response rates among nonrespondent cases. The reason is obvious: content is ineffective if the envelope is ignored or considered to be junk mail. Using the Priority Mail delivery system may signal the importance of the information contained in the package, thus increasing the likelihood that the student will read the study materials and respond to the student interview.

Prior to the start of data collection, the field test sample was randomly assigned to two groups: one group to receive the initial study materials, including information and login details, via Priority Mail and the other group to receive the same materials via First-Class Mail, as has

been done in the past. Results were measured by comparing the response rates at the end of the early response period for these two groups to determine whether response was greater for those who received the Priority Mail package.

Table 31 presents the results of the Priority Mail experiment. There was a significant difference in early interview completion between the two groups: 39 percent of those who were sent the materials via Priority Mail completed the interview during the early response phase, compared with 33 percent of those who were sent the materials via First-Class Mail ( $\chi^2 = 9.22$ ,  $p < .01$ ).

**Table 31. Early response rates, by mail condition: 2007**

Type of initial mailing	Eligible sample	Interviewed	
		Number <sup>1</sup>	Percent
All cases	2,920	1,050	36.0
Priority Mail	1,450	560	38.7
First-Class Mail	1,480	490	33.3

<sup>1</sup> This number includes only those respondents who completed the interview during the early response period.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.5.2 Analysis of Telephone Prompting Calls

Research has shown that additional contacts with sample members increase the likelihood of participation (Moore and Dillman 1980). Prompting calls, which are telephone calls made by project staff to sample members reminding them to participate, are likely effective because they provide another reminder about a study and give interview staff an additional opportunity to provide the information needed to participate. Prompting calls also give an early indication of the quality of locating information for a case.

Prior to the NPSAS:08 field test data collection, the field test sample was randomly assigned to two groups. All sample members received study materials with information about the study and the information needed to log in to complete the self-administered interview. One group received telephone prompting calls reminding them to log in to the study website and complete an interview, and the other group did not receive prompting calls. For those in the treatment group, prompting calls occurred approximately 10 days into the sample member's early response period.

Response rates at the end of the early response period for the two groups were compared to determine whether the prompting calls were significantly associated with higher response rates during the early response period.<sup>15</sup> There was a significant difference between the two groups,

<sup>15</sup> The early response period was defined as the first 3 weeks after the data collection notification was sent to a sample member. Sample members were notified of the study and asked to participate by completing a web-based, self-administered survey. Help desk staff were available during this time period to assist sample members in completing the self-administered survey or to administer a telephone interview if desired.

with response rates at the end of the early response period being higher among sample members in the prompting group (22 percent vs. 18 percent [table 32], respectively) ( $\chi^2 = 7.44, p < .001$ ).

**Table 32. Early response rates, by prompting condition: 2007**

Type of prompting	Eligible sample <sup>1</sup>	Interviewed during early response period	
		Number <sup>2</sup>	Percent
All cases	2,410	440	19.9
Selected for prompting	1,210	250	22.2
Not selected for prompting	1,210	190	17.5

<sup>1</sup> This number excludes respondents who completed the interview prior to the start of prompting calls.

<sup>2</sup> This number includes only those respondents who completed the interview between the start of prompting calls and the end of the early response period.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The type of prompting had a significant impact on early interview completion. Sample members who were spoken to directly (27 percent) were the most likely to complete the questionnaire during the early completion period, compared with those who were left a voicemail message (13 percent) and those for whom a message was left with a household member (13 percent) ( $\chi^2 = 22.0, p < .001$ ).

### 3.5.3 Analysis of Prepaid Incentives

Another strategy commonly used to obtain sufficient response to survey data collections is the nonresponse conversion incentive. There is much evidence to suggest that prepaid incentives increase response rates more than promised incentives (Dillman 2000; U.S. Department of Education 2004; Groves et al. 2004). However, because prepaid incentives are difficult to administer, this analysis was limited to the difficult cases at the end of data collection—those determined to be eligible for the nonresponse conversion incentive. This approach allowed us to assess the impact of prepayment on a reduced scale to determine whether it would be effective to implement for targeted groups in the full-scale sample.

Table 33 presents the results of the nonresponse conversion experiment. No significant difference was found between the two groups. About 34 percent of those eligible for the nonresponse conversion incentive responded, regardless of receiving a prepaid or a promised incentive.

**Table 33. Interview participation rates, by nonresponse/refusal incentive status: 2007**

Type of nonresponse/refusal incentive	Eligible sample <sup>1</sup>	Interviewed	
		Number	Percent
All cases	1,420	490	34.2
\$10 prepay/\$20 promise	740	250	34.3
\$30 promise	680	230	34.0

<sup>1</sup> This number includes all eligible sample members who had not completed the interview at the beginning of the nonresponse conversion phase.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 3.5.4 Analysis of Combined Treatments

NPSAS:08 field test sample members were randomly assigned into one of eight experimental groups prior to the start of data collection. Table 34 compares the response rates of sample members who received both treatments during the early response period with those who did not. Of the respondents who received both the Priority Mail delivery and the prompting calls, approximately 41 percent completed the student interview during the early response period. This response rate was significantly higher than the interview completion rate for sample members who did not receive both of the experimental conditions (34 percent) ( $\chi^2 = 11.37, p < .01$ ).

**Table 34. Early response rates, by experimental condition: 2007**

Experimental status	Overall number	Completed interview during early response period	
		Number	Percent
Total	2,950	1,050	35.6
Received both priority mailing and prompting calls	740	300	40.8
Did not receive both priority mailing and prompting calls	2,210	750	33.9

NOTE: Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Approximately 41 percent of respondents who received both prompting calls and Priority Mail completed the student interview during the early response period. This was significantly higher than the early response rate for respondents who received prompting calls only (34 percent) ( $\chi^2 = 7.34, p < .01$ ).





# Chapter 4.

## Evaluation of Field Operations and Data Quality

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Chapter 4 evaluates the effectiveness of field test survey instrumentation and procedures for the quality and completeness of the data obtained. First, efforts to identify students eligible for the Baccalaureate and Beyond Longitudinal Study (B&B) are discussed. Next, evaluations of institutional data collection procedures and instruments are presented. Evaluations of the student interview focus on instrument reliability and usability, item nonresponse, computer-assisted telephone interviewing (CATI) quality assurance monitoring, the student instrument debriefing questionnaire, and data file preparation. This section also includes a discussion regarding cell phone use in the NPSAS:08 field test, profiles of typical respondents, and patterns of refusal conversion.

### 4.1 Potential B&B Identification

The NPSAS:08 field test study will serve as the base year of a longitudinal study of baccalaureate students. Those students determined in the interview to be baccalaureates, as well as all students who were identified on the enrollments lists or in CADE as potential baccalaureate students but who were not interviewed, will be followed up 1 year later as part of the B&B field test. A baccalaureate student was defined for sampling purposes as a student who received or was expected to receive a baccalaureate degree at any time between July 1, 2006, and June 30, 2007.

For the NPSAS:08 field test, sampled institutions were asked to provide enrollment lists that included an indicator of students' baccalaureate status and class level to facilitate identification and sample selection of these students (see section 2.3.3 for more details). However, because the lists of baccalaureate degree recipients were preliminary when the enrollment lists were prepared, some students identified by the institution as baccalaureate candidates were determined during the interviews not to be baccalaureate recipients (false positives). Likewise, some sample students not identified by the institutions as baccalaureate candidates were determined during the interviews to have received a baccalaureate degree during the specified time frame (false negatives).

Table 35 shows that, of the 1,680 students who were sampled as baccalaureate candidates and completed an interview, 470 were not baccalaureate recipients, giving a false positive rate of 28 percent. Conversely, of the 340 students who were sampled as other undergraduates or graduate/first-professional students and completed an interview, 10 were baccalaureate recipients, giving a false negative rate of 3 percent. The high false positive rate observed in the field test was anticipated, since institutions were asked to provide enrollment lists early in the year, thereby making it more difficult to identify potential baccalaureate recipients. Full-scale

sampling plans (see section 5.1) will accommodate the expected rate of false-positive identifications by including sufficient numbers of potential baccalaureate recipients.

**Table 35. Bachelor's degree recipient status determination, by sample student type: 2007**

Student type	Students interviewed <sup>1</sup>	Confirmed bachelor's degree recipient	
		Number	Percent
Total	2,020	1,220	60.4
Bachelor's degree recipient	1,680	1,210	72.2
Other undergraduate and graduate/ first-professional	340	10	2.9

<sup>1</sup> Includes all eligible sample members who completed the student interview, because confirmation of baccalaureate status required confirmation by sample members.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

## 4.2 Institutional Data Sources

### 4.2.1 Enrollment List Acquisition and Quality

On the basis of prior NPSAS studies, many of the challenges inherent in obtaining and processing student enrollment lists from sampled institutions were anticipated. Among these challenges were the following:

- obtaining enrollment lists in a timely manner;
- ensuring appropriate formatting and accuracy of enrollment lists; and
- identifying students' education level.

Other considerations for the field test were multiplicity across lists (e.g., one student attending multiple sampled institutions) and the viability of obtaining key information on the student lists. These topics are discussed in the appropriate sections below.

**Student List Acquisition.** To encourage participation in the field test, institutions were contacted by telephone in the fall of 2006. Institutions were asked to send enrollment lists between January 30, 2007, and June 30, 2007. Table 36 shows the flow of student list receipt by institutional calendar system and month. Approximately 70 percent of the lists arrived during the first 2 months of the year.

**Table 36. Enrollment list receipt, by institutional calendar system and month: 2007**

Month	Total enrollment lists		Institutional calendar system					
			Semester/trimester		Quarter		Continuous/other	
	Number <sup>1</sup>	Percent	Number	Percent	Number	Percent	Number	Percent
All months	270	100.0	240	86.8	10	4.8	20	8.4
January	20	7.7	20	95.2	#	#	#	4.8
February	170	63.4	170	96.0	#	0.6	10	3.5
March	30	11.0	20	70.0	#	3.3	10	26.7
April	30	10.6	20	65.5	10	24.1	#	10.3
May	20	7.0	10	52.6	#	21.1	10	26.3
June	#	0.4	#	100.0	#	#	#	#

# Rounds to zero.

<sup>1</sup> Eligible institutions that provided enrollment lists.

NOTE: Detail may not sum to totals because of rounding. All statistics are based on eligible institutions that provided enrollment lists.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Ultimately, 270 of the 300 eligible institutions in the NPSAS:08 field test sample provided student enrollment lists (see section 3.1.1). As noted earlier, 10 of the 300 eligible institutions refused to take part in the study. Although many institutions submitted enrollment lists on or before their negotiated deadline, about 3 percent of the remaining 290 institutions did not provide their enrollment lists within the first 5 months that they could do so. Obtaining the enrollment lists from some institutions required many prompting calls after those institutions had missed several deadlines.

**Appropriate Format and Accuracy of Lists.** Instructions for preparing enrollment lists were made available on the NPSAS institutional website to facilitate cooperation by institutions and improve the accuracy of the lists. The instructions detailed the student data elements (including student contact information) to be included by institutions. However, institutions still made some common submission errors. These errors included providing files in an incorrect format and excluding the specified data elements and contact information for students.

There were also sometimes accuracy issues with the enrollment list data. For example, many enrollment lists exhibited counts that were out of bounds (i.e., enrollment list counts did not match up with Integrated Postsecondary Education Data System [IPEDS] counts, see section 2.3.3). These lists required additional phone calls to reconcile the data.

Table 37 presents some of the accuracy problems experienced with the enrollment lists. Approximately 65 percent of enrollment lists that were received did not have any problems.

**Table 37. Enrollment list problems encountered, by institutional sampling stratum: 2007**

Institution sampling stratum	Institutions providing lists	Lists with no problems		Lists with problems	
		Number	Percent	Number	Percent
All institutions	270	180	65.2	100	34.8
Public					
Less-than-2-year	#	#	100.0	#	#
2-year	10	10	62.5	#	37.5
4-year non-doctorate-granting	100	50	46.4	50	53.6
4-year doctorate-granting <sup>1</sup>	#	#	#	#	#
Private not-for-profit					
2-year-or-less	#	#	100.0	#	#
4-year non-doctorate-granting	120	90	76.4	30	23.6
4-year doctorate-granting	30	20	65.5	10	34.5
Private for-profit					
Less-than-2-year	#	#	100.0	#	#
2-year-or-more	10	10	83.3	#	16.7

# Rounds to zero.

<sup>1</sup> All institutions in this category are in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

**Multiplicity Across Enrollment Lists.** Student samples were selected as institutional enrollment lists were received and then added to the master student sample (which included all student sample members previously selected). Even though the individual student samples had been unduplicated within institutions, it was possible to have students who were sampled at more than one institution. To avoid student sample duplication across institutions, each institution's student sample was checked against the master sample before being added. In this manner, students initially included in an institution's student sample who were already in the master sample from another list were not added to the master sample with the second institution's list.

**Student's Education Level.** Institutions were asked to provide each student's education level (see section 2.3.3). These data were used to form the student sampling strata (see section 2.1.2). Most institutions followed the instructions and provided education level as specified. However, some enrollment lists contained errors that had to be corrected. For example, some institutions did not initially provide the students' education level. Others provided education level but did not classify graduate students into the three categories requested (master's, doctorate, and other graduate). In this situation, the institution's website was consulted to determine whether the institution offered only one type of graduate program (i.e., only master's, doctorate, or other graduate programs). Some institutions provided codes to designate education level but did not provide sufficient documentation for the codes. In this situation, the institution's website was consulted to determine what the codes meant; if this was unsuccessful, the institution was then contacted for elaboration of the codes provided. Finally, some institutions

did not provide education level but instead provided students' degree programs or majors, which at times proved difficult to translate into education levels.

**Key Information.** As in NPSAS:04, institutions were asked to provide contact information on the student enrollment lists for NPSAS:08. The contact data were to include local and permanent addresses and telephone numbers, as well as campus and permanent e-mail addresses. Nearly all (more than 99 percent) of the enrollment lists received included some contact information (see table 38). However, many institutions provided only one address, phone number, and e-mail address. Frequently, the data labels did not identify whether the information was local or permanent.

Institutions were also asked to provide Social Security numbers on the student lists. Because of confidentiality concerns, project staff were unsure how many institutions would refuse to provide Social Security number. However, more than 96 percent of lists received contained Social Security numbers for at least some of the students.

For the first time in the administration of NPSAS, institutions were asked to provide date of birth (DOB) for the student enrollment lists to identify minors so that parental consent could be obtained before completing an interview. If institutions were unable to provide DOB, they were asked to provide a DOB flag, which indicated if the student was over or under 18 at the start of data collection. Of the enrollment lists received, 83 percent included some form of DOB information.

**Table 38. Institutions providing student contact information, Social Security number, date of birth, and e-mail address, by institutional sampling stratum: 2007**

Institutional sampling stratum	Address		Social Security number		Date of birth		E-mail address		Phone number	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All institutions	260	99.2	260	96.2	220	83.4	240	92.1	260	97.0
Public										
Less-than-2-year	#	100.0	#	100.0	#	100.0	#	75.0	#	75.0
2-year	10	100.0	10	100.0	10	62.5	#	50.0	10	100.0
4-year non-doctorate-granting	90	100.0	90	96.7	80	81.5	90	94.6	90	97.8
4-year doctorate-granting <sup>1</sup>	#	#	#	#	#	#	#	#	#	#
Private not-for-profit										
Less-than-4-year	#	100.0	#	100.0	#	100.0	#	100.0	#	100.0
4-year non-doctorate-granting	120	98.3	120	95.0	110	86.8	110	91.7	120	95.9
4-year doctorate-granting	30	100.0	30	96.6	20	79.3	30	100.0	30	100.0
Private for-profit										
Less-than-2-year	#	100.0	#	100.0	#	75.0	#	75.0	#	100.0
2-year-or-more	10	100.0	10	100.0	#	80.0	10	100.0	10	100.0

# Rounds to zero.

<sup>1</sup> All institutions in this category are in the full-scale sample with certainty and not included in the field test study.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible institutions within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 4.2.2 Completion Rates for Computer-Assisted Data Entry

Table 39 presents institutional computer-assisted data entry (CADE) completion rates for key data elements overall and by method of abstraction (self-CADE, data-CADE, and field-CADE). It is not surprising that item-level response differed among data elements, because institutional record-keeping systems vary dramatically. Not all data elements are available at every institution. However, as can be seen from the table 39, most of the key data elements have a high percentage of item-level completeness. Furthermore, all types of abstraction methods achieved high completion rates overall.

**Table 39. Comparison of computer-assisted data entry (CADE) data element completion rates, by method of abstraction: 2007**

Data element	Total		Method of abstraction					
			Self-CADE		Data-CADE		Field-CADE	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total CADE respondents	2,990	100.0	2,660	100.0	310	100.0	20	100.0
Student characteristic								
Gender	2,950	98.6	2,620	98.5	310	100.0	20	95.7
Marital status	1,910	63.9	1,730	65.2	160	53.1	10	56.5
Citizenship	2,810	94.1	2,500	93.8	300	96.4	20	95.7
High school completion type <sup>1</sup>	2,040	73.4	1,800	72.8	220	78.3	20	73.9
Race	2,660	89.0	2,360	88.9	280	89.6	20	95.7
Hispanic status	2,580	86.3	2,300	86.5	260	83.4	20	95.7
At least one phone number	2,850	95.3	2,540	95.3	290	95.8	20	87.0
At least two phone numbers	910	30.4	770	29.0	140	45.0	#	4.3
Enrollment								
Type of degree program	2,730	91.1	2,400	90.1	310	99.7	20	95.7
Master's, doctor's, or professional degree program <sup>2</sup>	180	96.3	160	95.9	20	100.0	#	#
Student class level	2,660	88.8	2,330	87.5	310	99.3	20	95.7
Tuition jurisdiction classification	2,960	98.8	2,630	98.8	310	99.7	20	95.7
Total tuition amount	2,860	95.5	2,530	95.0	310	99.7	20	95.7
Financial aid								
Any aid received	2,970	99.3	2,640	99.2	310	100.0	20	100.0
Federal aid received	2,970	99.3	2,640	99.2	310	100.0	20	100.0
State aid received	2,970	99.3	2,640	99.2	310	100.0	20	100.0
Institutional aid received	2,970	99.3	2,640	99.2	310	100.0	20	100.0
Graduate aid received <sup>3</sup>	2,970	99.3	2,640	99.2	310	100.0	20	100.0
Other aid received	2,970	99.3	2,640	99.2	310	100.0	20	100.0
Total financial aid amount	2,990	100.0	2,660	100.0	310	100.0	20	100.0

# Rounds to zero.

<sup>1</sup>High school completion type was applicable only to 2,780 undergraduates of the 2,990 CADE student records. Of the 2,780 students to whom the item applied, 2,470 were from self-CADE, 290 were from data-CADE, and the remaining 20 were from field-CADE. Among the 2,470 students from self-CADE to whom this item applied, 1,800 students responded yielding a completion rate of 72.8 percent. Among the 290 students from data-CADE to whom this item applied, 220 students responded yielding a completion rate of 78.3 percent. Among the 20 students from field-CADE to whom this item applied, 20 students responded yielding a completion rate of 73.9 percent.

<sup>2</sup>Master's, doctor's, and professional degree program was applicable only to 190 graduate/first-professional students in the 2,990 CADE student records. Of the 190 students to whom the item applied, 170 were from self-CADE and 20 were from data-CADE. Among the 170 students from self-CADE to whom this item applied, 160 students responded yielding a completion rate of 95.9 percent. Among the 20 students from data-CADE to whom this item applied, 20 students responded yielding a completion rate of 100 percent.

<sup>3</sup>Graduate aid received was only asked of graduate students and was automatically coded as "No" for undergraduate students therefore is applicable to all 2,990 CADE student records.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Marital status and having at least two phone numbers were two items with low completion rates (64 percent and 30 percent, respectively) because these are often not included in student records. High rates of item-level completeness were obtained for the financial aid items, because the Institutional Coordinators (ICs) who provided the data were often financial aid personnel. Thus, they were familiar with this type of information and knew how to access it quickly and accurately.

Another item of note is that the NPSAS:08 field test had a lower completion rate for high school completion type (e.g., diploma or General Educational Development [GED] certification) than the NPSAS:04 full-scale study (73 percent vs. 77 percent, respectively) ( $z = 3.6, p < .05$ ). In this field test, 4-year institutions and upperclass students were oversampled to include a sufficient number of B&B eligible students. The majority of the missing responses for high school completion type were for students with a class level of “3rd year/junior” or higher. Institutions may have been less likely to have high school records on upperclass students than on those who were recently admitted.

### 4.2.3 CADE Record Verification

Verification and any needed correction for CADE responses (self-, data-, and field-CADE) were requested of ICs at the 150 field test institutions that provided CADE data. Appendix F displays the CADE verification web page on the institutional website. Verification of five CADE data elements was requested for five randomly selected students sampled at each institution. A total of 130 institutions completed CADE verification, providing verification data for 630 students. The five data elements chosen for the CADE verification were

1. degree program (used to determine student type in CADE);
2. month and year of birth;
3. gender;
4. citizenship status; and
5. total tuition for the 2006–07 academic year.

Table 40 shows that, for all five variables, the percentage agreement between what was originally submitted by the institution and what was submitted for the verification check was high (ranging from 90 percent to 99 percent) for all methods of CADE abstraction.



**Table 40. Computer-assisted data entry (CADE) verification percentage agreement, by abstraction method: 2007**

CADE item verified	Total		Method of abstraction					
			Self-CADE		Data-CADE		Field-CADE	
	Total	Percent agreement	Total	Percent agreement	Total	Percent agreement	Total	Percent agreement
Degree program	590	98.1	550	98.5	40	91.4	10	100.0
Month and year of birth	610	99.3	560	99.3	40	100.0	10	100.0
Gender	600	99.3	560	99.5	40	100.0	10	90.0
Citizenship	600	99.0	560	98.9	30	100.0	10	100.0
Total tuition	590	89.8	550	89.4	30	93.6	10	100.0

NOTE: Detail may not sum to totals because of rounding. Analyses were conducted only for students for whom the institution provided valid responses for both the initial CADE submission and the CADE record verification.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 4.3 Instrument Reliability and Usability

#### 4.3.1 Instrument Reliability Analysis

A subsample of eligible sample members who completed the interview was randomly selected to participate in a reliability reinterview. Students selected for the reinterview were informed of their selection at the end of the initial interview and invited to participate in the subsequent reinterview. Respondents were asked to participate in the reinterview within the mode of initial interview administration, either self-administered web interview or computer-assisted telephone interview (CATI), thus ensuring correspondence between the main interview and the reinterview.

The reinterview contained 54 items from the initial interview. Items were selected for inclusion in the reinterview because of their important nature in relation to the NPSAS:08 full-scale survey and the subsequent B&B follow-up. Items were also selected either because they were new to the NPSAS instrument, or had undergone significant changes since the last administration.

The NPSAS:08 field test included a set of items intended to collect information on students' knowledge of two new grants available as of 2006 to Pell eligible students who meet certain eligibility requirements—the Academic Competitiveness Grant (ACG) and the Science and Mathematics Access to Retain Talent (SMART) grant. Because only a small subset of respondents indicated that they knew about these two grants, the random sample generated for the reinterview did not yield a sample size sufficient to test the reliability of these items. Therefore, all students who reported knowledge of either grant were asked to participate in the reinterview. Those students who were not selected randomly to participate in the reinterview have been excluded from all reliability analyses except the ACG/SMART grant items.

**Reliability Reinterview Response Rates.** A total of 350 respondents were selected for the reliability reinterview. Of those, 320 (91 percent) were selected randomly. Table 41 shows the selection distribution by mode for all reinterview sample members.

**Table 41. Selection type of reinterview sample members, by interview administration mode: 2007**

Interview administration mode	Total		Random Selection		ACG/SMART selection	
	Number	Percent	Number	Percent	Number	Percent
Total	350	100.0	320	91.4	30	8.6
Self-administered interview	220	64.4	200	63.8	20	70.0
Interviewer-administered interview	120	35.6	120	36.2	10	30.0

NOTE: Detail may not sum to totals because of rounding. ACG = Academic Competitiveness Grant; SMART = National Science and Mathematics Access to Retain Talent grant.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

A description of the reinterview sample, and subsequent participation rates by institution and student type and by mode of administration, are shown in table 42. Approximately 47 percent of those selected, or 150 respondents, ultimately completed the reinterview. Telephone interview respondents were significantly more likely to respond to the reinterview than self-administered web respondents (72 and 33 percent, respectively) ( $z = 4.75, p > .01$ ).

**Reliability Reinterview Results.** Table 43 provides results of a reliability analysis, presented by interview section. For each item, the number of cases, percentage agreement between the initial interview and reinterview, and relational statistic are presented. For discrete variables, the percentage agreement was based on the extent to which responses to the initial interview and the reinterview matched exactly. For continuous variables, responses were considered in agreement if the initial interview responses were within one standard deviation of the reinterview responses.

Relational statistics describe the strength of association between two variables, with 1.00 indicative of a perfect correlation (i.e., an exact match between the item on the initial interview and the same item on the reinterview for all respondents). For the purposes of reporting the relational statistic, Cramer's  $V$  was used for items with discrete, unordered response categories (e.g., yes/no). Kendall's tau- $b$  ( $\tau_b$ ) estimated the relationship between items with ordered categories (e.g., not at all, occasionally, and frequently). Lastly, the Pearson product-moment correlation coefficient ( $r$ ) was used for variables yielding interval or ratio responses (e.g., income).

**Table 42. Reliability reinterview response, by institution and student type: 2007**

Institutional characteristic and student type	Selected for reinterview						Participated in reinterview					
	Total		Self-administered		Interviewer-administered		Total		Self-administered		Interviewer-administered	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	320	100.0	200	100.0	120	100.0	150	47.2	70	33.0	80	72.2
Institutional level												
Less-than-2-year	10	1.6	#	1.0	#	2.6	#	60.0	#	#	#	100.0
2-year	10	1.9	10	2.5	#	0.9	#	33.3	#	40.0	#	#
4-year non-doctorate-granting	220	67.6	130	62.1	90	77.4	100	47.9	40	30.2	70	73.0
4-year doctorate-granting	90	28.9	70	34.5	20	19.1	40	45.7	30	38.6	20	68.2
Institutional control												
Public	160	50.6	100	50.2	60	51.3	80	48.4	30	32.4	50	76.3
Private not-for-profit	160	48.7	100	49.8	50	47.0	70	45.8	30	33.7	40	68.5
Private for-profit	#	0.6	#	#	#	1.7	#	50.0	†	†	#	50.0
Student type												
Total undergraduate	280	89.0	180	89.2	100	88.7	130	46.6	60	33.7	70	69.6
B&B eligible	200	61.3	130	64.5	60	55.7	90	45.1	50	34.4	40	67.2
Other undergraduate	90	27.7	50	24.6	40	33.0	40	50.0	20	32.0	30	73.7
Graduate/first-professional	40	11.0	20	10.8	10	11.3	20	51.4	10	27.3	10	92.3

† Not applicable.

# Rounds to zero.

NOTE: Detail may not sum to totals because of rounding. All percentages are unweighted and based on the number of eligible students within the row under consideration.

B&amp;B = Baccalaureate &amp; Beyond Longitudinal Study. CATI = computer-assisted telephone interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

**Table 43. Reliability indices for items on the reinterview, by interview section and mode: 2007**

Items	Overall			Self-administered			Interviewer-administered		
	Number of cases <sup>1</sup>	Percent agree-ment <sup>2</sup>	Relational statistic	Number of cases <sup>1</sup>	Percent agree-ment <sup>2</sup>	Relational statistic	Number of cases <sup>1</sup>	Percent agree-ment <sup>2</sup>	Relational statistic
<b>Enrollment</b>									
Reason for attending NPSAS institution									
Gain job skills	80	72.0	0.44 <sup>3,6</sup>	40	77.5	0.51 <sup>3,6</sup>	40	66.7	0.28 <sup>3,6</sup>
Prepare for certification	80	72.0	0.32 <sup>3,6</sup>	40	82.5	0.56 <sup>3</sup>	40	61.9	0.17 <sup>3,6</sup>
Prepare for transfer	30	100.0	1.00 <sup>3</sup>	10	100.0	1.00 <sup>3</sup>	10	100.0	† <sup>3</sup>
Earn credits	80	95.1	0.69 <sup>3,6</sup>	40	95.0	0.64 <sup>3</sup>	40	95.2	0.72 <sup>3</sup>
Self-improvement	80	81.7	0.38 <sup>3,6</sup>	40	92.5	0.37 <sup>3,6</sup>	40	71.4	0.30 <sup>3,6</sup>
Complete degree or certificate	80	84.2	0.40 <sup>3,6</sup>	40	92.5	0.63 <sup>3</sup>	40	76.2	0.28 <sup>3,6</sup>
Complete associate's degree	30	93.3	0.63 <sup>3,6</sup>	20	93.3	0.68 <sup>3</sup>	20	93.3	0.68 <sup>3</sup>
Main reason for attending NPSAS	60	60.0	0.59 <sup>3</sup>	20	75.0	0.74 <sup>3</sup>	40	52.5	0.68 <sup>3</sup>
NPSAS school was first school attended after high school	130	92.9	0.86 <sup>3</sup>	60	93.2	0.86 <sup>3</sup>	70	92.7	0.85 <sup>3</sup>
Date attended first school: month	60	67.2	0.55 <sup>5</sup>	30	74.1	0.41 <sup>5,6</sup>	40	62.2	0.60 <sup>5</sup>
Date attended first school: year	70	86.6	0.97 <sup>4</sup>	30	96.3	1.00 <sup>4</sup>	40	80.0	0.94 <sup>4</sup>
Date first began NPSAS school ever, month	130	84.1	0.68 <sup>5</sup>	60	83.3	0.75 <sup>5</sup>	70	84.9	0.62 <sup>5</sup>
Date first began NPSAS school ever, year	130	85.9	0.90 <sup>4</sup>	60	90.0	1.00 <sup>4</sup>	70	82.4	0.86 <sup>4</sup>
Highest degree expected ever	140	79.2	0.82 <sup>5</sup>	70	81.5	0.83 <sup>5</sup>	80	77.2	0.82 <sup>5</sup>
Earned prior degree/certificates	150	87.9	0.75 <sup>3</sup>	70	91.0	0.81 <sup>3</sup>	80	85.4	0.71 <sup>3</sup>
High school GPA	90	97.9	0.93 <sup>4</sup>	50	96.2	0.90 <sup>4</sup>	40	97.6	0.93 <sup>4</sup>
No high school GPA	120	99.2	0.83 <sup>3,6</sup>	60	100.0	1.00 <sup>3</sup>	60	98.4	† <sup>3</sup>
<b>Financial aid</b>									
Received financial aid	150	90.4	0.77 <sup>3</sup>	70	84.6	0.64 <sup>3</sup>	80	95.1	0.89 <sup>3</sup>
Applied for financial aid	40	89.2	0.56 <sup>3</sup>	10	92.4	0.78 <sup>3</sup>	20	87.5	0.34 <sup>3,6</sup>
Reason for not applying:									
No need	30	66.7	0.33 <sup>3,6</sup>	10	80.0	0.60 <sup>3</sup>	20	60.0	0.20 <sup>3,6</sup>
Assumed not eligible	30	86.7	0.70 <sup>3</sup>	10	80.0	0.61 <sup>3</sup>	20	90.0	0.67 <sup>3</sup>
Missed deadline	30	97.0	0.69 <sup>3,6</sup>	10	100.0	† <sup>3</sup>	20	95.0	0.69 <sup>3,6</sup>
No information from counselor	30	100.0	† <sup>3</sup>	10	100.0	† <sup>3</sup>	20	100.0	† <sup>3</sup>
Forms too confusing	30	93.3	† <sup>3</sup>	10	90.0	† <sup>3</sup>	20	95.0	† <sup>3</sup>
Other	30	76.7	0.40 <sup>3,6</sup>	10	100.0	† <sup>3</sup>	20	65.0	0.29 <sup>3,6</sup>

See notes at end of table.

**Table 43. Reliability indices for items on the reinterview, by interview section and mode: 2007—Continued**

Items	Overall			Self-administered			Interviewer-administered		
	Number of cases <sup>1</sup>	Percent agreement <sup>2</sup>	Relational statistic	Number of cases <sup>1</sup>	Percent agreement <sup>2</sup>	Relational statistic	Number of cases <sup>1</sup>	Percent agreement <sup>2</sup>	Relational statistic
Financial aid—Continued									
Received federal loans	90	91.3	0.75 <sup>3</sup>	40	88.6	0.72 <sup>3</sup>	50	93.8	0.79 <sup>3</sup>
Federal student loan: received loan repayment information	70	72.7	0.39 <sup>3,6</sup>	30	60.7	0.39 <sup>3,6</sup>	40	81.6	0.47 <sup>3,6</sup>
Federal student loan: received salary information	70	53.7	0.31 <sup>3</sup>	30	55.2	0.27 <sup>3</sup>	40	52.6	0.39 <sup>3</sup>
Received Pell grant	80	94.9	0.90 <sup>3</sup>	40	92.1	0.84 <sup>3</sup>	40	97.5	0.95 <sup>3</sup>
Education experiences									
Hours per week in class	140	92.4	0.74 <sup>4</sup>	70	97.0	0.90 <sup>4</sup>	80	90.9	0.66 <sup>4</sup>
Hours per week on schoolwork	140	84.1	0.58 <sup>4</sup>	70	86.2	0.56 <sup>4</sup>	80	81.3	0.58 <sup>4</sup>
Ever study abroad	90	98.9	0.95 <sup>3</sup>	50	100.0	1.00 <sup>3</sup>	40	97.7	0.90 <sup>3</sup>
Number of languages studied	90	93.2	0.94 <sup>4</sup>	50	91.1	0.92 <sup>4</sup>	40	95.4	0.96 <sup>4</sup>
Background									
Distance from NPSAS school to work	110	97.2	0.29 <sup>4,6</sup>	50	98.1	0.60 <sup>4</sup>	60	96.4	0.27 <sup>4,6</sup>

† Not applicable. Statistics were not computed because the reinterview responses had less than two nonmissing levels (e.g., all respondents indicated “yes” on both the interview and the reinterview, or all responses for the interview were the same while there were different responses for the reinterview).

<sup>1</sup> Analyses were conducted only for respondents with valid responses on both the initial interview and the reinterview; not all items were applicable to all respondents.

<sup>2</sup> This percentage reflects an exact match of the paired responses for discrete variables. For continuous variables, the percentage reflects the percentage of responses on the reinterview that were within one standard deviation of the responses on the student interview.

<sup>3</sup> The relational statistic presented is Cramer's *V*.

<sup>4</sup> Pearson's product-moment correlation coefficient *r* was used.

<sup>5</sup> The relational statistic presented is Kendall's tau-*b*.

<sup>6</sup> This relational statistic appears to be deflated due to little variation across valid response categories. As a result, minor changes in the distribution of responses between the initial interview and the reinterview tend to lower the relational statistic.

NOTE: Detail may not sum to totals because of rounding. This table includes only items with a valid sample size greater than 25 respondents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Overall, the reliability analysis suggests that respondents provide consistent responses to interview questions for the interview and reinterview. Two items—“prepare for transfer” as a reason for attending NPSAS institution and “no information from counselor” as the reason for not applying for financial aid—were found to have 100 percent agreement between the interview and reinterview. The two items that showed the least consistency were “received salary information” with federal loan counseling (54 percent) and “main reason for attending NPSAS institution” (60 percent).

Very few mode differences were found, suggesting that the interview collected data of similar quality whether it was completed with an interviewer or through self-administration. To minimize the occurrence of mode differences in the full-scale study, items with low reliability will be evaluated and revised where possible. The results of the reliability analysis are discussed below, by section.

**Enrollment.** Of the 21 items included in the enrollment section of the reinterview, 15 items delivered relatively consistent results (with percent agreement above 80 percent). Those with the highest agreement are “prepare for transfer” as a reason for attending NPSAS (100 percent), “no high school GPA” (99 percent), “high school GPA” (98 percent), and “earn credits” as a reason for attending NPSAS (95 percent). Another item—NPSAS was first school attended after high school—returned a consistent response 93 percent of the time. The remaining items in this section had moderate percent agreement, with at least 60 percent agreement.

The percentage agreement for the set of items collecting information regarding the respondents’ reasons for attending the NPSAS institution ranged from 72 percent to 100 percent. While the percentage agreement for these variables is high, the relational statistics, indicating the strength of the association between the responses to the interview and on the reinterview, are relatively low. However, for this and several other items, the deflated relational statistic is associated with little variation across response categories (i.e., restriction of range). In other words, although in the reinterview only a small number of students answered differently from the original interview, because of the minimal variation in the initial response options, these slight answer changes resulted in a low relational statistic (shown in table 43).

Only three items in the enrollment section were found to differ significantly by interview mode. These three items are all from the same question, which asked respondents to list their reasons for attending the NPSAS institution. Self-administered respondents were more likely than interviewer-administered respondents to provide consistent answers for (1) “self improvement” (93 percent and 71 percent, respectively) ( $z = 2.47, p < .05$ ), (2) “completion of a degree or certificate” (93 percent and 76 percent, respectively) ( $z = 2.02, p < .05$ ), and (3) “prepare for certificate” (83 percent and 62 percent, respectively) ( $z = 2.08, p < .05$ ). The responses to these items yielded a higher reliability for self-administered respondents than interviewer-administered respondents. For the NPSAS:08 full-scale study, the response options for this question will be simplified to minimize the impact of administration mode. Additionally, the question format will be altered to prevent respondents from having to recall a long list of response options.

**Financial Aid.** The 13 items included in the financial aid section of the reinterview delivered fairly consistent results, indicating high reliability. Only two items—(1) “received salary information” with federal student loan counseling and (2) “no need” to apply for financial aid—had a percentage agreement less than 70 (54 and 67, respectively). For the full-scale study, the federal loan counseling items will be revised to focus on respondents’ behavior rather than asking respondents to recall something that may have happened in the past. Additionally, the response options for the reasons a respondent did not apply for financial aid will be simplified into more general responses. One item, “reason for not applying-other,” yielded significantly different percentage agreement by interview mode. Self-administered respondents provided consistent responses 100 percent of the time, compared with 65 percent for interviewer-administered respondents ( $z = 2.14, p < .05$ ). The remaining financial aid items yielded high percentage agreement (from 73 percent to 100 percent), suggesting that these questions produce stable results across interviews.

**Education Experiences.** The four items included in the educational experiences section of the reinterview all showed high temporal agreement. The item “ever study abroad” returned the same response 99 percent of the time and yielded a relational statistic of .95. The item that collected the “number of languages studied” was answered consistently 93 percent of the time and yielded a relational statistic of .94. The remaining two items in this section referred to the number of hours the respondent spent per week: (1) “in class” and (2) “on schoolwork.” Both displayed a high percentage agreement (92 percent and 84 percent, respectively) and moderate relational statistics (.74 and .58, respectively).

**Background.** In the reinterview, only one item was asked in the background section: “distance from NPSAS school to work.” This item was a continuous variable that demonstrated very high percentage response agreement (97) but a weak relational statistic (.29). The discrepancy appears to be the result of a small number of drastically different responses provided in the reinterview.

**ACG/SMART Grant.** Implementation of these two grants began in 2006. The NPSAS:08 study provides a way to establish baseline measures regarding awareness about the programs and their requirements. It was anticipated that there would be very few respondents who knew about them and were potentially eligible to receive them. Furthermore, the nature of the field test sample (a purposive sample that oversampled potential B&B eligible students to support the longitudinal follow-up studies) meant that there were very few first- and second-year respondents eligible to receive the questions about the ACG grants.

In an effort to evaluate the reliability of these new questions, every respondent in the NPSAS:08 student interview who reported knowledge of either grant was asked to complete the reinterview. Despite the additional nonrandom sampling, there were still too few respondents to these items to adequately support the reliability analysis—thus the results are not presented in this report. While the sample sizes were not large enough for inclusion in table 43, four of these items had a sample size greater than 15. Each of these items was found to have high percentage agreement. They were (1) “knowledge of SMART grant full-time requirement” (85 percent), (2) “knowledge of SMART grant major requirements” (85 percent), (3) “knowledge of SMART

grant GPA requirements” (80 percent), and (4) whether the “SMART grant affected the respondent’s full-time status” (100 percent). The high percentage agreement for these items suggests that, with a sufficient sample size as will be provided in the full-scale instrument, the entire set of ACG/SMART grant items will provide reliable results.

### 4.3.2 Coding Systems

The online systems used to code students’ institution and major in the student instrument were developed to standardize sample member responses into predetermined categories. As described in section 2.3.6, institution and major coding systems involved an assisted coding mechanism that retrieved a list of possible codes following the entry of a text string. Coding system results were evaluated as described below.

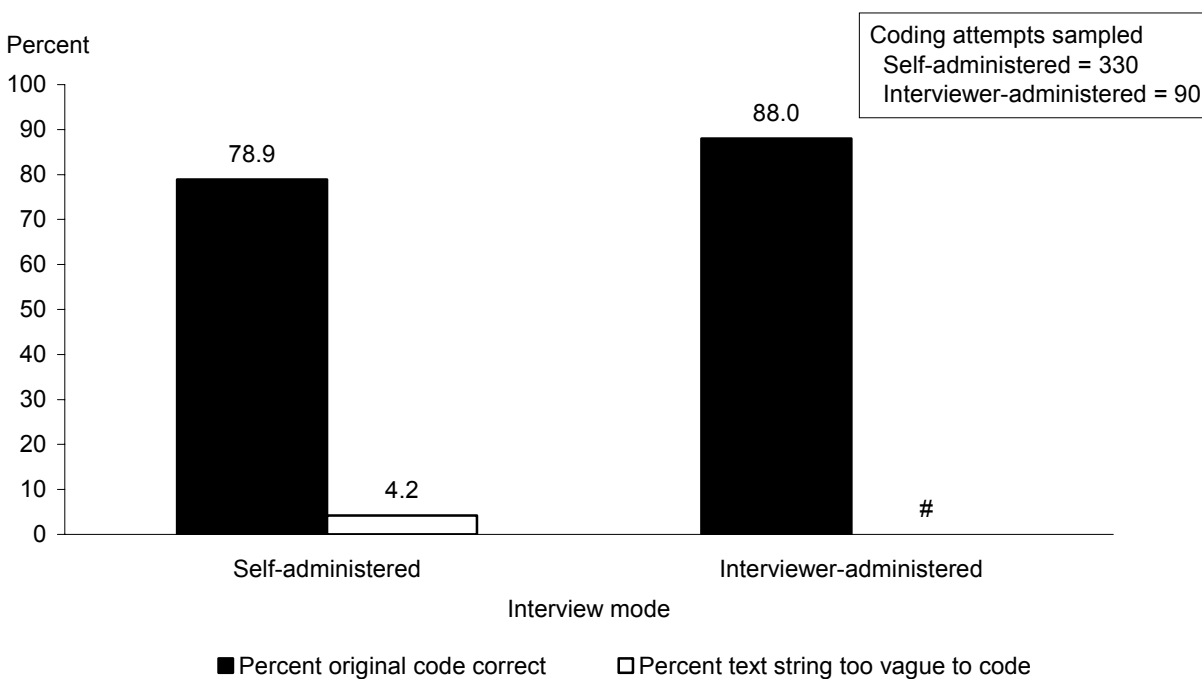
When a text entry for institutions attended did not match with any institution codes available, expert coders used the text string to determine the appropriate school code (upcode). Institution names and enrollment history were collected in the enrollment section of the student interview in a looping series of questions that repeated for each school attended during the 2006–07 school year. Thus, respondents were able to report enrollment dates and intensity for multiple postsecondary institutions (the maximum number of reported institutions attended by a single respondent was three). The upcoding rates were calculated on the basis of whether any of the institution names for a given respondent were upcoded. A small number of respondents (3 percent) had at least one upcoded institution. The rate of overall upcoding required was very small but did vary by administration mode. The upcoding rate for self-administered interviews (3 percent) was higher than for interviewer-administered interviews (1 percent) ( $z = 2.8$ ,  $p < .01$ ).

As described in chapter 2, the coding system for student-reported majors used an assisted coder that derived a list of possible matches from the text string the respondent provided. A total of 25 percent of reported majors were subject to review by expert coders. These coders reviewed text strings collected by the coding systems and selected the appropriate corresponding code. An application compared expert codes to original codes provided in the interview. Expert coders replaced original codes when they did not match. If no areas matched, double dropdown boxes were used to categorize the major. As shown in figure 8, between 79 percent and 88 percent of all majors were coded correctly and between 0 and 4 percent of text strings were too vague to code accurately. The recode rate for majors did not vary significantly<sup>16</sup> by interview mode ( $z = 1.94$ ,  $p = .052$ ).

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<sup>16</sup> Using a criterion probability level of .05.



**Figure 8. Summary of recode results, by completion mode: 2007**

# Rounds to zero.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 4.3.3 Checkboxes and Radio Button Experiments

Checkbox (“Check all that apply”) question formats are commonly used in self-administered surveys. This format produces a simple list of response options and tends to be associated with minimal time burden to respondents. Because this format is difficult to administer to CATI respondents (particularly with questions that have a long list of options), many mixed-mode surveys convert checkbox questions to a radio button question format. Although these two question formats appear similar, they may not be interchangeable. Research has shown that respondents provide more responses when asked to provide a “Yes” or “No” for each item listed (radio button format) (Rasinski, Mingay, and Bradburn 1994). Further, researchers have found that asking for a “Yes” or “No” response for each item increases the amount of time spent answering the questions (Smyth, Dillman, Christian, and Stern 2006). This suggests that respondents spend more time thinking about each item prior to selecting an answer. Much of this research has been conducted on self-administered surveys. To assess the impact of question format in a mixed-mode survey, the NPSAS:08 field test instrument included an experiment to compare the checkbox and the radio button formats.

Four sets of items were selected to be included in this experiment: (1) “reasons for attending NPSAS institution,” (2) “job affects school experiences,” (3) “reasons for applying to graduate school,” and (4) “reasons for not applying to graduate school.” Each set contained between 7 and 11 response items. Prior to the start of data collection, sample members were

randomly assigned to an experimental status category. One-half of the sample members were administered the questions in checkbox format, while the other half received the radio button format.

The checkbox format listed the items and asked the respondent to check all that applied. If a response option was not applicable to the respondent, the box was left unchecked. The radio button format listed the items with a “Yes” or “No” radio button for each. Figure 9 shows an example of the two question formats.

**Figure 9. Example of radio button and checkbox question formats: 2007**

**Checkbox format**

What were your reasons for enrolling in NPSAS?  
(Please check all that apply.)

- Complete an undergraduate degree or certificate program at this school
- Earn course credits needed for a program at a different school
- Prepare for job certification or license
- Take courses solely for recreation, self-improvement, or personal interest
- Gain job or occupational skills
- Other, please specify

**Radio button format**

What were your reasons for enrolling in NPSAS?

	Yes	No
Complete an undergraduate degree or certificate program at this school	<input type="radio"/>	<input type="radio"/>
Earn course credits needed for a program at a different school	<input type="radio"/>	<input type="radio"/>
Prepare for job certification or license	<input type="radio"/>	<input type="radio"/>
Take courses solely for recreation, self-improvement, or personal interest	<input type="radio"/>	<input type="radio"/>
Gain job or occupational skills	<input type="radio"/>	<input type="radio"/>

Other, please specify

Source: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

The average number of affirmative responses per form was compared by format and completion mode (see table 44). Overall, the radio button format produced a higher average number of affirmative responses than the checkbox format. The differences in format were statistically significant: “reasons for attending NPSAS institution” ( $t = 12.69, p < .001$ ), “job affects school experiences” ( $t = 3.14, p < .01$ ), “reasons for applying to graduate school” ( $t = 3.79, p < .001$ ), and “reasons for not applying to graduate school” ( $t = 6.89, p < .001$ ).

**Table 44. Comparison of average affirmative responses for checkbox and radio button item format, by mode: 2007**

Questions	Radio button		Checkbox	
	Number	Average affirmative	Number	Average affirmative
	Overall			
Reasons for attending NPSAS institution	860	2.4	890	1.8
Job affects school experiences	520	2.2	560	1.8
Reasons for applying to graduate school	140	2.9	130	2.2
Reasons for not applying to graduate school	140	3.2	130	1.8
	Self-administered			
Reasons for attending NPSAS institution	630	2.3	660	1.6
Job affects school experiences	390	2.2	420	1.7
Reasons for applying to graduate school	110	3.0	100	2.1
Reasons for not applying to graduate school	100	3.4	100	1.9
	Interviewer-administered			
Reasons for attending NPSAS institution	230	2.6	230	2.3
Job affects school experiences	130	2.0	140	2.3
Reasons for applying to graduate school	30	2.5	30	2.3
Reasons for not applying to graduate school	30	2.5	30	1.2

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

When compared by mode, the results differ slightly. For self-administered web respondents, the radio button format produced a higher average number of affirmative responses than the checkbox format for all four sets of questions: “reasons for attending NPSAS institution” ( $t = 13.61, p < .001$ ), “job affects school experiences” ( $t = 4.48, p < .001$ ), “reasons for applying to graduate school” ( $t = 4.24, p < .001$ ), and “reasons for not applying to graduate school” ( $t = 6.42, p < .001$ ). For interviewer-administered respondents, no differences between the checkbox and radio button format were found for “job affects school experiences” and “reasons for applying to graduate school.” The two remaining sets of items yielded a higher average number of affirmative responses in the radio button format than the checkbox format: “reasons for attending NPSAS institution” ( $t = 3.03, p < .01$ ) and “reasons for not applying to graduate school” ( $t = 3.08, p < .01$ ).

The average time required for respondents to complete each of the four sets of items was also analyzed. Average form times are presented in table 45. On average, respondents took 33.1 seconds to complete “reasons for attending NPSAS institution” in the radio button format, compared with 26.1 seconds in the checkbox format ( $t = 8.9, p < .001$ ). Further, respondents took more time to complete the radio button format than the checkbox format for “job affects school experiences” ( $t = 2.11, p < .05$ ) and “reasons for applying to graduate school” ( $t = 4.31,$

$p < .001$ ). “Reasons for not applying to graduate school” was the only set of items that yielded no significant time difference for the two formats overall or by administration mode.<sup>17</sup>

**Table 45. Form completion time (in seconds) for checkbox and radio button items, by completion mode: 2007**

Form name	Overall		Self-administered		Interviewer-administered	
	Radio button	Checkbox	Radio button	Checkbox	Radio button	Checkbox
Reasons for attending NPSAS institution	33.1	26.1	28.5	21.4	45.3	41.3
Job affects school experiences	23.5	22.2	21.9	19.2	29.3	31.5
Reasons for applying to graduate school	13.3	9.8	13.3	9.8	#	#
Reasons for not applying to graduate school	12.9	10.3	14.1	10.5	6.9	9.0

# Rounds to zero.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

## 4.4 Item Nonresponse

### 4.4.1 Item-Level Nonresponse

The item-level nonresponse analysis presented here focuses on the rates of nonresponse to student interview items. Missing data for items in the field test student interview were associated with a number of factors: (1) a true refusal, (2) an unknown answer, (3) an inappropriate question for that respondent that he or she could not answer, (4) confusion related to the question wording or response options, or (5) hesitation to provide a best guess response. Overall, however, item-level nonresponse rates were low, with only 29 items out of approximately 610 that had more than 5 percent missing data. These items are shown in table 46 and are grouped by interview section. Item nonresponse rates were based on the number of interview respondents to whom the item was applicable and asked.<sup>18</sup>

<sup>17</sup> See section 5.3 for the planned revisions to the full-scale instrument based on the results of the analysis presented here.

<sup>18</sup> Partial interview completions and interview nonrespondents were excluded from this analysis.

**Table 46. NPSAS:08 interview overall item nonresponse, by section: 2007**

Interview section and variable name	Label	Overall		Self-administered		Interviewer- administered	
		Number adminis- tered to	Percent missing	Number adminis- tered to	Percent missing	Number adminis- tered to	Percent missing
<b>Enrollment</b>							
N8GPAEST	Estimate of GPA	110	8.8	70	7.7	50	10.4
N8MJGNUM	Cumulative major GPA	1,580	8.4	1,170	4.8	400	19.0
N8HSGPA	High school GPA	1,480	7.9	1,060	3.1	420	19.9
N8CMPCLS	Completed postsecondary course after high school	120	24.2	90	19.1	40	37.1
N8MAJ1	Major: primary string	1,870	19.0	1,370	24.6	500	3.6
N8MAJ2	Major: secondary string	150	28.2	110	36.0	40	5.3
N8MJ1SPE	Dropdown primary major: specific code	1,870	7.7	1,370	10.1	500	1.0
N8MJ2GEN	Dropdown primary major: general code	150	8.7	110	10.8	40	2.6
N8MJ2SPE	Dropdown secondary major: specific code	150	11.4	110	14.4	40	2.6
N8CT01	Other school 1: city	190	7.5	140	8.1	50	5.8
N8LEVL01	Other school 1: level	190	7.5	140	8.9	50	3.8
N8CTRL01	Other school 1: control	190	8.0	140	9.6	50	3.8
<b>Financial aid</b>							
N8STAMT	State grant/scholarship amount	480	11.6	370	10.4	100	15.8
N8INAMT	College grant/scholarship amount	790	8.7	620	7.6	170	12.3
N8AMNEMP	Employer aid amount	160	15.7	130	16.0	30	14.7
N8AMNPRV	Private organization aid amount	150	13.0	120	12.8	30	13.8
N8PRVAMT	Amount of alternative loan	240	6.7	190	7.6	60	3.6
N8EARNNS	Time frame for school year earnings	810	7.4	600	6.5	200	10.4
<b>Education plans</b>							
N8GRRNA	Reason for applying to graduate school: required for career choice	260	8.7	200	8.3	60	10.2
N8GRRNB	Reason for applying to graduate school: qualify for better job	260	8.9	200	8.5	60	10.2
N8GRRNC	Reason for applying to graduate school: undecided about career	250	9.3	190	9.0	60	10.3
N8GRRND	Reason for applying to graduate school: no job prospects	250	9.3	190	9.0	60	10.5
N8GRRNE	Reason for applying to graduate school: academic interests	260	8.9	200	8.5	60	10.3
N8GRRNF	Reason for applying to graduate school: availability of aid	240	9.4	190	9.1	60	10.5
N8GRRNG	Reason for applying to graduate school: urged by parents/guardians	250	9.2	190	8.9	60	10.5
N8GRRNH	Reason for applying to graduate school: other	270	8.6	210	8.2	60	9.8
<b>Education experiences</b>							
N8TRATYP	Transfer credits attempted: unit of credit	700	5.4	530	6.0	170	3.6
N8OMJ1	Original major: primary string	440	17.7	310	24.5	120	#
N8OM1SPE	Dropdown original major: specific code	440	8.7	310	12.1	120	#

# Rounds to zero.

NOTE: Detail may not sum to totals because of rounding. This table includes only items that were administered to at least 100 respondents. GPA = grade point average.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Many respondents appeared reluctant to answer items that could be deemed sensitive, such as those regarding personal information and family finances. Five of the items listed in table 46 focused on the amount of financial aid the student had received. Of these items, “employer aid amount” generated the highest rate of nonresponse (16 percent). In addition, “private organization aid amount” and “state grant/scholarship amount” had a high nonresponse rate (13 percent and 12 percent, respectively).

Of the 120 students who received the item “completed postsecondary course after high school,” 24 percent did not provide an answer. The set of questions related to the reasons why respondents applied to graduate school yielded approximately 9 percent nonresponse for each item.

It is important to understand which items, if any, are difficult for self-administered respondents to understand because the respondents do not have the assistance of a trained interviewer while completing the interview. Therefore, in addition to the overall analysis, the item-level nonresponse is also presented by mode of interview administration in table 46.

Nine items presented in table 46 had rates of nonresponse that were significantly different by mode. Only three items had higher rates of nonresponse among interviewer-administered respondents when compared with self-administered respondents. For the item “completed postsecondary course after high school,” approximately 37 percent of interviewer-administered respondents did not provide an answer, compared with approximately 19 percent of self-administered respondents ( $z = 2.11, p < .05$ ). The remaining two items dealt with the respondent’s grade point average (GPA). Telephone-administered respondents were more likely than self-administered respondents to not provide their cumulative major GPA (19 percent and 5 percent, respectively) ( $z = 8.84, p < .01$ ) and their high school GPA (20 percent and 3 percent, respectively) ( $z = 10.80, p < .01$ ). For the full-scale study, training will be evaluated to ensure that telephone interviewers are sufficiently trained in methods to reduce the rates of missing data.

Six items had higher rates of nonresponse among self-administered respondents when compared with interviewer-administered respondents. All of these items were related to coding of the respondents’ primary, secondary, or original major. For respondents’ primary major string, approximately 25 percent of self-administered respondents did not provide a response to the item, compared with 4 percent of interviewer-administered respondents ( $z = 10.25, p < .01$ ). Additionally, 10 percent of self-administered respondents did not provide the specific primary major code, compared with 1 percent of interviewer-administered respondents ( $z = 6.55, p < .01$ ). Four other items were found to have significantly higher rates of nonresponse for self-administered respondents than for interviewer-administered interviews: secondary major string ( $z = 3.63, p < .01$ ), secondary major specific code ( $z = 1.98, p < .05$ ), original major string ( $z = 6.02, p < .01$ ), and original major specific code ( $z = 4.02, p < .01$ ).

Items with high rates of nonresponse will be reviewed to clarify wording and help text to assist respondents as they answer the items to help lower nonresponse and prevent mode differences from occurring in the full-scale study.

## 4.5 CATI Monitoring and Quality Assurance

### 4.5.1 Question Delivery and Data Entry Error Rates

Monitoring of telephone data collection leads to better interviewing and better quality survey data, as well as improvements in costs and efficiency in telephone facilities. Monitoring in the NPSAS:08 field test helped to meet these important quality objectives:

- identification of problem items;
- reduction in the number of interviewer errors;
- improvement in interviewer performance by reinforcing good interviewer behavior; and
- assessment of the quality of the data being collected.

Monitors listened to interviews as they were in progress. For each question they evaluated two aspects of the interviewer-respondent interchange: (1) whether the interviewer delivered the question correctly and (2) whether the interviewer keyed the response appropriately. Each of these measures was quantified, and daily, weekly, and cumulative reports were produced for the study's Integrated Management System (IMS). During the data collection period, 1,825 items were monitored. The majority of the monitoring was conducted during the first half of data collection. Toward the end of data collection, monitoring efforts were scaled back because of the lighter caseload being worked by telephone interviewers, the acquired experience of the interviewers, and the satisfaction by project staff that the process was under control.

During data collection, the error rates for both interviewer question delivery and data entry were monitored to ensure that they were within the upper and lower control limits for these measures.<sup>19</sup> Throughout the monitoring period, error rates remained within acceptable limits. Among the 1,825 items observed, the overall error rate was very low—less than .5 percent for both question delivery and data entry. These low error rates were likely due to the high proportion of experienced interviewers and the relatively light caseload since 73 percent of completed interviews were self-administered.

### 4.5.2 Quality Circle Meetings

Quality circle (QC) meetings were vital components for ensuring that project staff, call center supervisory staff, and telephone interviewers were communicating on a regular basis about the goals of the study and addressing challenges encountered along the way. These meetings provided a forum for discussing elements of the instrument and questionnaire design, discussing interview cooperation tactics, motivating the group toward the goals of the study, and acquiring feedback on data collection issues. Meetings were held biweekly at the call center, and

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<sup>19</sup> The upper and lower control limits were defined by three times the standard error (SE) of the cumulative proportion of errors to the number of questions observed for the period ( $+3 \times SE$  for the upper limit;  $-3 \times SE$  for the lower limit). These values represent the upper and lower boundaries of the expected normal range of statistical variation for the data during the observation period.

an agenda was provided to those in attendance. For interviewing staff unable to attend the meeting, notes were distributed electronically to the call center supervisory staff and passed along accordingly. A summary of issues addressed in the eight QC meetings is outlined below:

- clarification of interview questions and item responses;
- NPSAS eligibility criteria;
- interviewer submission of “problem sheets”;
- the importance of providing detailed case comments;
- help desk operations;
- virtual call center (VCC) staff issues or concerns;
- methods of gaining cooperation from sample members and gatekeepers (e.g., parents); and
- general morale boosting and reinforcement of positive interviewing techniques.

Throughout the study, a variety of issues were addressed at the QC meetings that reinforced specific content from training and contributed to prompt problem solving. Details of the issues covered in QC meetings include the following:

**Writing Problem Sheets.** Reporting problems when they occur is an important part of telephone interviewing. Interviewers were trained to report problems electronically and to provide specific detail, including but not limited to the problem that occurred and the specific point in the interview in which it occurred. Problem sheets further delineated how the issue was addressed. Review of problem sheets in QC meetings was a critical means through which staff learned to recognize and manage the different problems they would encounter.

**Eligibility Criteria.** Because of the considerable complexity of the eligibility criteria, interviewers were reminded to allow eligibility determination to be made by the programmed instrument.

**Gaining Cooperation.** Discussions focused on the difficulty of gaining a sample member’s trust during the initial phases of the call. Refusal avoidance strategies were revisited during QC meetings and adapted as needed. Interviewers discussed successful approaches when calling refusals and hard to reach cases. They also shared tips for overcoming parent concerns and found ways to benefit and learn from each other’s experiences.

**Item Administration.** Clarification of item responses and interpretation of meanings were dealt with during QC meetings. Interviewers discussed items that caused confusion, and project staff provided explanations and modified items and help text when necessary.

**Interviewer Debriefings.** At the conclusion of the NPSAS:08 field test, project staff held debriefing meetings with the telephone interviewers to learn more about the field test experience. Interviewer debriefings focused on what worked well and what could be improved with respect to



- interviewer training sessions;
- student tracing strategies;
- refusal conversion;
- interviewers' experiences using the VCC;
- interview questions and coding systems that were difficult for the respondents to answer or the interviewers to code; and
- use of incentives and mailouts.

A summary of the telephone interviewer debriefing meetings was prepared and will be considered when planning the NPSAS:08 full-scale interview in 2008.

### 4.5.3 Virtual Call Center Results

To determine whether the virtual call center (VCC) would be a suitable supplement to a traditional call center, data collected from completed interviews were compared. Overall, no substantial differences in either data quality or interviewer productivity were found between interviews administered in the in-house call center and those administered in VCC settings. On average, no significant difference was found between the two call center settings in the amount of time telephone interviewers spent conducting an interview (36.6 minutes for in-house calls versus 37.6 minutes for the VCC). Prior to the start of data collection, one minor concern about the VCC setting was that background noise at the interviewer's home might be a problem. However, in the monitoring notes, there were no sessions for which the monitor commented that background noise from the interviewer side was a problem.

The rates of missing data for call center completions and VCC completions were also compared. Overall, less than 1 percent of all data elements were found to have significantly different rates of missing data for the in-house call center and VCC, indicating that interviewers used proper interviewing and probing techniques. Proposed plans for using the VCC in the full-scale study are discussed in section 5.6.2.

## 4.6 File Preparation

### 4.6.1 Overview of the NPSAS:08 Field Test Files

The field test data files for NPSAS:08 contain a number of component data files from a variety of sources, including student-level data collected from student interviews and government financial aid databases, as well as data collected from institutional records. The following files were produced at the end of the field test:

- *Student data file.* Contains student interview data collected from approximately 2,020 student interview respondents. Topics include enrollment history, financial aid history, education characteristics, employment, education plans, teaching, undergraduate experiences, and background.

- *CADE data file.* Contains data collected from institutional records for the approximately 2,990 sample members whose institutions completed CADE. This data file contains the 50 sample members who were determined by CADE to be ineligible.<sup>20</sup>
- *CPS 2006–07 data file.* Contains data received from the Central Processing System (CPS)<sup>21</sup> for the approximately 1,910 eligible sample members who matched to the 2006–07 federal aid application files.
- *NSLDS file.* Contains loan-level data received from the National Student Loan Data System (NSLDS) for the nearly 2,070 eligible sample members who received loans. This is a history file with separate records for each transaction in the loan files and, therefore, can include multiple records per case spanning several academic years.
- *Pell data file.* Contains grant-level data received from the NSLDS for the approximately 1,300 eligible sample members who received Pell Grants during the 2006–07 year or prior years. This is a history file with separate records for each transaction in the Pell system and, therefore, can include multiple records per case.

#### 4.6.2 Online Coding and Editing

The web instrument included an online coding system used for the collection of data on students' major fields of study. It also included a coding module used to obtain information for all postsecondary institutions that the student attended during the NPSAS year, in addition to the institution from which they were sampled (i.e., all institutions attended besides the NPSAS institution required coding).

These online coding systems greatly reduced the project staff's coding efforts and the amount of file merging necessary after data collection was over. They provide the data file user with useful and familiar codes for analysis while ensuring that most codes are assigned during data collection rather than during the data editing phase. Below is a description of the coding systems included in the NPSAS:08 web instrument.

**NPSAS Student Interview Coding Systems.** The student's major or field of study was first entered as a text string, then an automated assisted coder was used. According to the text string entered, a list of specific major fields of study was displayed. Users could choose one of those major categories or choose the "none of the above" option, at which point they were presented with a set of general and specific dropdown lists of major categories. If respondents decided not to provide a text string at the outset, they were sent to the dropdown list.

All postsecondary institutions in which the student had been enrolled between July 1, 2006, and the time of the interview (through June 2007) were selected from a list, based on the

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<sup>20</sup> Student record abstraction and student interviews occurred simultaneously, therefore, it was possible for one source to determine that a sample member was eligible while the other source determined the same sample member was ineligible. In these cases, the eligibility status determined in the student interview was used as the final study eligibility status determination. The 50 sample members found ineligible in CADE were retained on the file because the student interview confirmed that the sample member was in fact eligible.

<sup>21</sup> The Central Processing System is a database run by the U.S. Department of Education and contains Free Application for Federal Student Aid (FAFSA) data for all students who applied for federal aid. See chapter 2 for a more detailed summary.

respondent's report or the interviewer's entry of one or more of the institution name, city, or state. Upon selection, the official name of the institution, as well as selected IPEDS variables (institutional level and control) were inserted into the database.

**Range and Consistency Checks.** The web-CADE and web-based student instruments included edit checks to ensure that data collected were within valid ranges. Examples of some of the general online edit checks include the following:

- Range checks were applied to all numerical entries such that only valid numeric responses could be entered.
- Consistency checks were used for cross-item comparisons. For example, if a respondent indicated that he or she was 23 years of age but graduated from high school in 1988, the respondent was asked to verify this information.
- Enrollment dates were checked to verify that they were within the field test study period (July 1, 2006, through June 30, 2007).
- Data collected from CPS were preloaded into CADE for data checking purposes and to reduce burden on the user. Examples of these CPS items are date of birth and citizenship status.

#### 4.6.3 Post-Data-Collection Editing

The NPSAS:08 field test data were edited using procedures developed and implemented for previous studies sponsored by NCES. These procedures were tested again during the NPSAS:08 field test in preparation for the full-scale study.

Following data collection, the information collected in both CADE and the student instrument was subjected to various quality control checks and examinations. These checks were conducted to confirm that the collected data reflected appropriate item routing (skip patterns). Another evaluation examined all variables with missing data and substituted specific values to indicate the reason for the missing data. A variety of explanations are possible for missing data. For example, an item may not have been applicable to certain students, a respondent may not have known the answer to the question, or a respondent may have skipped the item entirely. Table 47 lists the set of consistency codes used to assist analysts in understanding the nature of missing data associated with NPSAS data elements.

**Table 47. Description of missing data codes: 2007**

Missing data code	Description
-1	Don't know
-3	Not applicable
-6	Out of range
-8	Item was not reached due to an error
-9	Data missing

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Skip-pattern relationships in the database were examined by methodically running cross-tabulations between gate items and their associated nested items. In many instances, gate-nest relationships had multiple levels within the instrument. That is, items nested within a gate question may themselves have been gate items for additional items. Therefore, validating the gate-nest relationships often required several iterations and many multiway cross-tabulations to ensure the proper data were captured.

The data cleaning and editing process for the NPSAS:08 field test data files involved a multistage process that consisted of the following steps:

**Step 1.** Blank or missing data were replaced with -9 for all variables in the instrument database. A one-way frequency distribution of every variable was reviewed to confirm that no missing or blank values remained. These same one-way frequencies revealed any out-of-range or outlier values, which were investigated and checked for reasonableness against other data values (e.g., hourly wages of \$0.10, rather than \$10.00). Creating SAS formats from expected values and the associated value labels also revealed any categorical outliers.

Descriptive statistics were produced for all continuous variables. All values the respondent provided that were less than zero were temporarily recoded to missing. Minimum, median, maximum, and mean values were examined to assess reasonableness of responses, and anomalous data patterns were investigated and corrected as necessary.

**Step 2.** Legitimate skips were identified using instrument source code. Gate-nest relationships were defined to replace -9s (missing for unknown reason) with -3s (not applicable) as appropriate. Two-way cross-tabulations between each gate-nest combination were evaluated, and high numbers of nonreplaced -9 codes were investigated to ensure skip-pattern integrity.

Nested values were further quality checked to reveal instances in which the legitimate skip code overwrote valid data, which typically occurred if a respondent answered a gate question and the appropriate nested item(s) but then backed up and changed the value of the gate, following an alternate path of nested item(s). Responses to the first nested item(s) remained in the database and, therefore, required editing.

**Step 3.** Variable formatting (e.g., formatting dates as YYYYMM) and standardization of time units, for items that collected amount of time in multiple units, were performed during this step. In addition, any new codes assigned by expert coders for institutions from the student interview (including those institutions that were unable to be coded during the interview) were merged back with the interview data files.

Also at this step, logical recodes were performed when the value of missing items could be determined from answers to previous questions or preloaded

values. For instance, if students said they did not have any children, then the number of children was coded to 0 rather than -3 or -9.

- Step 4.** One-way frequency distributions for all categorical variables and descriptive statistics for all continuous variables were examined. Out-of-range or outlier values were replaced with the value of -6 (i.e., bad or out-of-range data).
- Step 5.** One-way frequencies on all categorical variables were regenerated and examined. Variables with high counts of -9 values were investigated. Because self-administered web respondents could skip over most items without providing an answer, -9 did remain a valid value, especially for sensitive items such as those asking for income information.

Concurrent with the data cleaning process, detailed documentation was developed to describe question text, response options, logical imputations, recoding, and the “applies to” text for each delivered variable. The documentation information can be found in the student instrument facsimile in appendix D.

## 4.7 Debriefing Questionnaire

After completing the student interview, respondents were asked a few additional questions that dealt with their experience with completing the interview. Respondents were informed that these additional questions were optional. Table 48 displays the response rates by mode of administration for the debriefing section. These items also addressed technical issues with the web interface and were designed to alert project staff to improvements that could be made in the NPSAS full-scale study.

**Table 48. Debriefing response rates for student interview respondents, by mode of administration: 2007**

Mode of administration	Total interview respondents	Completed debriefing questionnaire	
		Number	Percent
Total respondents	1,940	1,910	98.3
Self-administered	1,430	1,400	97.3
Interviewer-administered	520	510	99.4

NOTE: Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

### 4.7.1 Problems Reported by Self-Administered Debriefing Respondents

Internet connection speed and reliability has historically presented some problems for web interviewing. Slow connections and technical difficulties can result in high rates of break-off. Fortunately, in the NPSAS:08 field test, most respondents<sup>22</sup> (88 percent) reported using a fast

<sup>22</sup> Results from the analysis of the debriefing data includes only the respondents who completed the optional questionnaire at the end of the student interview.

internet connection, such as a digital subscriber line (DSL) or cable modem, to complete the NPSAS interview.

Overall, a relatively low percentage (ranging from less than one percent to 7 percent) of respondents reported specific difficulties with the web interface. Table 49 shows the percentage of respondents who cited technical difficulties in completing the self-administered web interview.

**Table 49. Problems reported by self-administered debriefing respondents: 2007**

Problem	Number	Percent
Entering your answers to the survey questions	70	3.7
Moving backward or forward through the survey	90	4.7
Restarting the survey after you had completed some of the survey questions	40	2.1
Accessing additional information through the use of the help features	10	0.5
Connecting to the NPSAS website or survey	90	4.7
Some other difficulty	130	6.8
None of the above	930	48.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

#### 4.7.2 Cellular Telephone Usage in NPSAS

The increasing popularity and use of cellular telephones has become an important issue of consideration for survey research. Challenges range from difficulty in obtaining cell phone numbers to difficulty obtaining interviews with sample members who use cell phones. To learn more about how cell phone usage might impact the NPSAS data collection, questions were added to the debriefing section of the student interview. These questions were developed to assess how prevalent cell phone use is among NPSAS respondents, and to what extent students are using cell phones in place of landlines. The sections that follow summarize findings related to cell phone usage in the NPSAS:08 field test and discuss the relationship between interview completion mode and certain characteristics of respondents with and without cell phones.

**Profile of Cell Phone Only Respondents.** Recent estimates suggest that about 12 percent of adults live in cell phone only households (Blumberg and Luke 2007). In the NPSAS:08 field test, the prevalence of cell phone only sample members was explored because recent research suggests that there may be differences between those who have only a cell phone and the general population (American Association for Public Opinion Research 2007). Importantly, due to the average age of the NPSAS:08 population, the proportion of sample members with only a cell phone was expected to be larger than that in the general population. Four categories of telephone users were defined and compared: (1) respondents with only a cell phone, (2) respondents with a cell phone and landline, (3) respondents with only a landline, and (4) respondents with neither a cell phone nor a landline.

Results from the debriefing data presented in table 50 show that 40 percent of NPSAS:08 field test respondents reported having both a cell phone and a landline, and nearly 45 percent

indicated that they had only a cell phone. About 8 percent reported having a landline only, and 7 percent reported having neither a cell phone nor a landline.

Nearly three-quarters of all interviews obtained in the NPSAS:08 field test were completed by self-administration on the web, and the remainder were telephone interviews. Among respondents who reported having only a cell phone, 78 percent completed the self-administered interview. Respondents with *only* a cell phone were less likely to complete a telephone interview (22 percent) than those with only a landline (36 percent) and those with both a cell phone and a landline (33 percent). These differences are statistically significant when comparing cell phone only to landline only ( $\chi^2 = 17.30, p < .01$ ) and when comparing cell phone only with cell and landline ( $\chi^2 = 27.69, p < .01$ ).

An important issue analyzed was the rate of refusal among the four categories of telephone user (cell only, landline only, both, neither). There was little variation in the rate of refusal, and the differences were not statistically significant. Among the cell phone only respondents, 5 percent refused at some point prior to completion. Six percent of landline only respondents refused prior to completion, as did 8 percent of respondents with both a landline and a cell phone. Thus, phone type did not seem to be related to the likelihood of initial refusal among sample members who completed the student interview.

**Table 50. Selected characteristics of student interview respondents, by telephone type: 2007**

Characteristics	Overall		Cell phone only		Both cell phone and landline		Landline only		Neither	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	1,910	100.0	850	44.8	770	40.3	160	8.4	120	6.5
Call characteristics										
Interview completion mode										
Self-administered	1,400	73.2	670	78.1	510	66.8	100	64.0	110	90.3
Interviewer-administered	510	26.8	190	21.9	260	33.2	60	36.0	10	9.7
Refusal status										
Never refused interview	1,790	93.7	810	95.3	700	91.5	150	93.8	110	91.1
Ever refused interview	120	6.3	40	4.7	60	7.7	10	6.2	10	8.9
Student demographics										
Age										
18–24	1,270	66.4	660	77.5	430	56.0	80	51.6	90	73.4
25–39	430	22.8	170	19.3	200	25.4	50	31.1	20	19.4
40 and up	210	10.9	30	3.2	140	18.6	30	17.4	10	7.3
Gender										
Female	1,180	61.9	480	55.7	520	68.2	110	65.8	70	59.7
Male	730	38.1	380	44.3	240	31.8	60	34.2	50	39.5
Race/ethnicity <sup>1</sup>										
White	1,590	83.5	730	85.0	650	84.0	130	79.5	90	75.8
Black	180	9.5	70	8.2	70	9.4	20	13.0	20	14.5
Hispanic	100	5.1	50	5.4	30	4.3	10	6.2	10	6.5
Other	150	7.8	70	8.2	50	7.0	20	10.6	10	6.5
Marital status										
Single, never married	1,400	73.4	730	84.9	480	62.2	100	59.6	100	81.5
Married	400	21.2	100	12.1	240	30.7	50	29.8	20	13.7
Other	100	5.4	30	3.0	50	7.0	20	10.6	10	4.8

<sup>1</sup> Category may not sum to total because respondents were allowed to select multiple race categories.

NOTE: Detail may not sum to totals because of rounding. This table includes only the respondents who completed the optional debriefing section of the student interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.



**Characteristics of Cell Phone Respondents and Cell Phone Interviews.** Potential areas of concern regarding cell phone interviews are that they will be more costly in terms of the effort required to obtain an interview (e.g., outbound calls by interviewers) and the amount of time required to complete the interview. Wide variability in cell phone plan options (e.g., limited minutes) and signal quality could impact both willingness and ability to complete an interview on a cell phone. Interview length was compared among telephone interviews completed on cell phones and landlines to explore the possibility of systematic differences related to phone type. No statistical differences, however, were observed in either call counts or interview length, suggesting that the cost of obtaining interviews from cell phone users is about the same as the cost of obtaining interviews from landline users.

All respondents who completed telephone interviews were compared by phone type to determine whether there were any differences related to phone type. Table 51 presents some characteristics of respondents who completed telephone interviews by the type of phone.

Of the 520 telephone-administered interviews completed during the field test, approximately 440 respondents answered the question of whether they were on a cell phone at the time of the interview. Among these respondents, about 200 reported that they completed the interview on their cell phone, representing nearly 46 percent of all CATI completions obtained during the field test. Respondents who completed a telephone interview on a cell phone were more likely than other telephone respondents to be in the younger age group, 18 to 24 years old (72 percent and 45 percent, respectively) ( $\chi^2 = 94.76, p < .01$ ). Additionally, telephone respondents who completed an interview on a cell phone were more likely to be single (79 percent and 55 percent, respectively) ( $\chi^2 = 79.79, p < .01$ ) and male (43 percent and 30 percent, respectively) ( $\chi^2 = 9.10, p < .10$ ).

**Table 51. Selected characteristics of interviewer-administered respondents, by type of telephone interview: 2007**

Characteristic	All telephone interviews		Interview completed via cell phone		Interview completed via landline	
	Number	Percent	Number	Percent	Number	Percent
Total	440	100.0	200	45.7	240	54.2
<b>Gender</b>						
Female	280	64.0	120	57.0	170	70.0
Male	160	36.0	90	43.0	70	30.0
<b>Race/ethnicity<sup>1</sup></b>						
White	350	78.7	160	78.2	190	79.2
Black	60	14.3	30	14.4	30	14.2
Hispanic	20	4.3	10	4.5	10	4.2
Other	30	6.8	20	7.9	10	5.8
<b>Marital status</b>						
Single, never married	290	66.1	160	78.7	130	55.4
Married	100	23.5	30	14.9	70	30.8
Other	50	10.4	10	6.3	30	13.8
<b>Age</b>						
18–24	250	57.5	150	72.3	110	45.0
25–39	110	25.8	50	23.8	70	27.5
40 and older	70	16.7	10	4.0	70	27.5

<sup>1</sup> Category may not sum to total because respondents were allowed to select multiple race categories.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

**Where Cell Phone Respondents Completed Interviews.** It has been suggested that some users of cell phones might respond to surveys in various public and semiprivate locations (Lavrakas and Shuttles 2005). This practice could introduce response bias if respondents in public or semiprivate locations are less open with their answers as a result of their setting and who is around them at the time. The NPSAS student interview contains a few potentially sensitive questions (i.e., regarding personal finances) for which the responses might be adversely affected by the lack of privacy. Thus, it is important to consider where cell phone respondents are located at the time of interview completion.

Both self-administered and interviewer-administered respondents were asked about the locations from which they were responding. Sixty-nine percent of cell phone respondents said that they were responding from home, whereas 48 percent of self-administered respondents reported responding from home ( $\chi^2 = 79.79, p < .01$ ). Many self-administered interviews were completed away from home: roughly 7 percent were completed at work, 10 percent were completed at school, and roughly 2 percent were completed at the library. Among the cell phone

interviews completed away from home, only 6 percent reported completing the interview in a public place.

**How Cell Phones Impact NPSAS.** While increases in the prevalence of cell phone usage are posing challenges to survey research, there is little evidence from the NPSAS:08 field test data to suggest that the use of cell phones among the NPSAS population was a significant barrier to obtaining interviews. A concern associated with the increased number of cell phone users is that response rates will decline and refusals will increase due to respondents being unwilling to participate via their cell phone.

However, nearly one-half of all telephone interviews obtained in the NPSAS:08 field test were completed over a cell phone. Furthermore, a considerable percentage of interview respondents indicated that they would be willing to complete future surveys on their cell phones (31 percent).<sup>23</sup> In addition, most of the respondents who reported having only a cell phone actually completed the self-administered web interview (78 percent). Interviews completed over cell phones were not significantly longer and did not require more calls to complete than other telephone interviews. Furthermore, cell phone respondents were no more likely than others to respond in public places. These results suggest that having only a cell phone does not necessarily limit participation in the NPSAS study.

## 4.8 Respondent Profile

The following section presents the results of an analysis that compared characteristics of self-administered and interviewer-administered respondents. As the proportion of responses obtained through self-administration has increased, so has the need to determine whether and how these respondents differ systematically from persons who respond via other modes. The NPSAS:08 field test included 1,420 (73 percent) self-administered completions and 520 (27 percent) interviewer-administered completions.<sup>24</sup>

Respondents who were younger (18 to 24 years old) were more likely to complete the NPSAS self-administered interview than the interviewer-administered interview (76 percent and 24 percent) ( $\chi^2 = 32.51, p < .001$ ). Alternatively, older respondents (more than 25 years old) were more likely to complete the interviewer-administered interview than the self-administered interview (59 percent vs. 41 percent) ( $\chi^2 = 25.33, p < .001$ ). As shown in table 52 nearly 70 percent of self-administered web respondents were between the ages of 18 and 24, while roughly 58 percent of interviewer-administered respondents were in this age group. About 9 percent of self-administered web respondents were over the age of 40, compared with 16 percent of interviewer-administered respondents.

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<sup>23</sup> All respondents who completed the debriefing section of the student interview ( $n = 1,910$ ) were asked whether they would be willing to participate in future studies on their cell phones.

<sup>24</sup> The analysis presented here is based on respondents who completed the full interview.

**Table 52. Selected characteristics of self-administered versus interviewer-administered respondents: 2007**

Characteristic	Overall		Self-administered		Interviewer-administered	
	Number	Percent	Number	Percent	Number	Percent
Total	2,020	100.0	1,480	73.3	540	23.7
Gender						
Female	1,260	62.4	910	61.6	350	64.7
Male	760	37.5	570	38.4	190	35.3
Race/ethnicity <sup>1</sup>						
White	1,620	80.4	1,220	82.6	400	75.5
Black	190	9.3	110	7.2	80	14.9
Hispanic	100	4.8	70	4.9	20	4.5
Other	160	7.9	120	7.9	40	8.0
Marital status						
Single, never married	1,480	73.4	1,130	76.5	350	64.9
Married	430	21.2	290	19.9	140	25.1
Other	100	5.0	50	3.6	50	10.0
Age						
18–24	1,350	66.6	1,030	69.8	310	58.0
25–39	460	22.6	320	21.5	140	25.7
40 and older	220	10.8	130	8.8	90	16.4

<sup>1</sup> Category may not sum to total because respondents were allowed to select multiple race categories.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

## 4.9 Patterns of Refusal Conversion

Processes to convert refusals are usually quite costly and laborious. However, refusal conversion has become more important as survey efforts compensate for recent downward trends in response rates. The NPSAS:08 field test was used to gather some information on refusals for the purpose of improving the conversion process during the full-scale study.

In the NPSAS:08 field test, 120 out of 450 refusals were successfully converted to full completions (27 percent), representing about 5 percent of all completions. Among the concerns with refusal conversion is that respondents will not think carefully about their responses and will answer quickly, which could result in shorter interviews, more missing values, and more partial completions. However, completed interviews from sample members who had initially refused were not significantly shorter than non-refusal-conversion interviews.

There has been some suggestion in the past (Triplett, Scheib, and Blair 2001) that the likelihood of refusal conversion may vary by region of the country. No clear relationship emerged between region of the country and likelihood of refusal conversion in the NPSAS:08

field test. However, roughly 35 percent of refusal conversions came from six populous states (California, Illinois, Michigan, New York, Pennsylvania, and Wisconsin).

The analysis of the time of day during which refusal conversion was most likely to be successful is presented in table 53. Refusal conversion completions were most likely to occur in late evening hours (36 percent of all completions), while all other completions were most likely to occur during the afternoon hours (36 percent of all completions). Successful refusal conversion did not appear to vary by income or by race.

**Table 53. Successful refusal conversion, by time of day: 2007**

Time of day	Total interviews completed		Refusal conversion <sup>1</sup>		All other completes	
	Number	Percent	Number	Percent	Number	Percent
Total	1,940	100.0	120	100.0	1,820	100.0
Early morning (6:00 a.m. to 10:00 a.m.)	80	4.0	#	3.3	70	4.1
Late morning (10:00 a.m. to noon)	190	9.6	10	7.4	180	9.8
Afternoon (noon to 5:00 p.m.)	690	35.7	40	28.9	660	36.2
Early evening (5:00 p.m. to 7:00 p.m.)	280	14.3	30	22.3	250	13.7
Late evening (7:00 p.m. to 10:00 p.m.)	620	31.7	40	36.4	570	31.4
Overnight (10:00 p.m. to 6:00 a.m.)	90	4.6	#	1.7	90	4.8

# Rounds to zero.

<sup>1</sup> Refusal conversion is defined as successfully completing an interview with a respondent who initially refused to participate.

NOTE: Detail may not sum to totals because of rounding. Number of completions includes only full completions, because completion time data were not available for partials.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2008 National Postsecondary Student Aid Study (NPSAS:08) Field Test.

Another area evaluated for potential differences between interviews completed by sample members who had initially refused and those who did not is the prevalence of missing data. It is possible that refusal conversion respondents might be less motivated and more likely, for example, to skip key questions or provide more “don’t know” or “no opinion” responses. However, an examination of missing data across both key study variables and key demographic variables did not reveal systematic differences in the prevalence of missing data for refusal conversion interviews relative to other completed interviews.



# Chapter 5.

## Recommendations for the NPSAS:08 Full-Scale Study

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The purpose of the 2008 National Postsecondary Student Aid Study (NPSAS:08) field test was to test the procedures and methods to be used for the implementation of the full-scale study. Based on the field test findings discussed in chapters 3 and 4, some procedural and methodological modifications are planned for the full-scale study; they are summarized below.

### 5.1 Full-Scale Sample

The NPSAS:08 full-scale sample will be augmented to include state-representative samples of undergraduate students in four sectors from six states. This augmentation will make it possible to conduct state-level analyses and comparisons of many of the most pertinent issues in postsecondary financial aid and prices.<sup>25</sup>

As originally designed, the NPSAS:08 sample yields estimates that are nationally representative but generally not large enough to permit comparison of critical subsets of students within a particular state. Tuition levels for public institutions (attended by about 80 percent of all undergraduates) vary substantially by state, as does the nature of state grant programs (i.e., large versus small, need-based versus merit-based). Therefore, it is possible to analyze the effect of these policies and programs with federal and institutional financial aid policies and programs only at the state level.

The choice of states for the sample augmentation was based on several considerations, including

- **Size of undergraduate enrollments in four sectors:** public 4-year, private not-for-profit 4-year, public 2-year, and private for-profit, degree-granting institutions. We estimate that we will need approximately 1,200 respondents per state in the 4-year and for-profit sectors and 2,000 respondents in the public 2-year sector in order to yield a sufficient number of full-time, dependent, low-income undergraduates—the subset of students that is of particular relevance for the study of postsecondary access. Tuition and grant policies in the states with the largest enrollments have the greatest effect on national patterns and trends. As a practical matter, their representation in a national sample is already so large that the cost of sample augmentation is relatively low.
- **Prior inclusion in the NPSAS:04 12-state sample and high levels of cooperation and participation in that survey.** Participation in NPSAS is not mandatory for institutions, so we depend on institutional cooperation within a state to achieve the

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<sup>25</sup> The field test institutional sample was selected from the complement of institutions selected for the full-scale study to avoid asking an institution to participate in both. After field test data collection, The Department of Education requested that RTI augment the full-scale sample to provide state-level representation of students in selected states and sectors. To accomplish this goal, it will be necessary to include about 20 institutions that participated in the field test in the full-scale study.

response rates and yields required for reliable estimates. Smaller states that were willing and helpful in NPSAS:04 and achieved high yields and response rates are more likely to cooperate again, and with less effort.

- **States with different or recent changes in tuition and state grant policies that provide opportunities for comparative research and analysis.**

Using these criteria, we proposed to augment the samples for the following 6 states: California, Texas, New York, Illinois, Georgia, and Minnesota.

In addition to the proposed augmentation, the full-scale student sampling rates will be adjusted upward to account for ineligibility and nonresponse. This adjustment will be based on the eligibility and response rates from NPSAS:2000 and NPSAS:04 rather than from the NPSAS:08 field test. NPSAS:2000 was the last cycle in which baccalaureate students were oversampled, that is, the last time that a Baccalaureate and Beyond Longitudinal Study (B&B) cohort was generated from NPSAS data, and NPSAS:04 eligibility and response rates serve as a useful reference because that was the most recently conducted study. The current field test eligibility and response rates will not be used, because they may not be representative of what will occur in the full-scale study.

It is also critical that the full-scale study achieve a sufficient yield of baccalaureate students for B&B:08/09 and B&B:08/12. As noted in chapter 4, institutions can have difficulty identifying baccalaureate students, resulting in false identifications (e.g., false positives and false negatives). Therefore, the sampling rates for the baccalaureate stratum within each institutional stratum will be increased in the full-scale study, while the sampling rates for the other undergraduate stratum within each institutional stratum will be decreased to account for these false identifications. The modification to the sampling rates will be based on baccalaureate false positive and false negative rates from the field test interview and the NPSAS:2000 interview, the most recent study that generated a B&B cohort.

Prior to the field test, a contract option was exercised for an augmented sample of National Science and Mathematics Access to Retain Talent (SMART) grant recipients. It was decided that SMART grant recipients would need to be oversampled in the full-scale study to have a sufficient number of cases for analysis. However, it was thought that a sufficient number of Academic Competitiveness Grant (ACG) recipients would be available without an oversample. During the field test, it was determined that ACG recipients were less frequent in the sample than anticipated because of the infrequency of such recipients in general and the large number of baccalaureate recipients (who are not eligible for ACG) in the sample. Therefore, in the full-scale study, oversampling of ACG recipients will be reconsidered.

## **5.2 Institutional Contacting, List Acquisition, and Student Record Abstraction**

Several changes will be implemented at the institutional level in the full-scale study to optimize the classification of student type on enrollment lists and to clarify the understanding of student eligibility rules. These changes include the following:



- Enrollment list instructions will be modified to make it clear that graduate students should be included on the student enrollment lists.
- Frequently asked questions (FAQs) will be modified to be clearer and to add a question addressing the need for date of birth or a date of birth flag on the student enrollment lists.
- Minor improvements will be made to the institutional contacting and student record abstraction systems, including the contents of reports and screens used by Institutional Coordinators (ICs).

In addition to these changes, the quality control checks on enrollment list counts will be modified for the full-scale study. The enrollment lists that institutions provide indicate potential baccalaureate recipients and are compared to IPEDS counts of actual baccalaureate recipients. The upper bound used to check enrollment lists will be increased in the full-scale study to account for this difference, reduce the number of lists that fail quality control checks, and minimize the need to contact institutions for list problem resolution.

### **5.3 Instrumentation**

The modifications made to the computer-assisted data entry (CADE) instrument for the field test instrument since the last NPSAS implemented in 2004, including navigational, screen layout, and help text improvements, will be maintained in the full-scale. In addition, minor improvements will be made as a result of the field test, including the contents of reports and control system screens used by ICs. In addition, item wording will be evaluated and modified as needed for clarity. Tracking systems for problem sheets will be implemented to allow ICs to communicate quickly and efficiently with project staff.

Revisions will be made to the student interview on the basis of the field test results presented in chapters 3 and 4. Modifications to the instrument include changes to question wording and response options, changes in the administration of particular items to different subsets of respondents, and the elimination of items in some cases. The goal is to develop a full-scale instrument that averages 25 minutes in length. Items from the field test that had poor data quality measures (e.g., little variability in responses, low reliability estimates, high nonresponse) will be examined in conjunction with recommendations from technical review panel (TRP) members (see appendix A) to revise the full-scale instrument. From the results of the checkbox/radio button experiment, radio button formats are recommended in place of checkbox formats, where appropriate.

### **5.4 Tracing and Locating**

Overall, the tracing and locating systems customized for the NPSAS:08 field test worked well, efficiently handling the locating information collected for each sample member. A critical aspect to the NPSAS tracing and locating effort was the use of e-mail. E-mail has become increasingly important as a means of contacting sample members. By providing unique passwords for each e-mail contact during the NPSAS:08 field test, it was possible to attribute about one-half of the early self-administered web interviews to an e-mail contact. Additional e-

mail contacts sent during the outbound telephone data collection phase continued to yield additional interviews that were completed via the self-administered web mode. Therefore, e-mail will be used to contact sample members during the NPSAS:08 full-scale data collection period. Further, given the increased prevalence of cell phone use, more attempts will be made in the full-scale study to collect cell phone numbers and use them for locating and interviewing.

## **5.5 Interviewer Training**

Telephone data collection staff overall gave favorable reviews of the project training. In particular, mock interviews that included realistic hypothetical scenarios were highlighted as a strength. It was suggested that having the trainees conduct certification mock interviews with an experienced monitor or team leader who can provide more constructive feedback on a one-on-one basis will better prepare interviewers for production interviewing in the full-scale study. Otherwise, only minor aspects of the training will be modified in response to interviewers' suggestions for improving the training process.

## **5.6 Student Interviewing**

### **5.6.1 Strategies to Increase Student Response Rates**

An experiment was conducted during the NPSAS:08 field test to examine the effectiveness of using Priority Mail for the initial contact mailing to sample members. The results indicated that the use of Priority Mail significantly increased overall response during the early response period. Thus, Priority Mail will be used for the initial contact mailing in the NPSAS:08 full-scale data collection. Additionally, a telephone prompting experiment was conducted during the field test whereby one-half of the sample members were randomly selected to receive prompting calls during the early response period. A previous postsecondary education study conducted a similar experiment found that prompting had a positive impact on early interview completion for certain types of students (Wine et al. 2006). The results of the NPSAS:08 field test also indicated that prompting had a significant positive impact on early interview completion, especially when combined with the delivery of materials by Priority Mail. However, because prompting all sample members for the NPSAS:08 full-scale study could be very costly, prompting calls will be reserved for select subgroups of students for whom the approach is expected to be most effective.

During the early response period of the NPSAS:08 field test, a \$30 incentive was offered for completion of the student interview during the first 3 weeks of data collection. Although an experiment was not conducted, the \$30 early incentive offer appeared to be effective in encouraging early interview completion, and it will be offered again in the full-scale study.

As mentioned in Chapter 3, the field test provided the opportunity to conduct an incentive experiment in the use of prepaid incentives for nonresponse conversion. For sample members who refused to participate or were difficult to contact, prepayment of a \$10 nonresponse conversion incentive (with a promise of an additional \$20 upon completion) was compared with the promise of a \$30 incentive upon completion. A comparison of response rates among these

two groups indicated that the \$10 prepaid nonresponse conversion incentive did not have a significant impact on response rates; therefore, prepaid incentives are not recommended for the full-scale study. The use of a \$30 incentive is recommended for the full-scale study to encourage early response, and the use of a \$30 incentive is recommended for nonresponse conversion. Both incentives will be paid upon interview completion.

### **5.6.2 VCC**

The NPSAS:08 field test also provided the opportunity to test the virtual call center (VCC) technology and its functionality. The VCC allows telephone interviewers to work from home using just a laptop computer with high-speed internet access capable of handling Voice over Internet Protocol (VoIP) technology. VCC interviewers are able to use the same applications in the same way as interviewers working from a traditional call center setting. The field test demonstrated that the technology works, with nearly 15 percent of the computer-assisted telephone interviewing (CATI) responses completed during the field test being obtained from interviewers working in the VCC setting. Thus, it is expected that the VCC will continue to be used during the NPSAS full-scale study.

## **5.7 Conclusion**

The purpose of the NPSAS:08 field test was to fully test all data collection procedures in preparation for the full-scale study. The NPSAS:08 field test used a single, web-based student instrument for multimode data collection. This instrument was effective for both self-administration and telephone interviewing and will require relatively few modifications for the full-scale study.

As described in this chapter, the institutional and student samples will be augmented to include SMART grant recipients and also to provide state representation in four sectors in six states. Additional modifications will be made to procedures and systems related to enrollment list acquisition, the CADE instrument, tracing and locating procedures, help desk operations, CATI interviewer training, and interviewing procedures for the NPSAS:08 full-scale study. The continued use of incentives is planned to encourage both early response via the Web during the first 3 weeks of data collection and conversion of nonresponse at the end.



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