NATIONAL CENTER FOR EDUCATION STATISTICS

Methodology Report **March 1996**

NATIONAL EDUCATION LONGITUDINAL STUDY: 1988-1994

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U.S. Department of Education
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March 1996

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Foreword

This report describes the methods and procedures used for the 1994 third follow-up of the National Education Longitudinal Study of 1988 eighth graders (NELS:88/94). NELS:88/94 collected information on postsecondary education participation, employment, earnings, family formation, and other activities and experiences relevant to individuals as they are about to enter their adult lives. NELS:88/94 contains information that represents several nationally representative samples, including 1988 eighth graders, 1990 tenth graders, and 1992 twelfth graders enrolled in public or private schools. By the time of the 1994 follow-up study most NELS:88 sample members had completed four years of high school. However, some had dropped out of high school or had attended alternative programs to complete their diploma.

We hope that the information provided in this report will be useful to a wide range of interested readers. We also hope that the results reported in the forthcoming descriptive summary report will encourage use of the NELS:88/94 data. We welcome recommendations for improving the format, content, and approach, so that future methodology reports will be more informative and useful.

Paul D. Planchon
Associate Commissioner

Acknowledgments

The authors express their sincere thanks to all those who contributed to the production of this report. First and foremost, we acknowledge the expertise of the NELS:88/94 Technical Review Panel (TRP), whose insights guided this study from its very beginning through the completion of this report. C. Dennis Carroll and Jeffery Owings at the National Center for Education Statistics (NCES) reviewed early drafts of the report and offered many useful suggestions for its improvement. Panel members from the Department of Education were Nabeel Alsalam, Cliff Adelman; David Bergeron; and Dan Goldenberg. Other panel members were Jay Noel of the Congressional Budget Office, Jomills Braddock of the University of Miami, Vincent Tinto of Syracuse University, Jerry Bachman of the University of Michigan, Nancy Karweit of Johns Hopkins University, Marta Tienda of the University of Chicago, Eric Hanushek of the University of Rochester, and consultant Laura Knapp.

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Chapter One: Overview of the NELS:88/94

1.1 Purpose

With the award of the base year contract in February 1986, NELS:88 joined the National Longitudinal Study of the High School Class of 1972 (NLS-72) and High School and Beyond (HS&B) as the third in a series of longitudinal studies sponsored by the U.S. Department of Education's National Center for Education Statistics (NCES). These studies provide trend data about critical transitions experienced by young people as they develop, attend school, and embark on their careers.

Given the challenges facing America's schools--to educate all our young people for the next decade--NELS:88 complements and has the potential to strengthen state and local efforts by furnishing new information on school policies, teacher practices, and family involvement, all of which affect student educational outcomes (academic achievement, persistence in school, and participation in postsecondary education). NLS-72 and HS&B surveyed high school seniors (HS&B also surveyed sophomores) through their high school, postsecondary education, and work and family formation experiences. Taken together, these three longitudinal studies not only measure educational attainment but also provide rich explanations of the reasons for and consequences of academic success and failure. Both NLS-72 and HS&B have influenced the school reform movement, and NELS:88 will provide comprehensive data for gauging the degree of the reform movement's success.

1.2 Design

Conducted in the spring of 1988, the base year survey was a clustered, stratified national probability sample of 1,052 public and private eighth grade schools. Almost 25,000 students across the United States participated in the base year survey. Questionnaires and cognitive tests were administered to each student in the sample, which covered school experiences, activities, attitudes, plans, selected background characteristics, and language proficiency. The school administrator completed a questionnaire about the school; two of each student's teachers were asked to answer questions about the student, themselves, and the school; and one parent of each student was surveyed regarding family characteristics and the student's activities.

Conducted in the spring of 1990 (when most sample members were in the 10th grade), the first follow-up of NELS:88 consisted of the same components as the base year study, with the exception of the parent survey. In order to meet budgetary constraints, approximately 21,000 students were sampled from the 1988 eighth grade sample. The subsampling was carried out proportional to the number of base year sampled students within a school, which greatly reduced the number of schools involved with the study. In 1990, a freshened sample was added to the first follow-up student component to achieve a representative sample of the nation's sophomores. Of the final first follow-up sample, some 18,000 students and over 1,000 dropouts participated; also, nearly 1,300 school administrators and 10,000 teachers participated.

The second follow-up to NELS:88 began early in 1992 when most sample members were second term seniors. As in the prior waves, multiple respondent populations were surveyed:

students (including dropouts), their teachers, their parents, and their school administrators. A freshened sample was again included to achieve a representative sample of the nation's seniors. Additionally, a school records component (i.e., transcripts) was also included in the design.

The third follow-up to NELS:88 (NELS:88/94) began on September 30, 1992, and culminates with the submission of this report. In 1994, most sample members had already graduated from high school; therefore, it was no longer possible to use the data collection mode that prevailed in the first three rounds of the study, self-administered questionnaires in group settings. Instead, the dominant form of data collection was one-on-one administration in the form of computer-assisted telephone interviews (CATI). Additionally, in-person interviews were conducted with respondents that required intensive in-person locating and in-person refusal conversion.

The project was carried out in six phases: instrument development; systems and procedures development; field test of the instrument, systems, and procedures; redesign of the instrument, systems, and procedures; data collection; and data delivery. Throughout the winter and spring of 1993, project staff engaged in instrument, systems, and procedures development. In the summer of 1993 (June 5 through September 23), the field test was conducted. The field test results and recommendations for the main survey can be found in the *NELS:88/94 Field Test Report* published by NCES in December, 1993.

Between October 1993 and February 1994, the instrument, systems, and procedures for collecting the NELS:88/94 data were developed. Data collection for NELS:88/94 began on February 4 and ended on August 13, 1994. The data files, the descriptive summary report, and this methodology report were prepared in 1994 and 1995.

1.3 Topics

The 1994 study primarily aims to continue following the progress of the NELS:88 cohort as sample members move to a wide array of postsecondary activities. In addition, the 1994 study addresses issues of employment and postsecondary access, and sustains continuing trend comparisons with NLS-72 and HS&B. Specific content areas included academic achievement, perceptions, and feelings about respondent's school and/or job, detailed work experience, work-related training, and family structure and environment.

1.4 Respondent Characteristics

At the time the data were collected, most of the respondents were two years out of high school. Table 1.5.1 shows the various subgroups and their relative representation in the sample.

1.5 Sample Design and Selection

The sample for NELS: 88/94 was created by dividing the NELS:88/92 sample into 18 groups based on their response history, dropout status, eligibility status, school sector type, race, test scores, socioeconomic status, and freshened status. Each sampling group was assigned an overall selection probability. Cases within a group were selected such that the overall group probability was met, but the probability of selection within the group was proportional to each sample member's second follow-up design weight. Assigning selection probabilities proportional to the second follow-up design weight, reduced the variability of the NELS:88/94 raw weights and consequently increased the efficiency of the resulting sample from 40.1 percent to 44.0 percent. The groups were:

0. Excluded from NELS:88/94
   The NELS:88/94 sample is a spring defined sample, therefore, students who had been brought in through the freshening process but who had dropped out by the time of data collection in the year they were freshened as well as the base year dropouts were assigned to this group with a sampling probability of zero. In addition, sample members who were ineligible or out of scope (dead or out of country) for NELS:88/92 were also assigned to this group.
1. Nonresponders
   These sample members had never completed a NELS:88 questionnaire in any round prior to 1994
2. Poor responders
   These are sample members who did not complete either a second follow-up questionnaire or a questionnaire in their first eligible round.
3. Ever dropped out
   Sample members for whom we have evidence that they ever dropped out of school (including those who were in school during periods of data collection) were included in this group.
4. Ineligible to participate (due to language barriers or mental or physical impairment) prior to 1992
5. Attended a private school in 1988
6. Attended a private school in either 1990 or 1992
7. Hispanic
8. Asian or Pacific Islander (API)
9. Native American
10. Black, top quartile in cognitive tests
11. Black, other test scores
12. White, lowest socioeconomic quartile
13. White, highest socioeconomic quartile
14. White, middle socioeconomic quartiles
15. Freshened in 1990
16. Freshened in 1992
17. Other

Table 1.5.1 lists the groups, their selection probabilities and their second and third follow-up distributions.

While some sample members qualified for more than one of the sample groups, each member was assigned to only one group. The groups were created in order of priority, so that each sample member was assigned to the first group for which they qualified. For example, if someone was both a dropout (group 3) and was in a private school in 1988 (group 5), he or she was assigned to group 3.

The data used to assign the students to groups was drawn from a variety of possible sources, including questionnaire data for variables such as race and school sector type. If status at time of data collection was relevant and was not determined at the time of data collection, the imputed status developed during the NELS:88/92 weighting process was used.

1.6 Eligibility Criteria

All sample members selected for inclusion in the sample were eligible to participate except for those who had died and those who were confirmed to be foreign exchange students at the time of NELS:88/92 interview and had returned to their country of origin by the time of the NELS:88/94 survey.

1.7 NELS:88/94 CD-ROMs and Data Analysis System

The NELS:88/94 public release CD-ROM contains data from the NELS:88 base year (1988) through third follow-up (1994) surveys and an Electronic Codebook System (ECB). Two data sets and ECBs are contained on the CD. The first data set and ECB integrate data from the base year through second follow-up surveys. The second data set and ECB contain integrated base year through third follow-up records for third follow-up respondents. The NELS:88/94 data are also available in the form of a public release Data Analysis System (DAS). Contact Aurora D'Amico at (202) 219-1365 for more information on the public release ECB/CD-ROM or DAS.

A restricted use version of the public release ECB/CD-ROM is available only with an NCES license. Contact Cynthia Barton at (202) 219-2199 for more information.

Table 1.5.1--NELS:88/94 sampling results

Group		Selection probability	2FU SAMPLE n	2FU SAMPLE Sum of 2FU raw weight	2FU SAMPLE Mean 2FU raw weight	2FU SAMPLE Std. dev. 2FU raw weight	3FU SAMPLE n	3FU SAMPLE Sum of 3FU raw weight	3FU SAMPLE Mean 3FU raw weight	3FU SAMPLE Std. dev. 3FU raw weight
Total			21,635	3,335,156	154	188	15,964	3,200,425*	200	226
Excluded	(0)	0.00	731	134,781	184	184	0	0		
Nonresponders	(1)	0.15	288	56,688	197	258	43	56,720	1319	180
Poor responders	(2)	0.25	2,383	400,131	168	208	596	400,131	671	244
Dropouts	(3)	1.00	2,351	428,095	182	269	2,351	428,094	182	269
Inelg prior '92	(4)	0.90	212	45,372	214	137	191	45,382	238	127
Private schl '88	(5)	0.80	2,984	322,989	108	197	2,387	322,990	135	212
Private '90/'92	(6)	0.80	122	45,976	376	382	98	45,976	469	378
Hispanic	(7)	0.90	1,629	192,756	118	134	1,466	192,756	131	136
API	(8)	1.00	874	66,638	76	78	874	66,638	76	78
Native American	(9)	1.00	132	21,457	163	105	132	21,457	163	105
Black high test	(10)	1.00	79	13,545	171	134	79	13,545	171	134
Black other	(11)	0.90	1,238	241,203	194	257	1,114	241,211	217	265
White low SES	(12)	1.00	1,295	203,391	157	118	1,295	203,391	157	118
White high SES	(13)	0.60	2,536	410,279	162	156	1,522	410,279	270	176
White mid SES	(14)	0.80	4,763	749,524	157	134	3,810	749,524	197	138
1FU freshened	(15)	0.30	4	370	93	6	1	370	370	
2FU freshened	(16)	0.30	6	690	115	59	2	690	345	
Other	(17)	0.40	8	1,271	159	84	3	1,271	424	

Source: National Education Longitudinal Study of 1988-1994

* Target total weight for 3FU was the total of 2FU sample weights minus group 0. 3,335,156 - 134,781 = 3,200,375

Chapter Two: Survey Design and Preparation

2.1 Schedule

The NELS:88/94 contract was awarded on September 30, 1992 and scheduled to be completed at the end of February of 1996. During the three and one half years of the contract, NORC has been engaged in numerous tasks to develop the questionnaire, design data collection systems and protocols, collect data, and deliver data and final reports.

Within the first year of the contract's award, NORC developed and pretested the questionnaire to refine the question wording and the order in which questions were presented to respondents. This process began with a meeting with members of the Technical Review Panel (TRP) immediately after the contract was awarded to identify items to be included in the questionnaire. In addition, NORC field tested the questionnaire and data collection systems and protocols to further test the instrument, the efficacy of the training materials, the systems designed to support data collection, and the data collection protocols and procedures. For further information on these tests, please see the *NELS:88/94 Field Test Report*, published by NCES in December, 1993.

In the second year of the NELS:88/94 contract, staff analyzed the field test data to inform modifications to systems and protocols for main survey data collection. A second TRP meeting was convened to report the results of the field test and to solicit suggestions for improving and reducing the questionnaire's size. During this year, the key activities were telephone and in-person data collection, accompanied by statistical quality control measures and questionnaire frequency review to ensure high quality data. We also began to create the derived variables and develop the data cleaning programs.

Between October 1994 and February 1995, a final TRP meeting was held to discuss the preliminary findings of the NELS:88/94 data and to request guidance on data to be included in the descriptive summary report. The key tasks during this phase were preparing and delivering the data and writing both the descriptive summary report and the methodology report.

2.2 Instrument Development

In October 1992, NORC began developing the NELS:88/94 CATI instrument (the questionnaire development process is detailed in the *NELS:88/94 Field Test Report*). Instrument changes agreed upon at the 1993 November TRP meeting were made in December 1993. Final questionnaire testing took place during January 1994 and was completed two weeks before data collection began. See Appendix A for the CATI instrument code, which contains question text and interviewer instructions and information about preloaded data and flow. The NELS:88/94 Electronic Codebook (ECB) also contains question text for the Third Follow-up instrument.

2.3 Systems Design, Development, and Testing

The sections below describe the several systems that supported the data collection work on NELS:88/94.

2.3.1 Integrated Monitoring System

The Integrated Monitoring System (IMS) is a centralized executive information system that NORC used to develop many of the electronic systems, and as the entry point for monitoring ongoing work (e.g., monitoring CATI operations), and as the repository for collecting all important information about the project. Through the IMS, users including the contracting officers can determine the current status of the project in its ongoing development, as well as its production and costs. In addition, they can read all major documents and electronic mail describing and associated with the instrument, the data collection software and procedures, and the monitoring systems and procedures. They can also test the data collection instrument and the case management system. The *NELS:88/94 Field Test Report* describes the IMS in detail.

2.3.2 Instrument Development System (IDS)

The Instrument Development Systems (IDS) is a tool used to assist the instrument development process. Basically the IDS is a systematized and structured manner for describing a questionnaire's appearance, technical parameters, and flow. This systematization has two primary benefits: first, it is important as a residuum of questions from which future iterations or projects might draw, and second, it aids in the smooth transition from questionnaire writing to instrument programming, the IDS itself is part of a system that translates one to the other. There were no changes to the IDS between the field test and the main survey. A complete description of the IDS can be found in the *NELS:88/94 Field Test Report*.

2.3.3 Computer-assisted Telephone Interviewing (CATI)

Main survey data collection began using CATI. The *NELS:88/94 Field Test Report* includes a description of the CATI software.

2.3.4 Telephone Number Management System (TNMS)

The software used to manage the sample during telephone data collection is the Telephone Number Management System or TNMS. The TNMS:

- Schedules appointments and automatically delivers information to interviewers at the appointed time;
- Mechanically reschedules "no contact" cases, where an interviewer recorded an outcome of "ring no answer" or "busy," according to a predetermined algorithm that forces retries at optimal times;

- Separates cases receiving different treatments, that is, interviewing, locating (tracing), and refusal conversion; and
- Mechanically tracks and reports, upon request, about sample status and number of transactions recorded in any specified time period.

TNMS Specifications for NELS:88/94

The TNMS specifications for the NELS:88/94 field test were used with minor modifications. The TNMS specifications' main components are the retry algorithms and the number of calls permitted for telephone interviewing.

Retry algorithm. The retry algorithm defined the times of the day when a case record, containing respondent information, was delivered to an interviewer. Unless a respondent or household member requested that we call back at a certain time, the case record was delivered according to the retry algorithm.

On NELS:88/94, the retry algorithm systematically scheduled each case to be tried once on each weekday between 8:00 a.m. and 5:00 p.m., once on each weekday evening between 5:00 p.m. and 7:00 p.m., once on each weekday evening between 7:00 p.m. and 9:00 p.m., and twice on Saturday and Sunday. This retry algorithm was consistent with the belief that NELS:88/94 respondents were somewhat more likely to be reached at home in the evening than during the day.

Number of calls permitted. In order to control the telephone interviewing level of effort, NORC programmed the TNMS to refer each case record for supervisory review after 20 attempts were made to contact the respondent. Some of these respondents were contacted by highly skilled refusal convertors, interviewers who exhibit above-average skill in gaining respondents' cooperation. Otherwise, depending on the circumstances, cases were referred for locating or in-person interviewing.

2.3.5 Case Management System (CMS)

For NELS:88/94, NORC developed a new computer-assisted management and locating system, the Case Management System (CMS). The CMS had a dual purpose: to provide the current status of each case in the sample and to aid the locating process. The CMS database generated many of the reports used to inform and manage data collection. This electronic system replaced the traditional hard-copy locating protocol followed on previous surveys. Additionally, the CMS allowed later analysis of the efficiency of the various locating steps included in the locating protocol.

As a management tool, the CMS was the primary source of information about the status of cases being worked both in CATI and the field. Overnight processes transferred information from the TNMS and the Field Management System (FMS) to the CMS so that project staff would only need to look in one place to know the overall status of the sample. These updates of CMS

reports provided timely information to project staff.

As a locating tool, the CMS consisted of three primary sets of information tables: locating appointments, locating call notes for each case, and locating resources for each case. The system was designed to provide, in a structured manner, all relevant information about a locating case and to allow new information to be entered easily as it was discovered.

Each case was assigned to a locating team based on their geographic location at the beginning of data collection. In order to give each case consistent and concentrated attention, not all of a team's cases were released at the same time. As cases were located, they were passed to the TNMS for interviewing and new locating cases would be added to the team's CMS case load.

Each active case available to general locators had an appointment listed in the appointment table; sorted in date-time order with a visible flag indicating which were hard appointments (made for a specific time with a specific individual) and which were soft appointments. Rather than having cases automatically assigned to them by the computer system, locators used the list to select the next appropriate step, thus permitting them to use their experience and judgment.

2.3.6 Field Management System (FMS)

Interviewing costs are the largest single component of the typical field data collection project's budget. Because data collection progresses rapidly, managing the task requires almost immediate access to cost and production data for accurate decision-making. To improve its ability to meet this requirement, NORC designed its Field Management System (FMS). The FMS is a computer-based application that (1) permits collection of production data on a case-by-case basis; (2) permits electronic transfer of cases within and between regions; (3) allows entry of labor and expense information on an interviewer-by-interviewer basis; (4) interfaces with the NORC Survey Management System, updating current field dispositions of each case while receiving information on in-house case receipt; (5) generates timely, detailed cost and production reports on interviewer, regional, and national levels; and (6) allows Field Managers (FMs) to make assignments with the data on the assignment uploaded directly into the Survey Management System (SMS). The fully automated FMS decreases the time spent manually compiling (and correcting) cost and production reports. Because it allows electronic transfer of information between office and field, it minimizes the traditional high volume of paperwork involved in case transfers and the paper flow between office and field.

NORC Field Managers use the FMS to collect and enter weekly field report data communicated during calls between interviewers and field managers. During these calls, interviewers report case by case production (pending or final disposition of each case as well as anecdotal information), labor hours, and expenses for the week. The FMs who take the calls enter weekly cost and production data into the FMS software residing on their NORC-provided personal computer. Having collected a week's worth of field cost and production data for their

administrative staff, the FMs then transmit the cost and production data to NORC's central office modem pool data receipt system, located at NORC's Lake Park Data Collection and Preparation Center.

Once FMS data arrive in Chicago, they are post-processed and extracted to create formal, weekly field cost and production reports that calculate regional, area, and national cost and production figures. Subsequently, FMS data are linked to NORC's Survey Management System (SMS), where project information pertaining to in-house case receipt will become part of the reports. Formal FMS reports are also distributed in electronic format to field management staff. The NELS:88/94 reports included production-level data such as current weekly and cumulative data on interview completion rates, pending interview statistics, and reasons for noninterview statistics. The reports include such cost-level data as cost per complete interview, both weekly and cumulatively, cost of labor and other direct costs, and the cost of respondent fees or other special outlays.

2.3.7 Statistical Quality Control: Interviewing, Locating, and Gaining Cooperation

NELS:88/94 used a Statistical Quality Control (SQC) approach to monitoring interviewers' and locators' work to ensure consistent high-quality data throughout the field period. This approach consisted of real-time on-line aural and visual monitoring and capturing evaluation data on all data collection activity throughout the telephone data collection period. A description of the monitoring process can be found in the *NELS:88/94 Field Test Report*.

2.3.8 Statistical Quality Control: Interviewer Coding

For NELS:88/94, NORC developed a SQC system to review interviewer coding for accuracy throughout the course of the main survey. There were two goals for this effort: ensuring that the coding process was in control (i.e., the number of errors did not exceed normal random error) and providing ongoing feedback and supplemental training to the interviewers.

Additional review was performed on the items coded by the interviewers. Verbatim text collected during the interview and the Industry, Occupation, Major Field of Study, and IPEDS codes selected by the interviewers were exported from the questionnaire and loaded into a short review instrument. Expert coders used this instrument to review the codes assigned and recode the verbatim strings, providing an independent check on the work of the interviewers.

The instrument asked the expert coder a series of three questions:

1. Is the verbatim text adequate to assign a good code? If the verbatim is not codable, the verifier indicates so and goes on to the next item.

2. Code the verbatim. The verification program compares the original (interviewer assigned) code and the expert code. If the codes are the same, the verifier moves on to the next case.

3. Is the original code reasonable? In some cases, more than one code could be assigned to the same verbatim string. If the original code is different, but reasonable, the recode is considered to be a match. If the original code is not reasonable it is a mismatch error, and the original interviewer gets feedback about the code assigned.

Control charts on coding were produced and reviewed regularly by the telephone supervisors.

2.3.9 Data Entry of Self-administered Questionnaires

For those cases where the respondent was unable or unwilling to complete an interview over the telephone, a paper questionnaire was either self- or field-administered and returned to NORC. Rather than develop a new data entry program for the self-administered questionnaires (SAQ), a modified version of the CATI program was used for the electronic capture of SAQ data.

2.4 Staff Recruitment

Three telephone center coordinators, twelve supervisors, three assistant supervisors, and three monitors were assigned to the NELS:88/94 telephone data collection effort. Each of these staff had worked on several NORC surveys. The structure of the field staff consisted of a District Manager, a Division Field Manager, and seven Field Managers, all of whom were experienced NORC staff.

Almost all of the telephone center interviewing staff assigned to the telephone data collection effort were experienced: 111 of the 125 interviewers and locators had worked on at least one prior NORC survey. When recruiting for NELS:88/94 telephone interviewers, preference was given to interviewers who had worked on NELS:88/92 and the NELS:88/94 field test and to those interviewers who were available for the entire field period, had good attendance records, and had demonstrated excellent gaining cooperation skills.

In addition to prior experience working on NELS:88/92 and the field test, field interviewers (FIs) were selected for their skills in locating hard-to-find respondents and converting those respondents who were reluctant to participate. It is important to recognize that the challenges of this project would easily overwhelm a new interviewer, and for that reason, only experienced NORC interviewers were considered for NELS:88/94. NORC gave strong consideration to experienced field staff who demonstrated tenacity in completing their cases. NORC also considered their location relative to case assignments, as well as their availability to work within the scheduled field period.

2.5 Prefield Locating

In the field test, better than 60 percent of all cases were found by using information collected in the second follow-up field test. However, certain subgroups, notably nonresponders

and poor responders on previous rounds, dropouts, and Native Americans, required additional resources. Therefore, cases in these subgroups were sent to the CMS for initial locating prior to being sent to the TNMS for interviewing.

2.6 Advance Mailing

NORC mailed an advance letter to all respondents explaining the study's purpose and notifying respondents that NORC would be calling. To be sure that we could reach the respondent at the address collected during NELS:88/92, NORC matched the most recent address for the respondent against a commercial (Metromail) electronic database. The Metromail comparison returned the following information:

- A match on last name and address.
- A match on address only.
- No match; new address provided.
- No match; no new address.

If Metromail matched on address or provided no new address, NORC mailed the advance letter to the address obtained during NELS:88/92. If Metromail did not match the NELS:88/94 address and provided a new address, NORC used the new address.

2.7 Establishing the Locator Database

The following data from the locator pages of the NELS:88/92 student, parent, and dropout questionnaires were loaded into the CMS for easy access by locators:

- Student address and telephone number,
- Mother's residential address and telephone number (or business telephone number if one was available and the home telephone number was missing) and social security number, and
- Father's residential address and telephone number (or business telephone number if one was available and the home telephone number was missing) and social security number.

2.8 Development of Training Materials

Developed primarily by telephone center staff, the materials used in the field test were slightly edited and augmented for the main survey. The most significant changes were made to

the section on coding: our coding department developed and wrote additional training exercises and a comprehensive job aid to assist the interviewers in more accurately coding industry and occupations.

2.9 Supervisor, Interviewer, and Locator Training

2.9.1 Telephone Supervisor Training

Telephone supervisors received substantive training two weeks prior to the start of data collection. The training consisted of the following:

- Overview of the NELS project
- Practice with the CATI questionnaire including the same coding training that was prepared for the interviewers
- Review of gaining cooperation strategies
- Explanation of conversational interviewing techniques
- Importance of confidentiality and NCES's affidavit of nondisclosure
- Walk-through of the interviewer training materials
- SQC Monitoring theory and procedures
- SQC procedures for coding
- TNMS structure and algorithms

One week prior to interviewer training, supervisors practiced the training modules they would be responsible for leading at the interviewer training. Supervisors were given feedback on style and delivery so that they could fine tune their approach.

2.9.2 Field Supervisor Training

Prior to beginning field work, the Field Managers travelled to Chicago to observe the Lake Park Telephone Center's activities and the first locator training. As a result of this visit, the Field Managers increased their understanding of how the Telephone Center operates. The Field Managers also learned how the supervisors monitor their locators as well as the principles of the TNMS.

The Field Managers were provided with the NORC Locator Training manual, the Case

Management System (CMS) Training Guide, and the Field Interviewer Manuals, as well as an electronic version the Field Manager manual.

The Field Manager manual covered the field structure including the different regions displayed by zip code and Field Manager and all procedures and systems for the project including Field Management System (FMS) entry and transmission, project-specific, and administrative procedures. One of the key elements presented in the Field Manager manual was the new concept of the field and Telephone Center staff working together to review and monitor cases. This innovative concept brought with it rapidly changing procedures especially in the area of processing cases to get them into the field as quickly as possible. As the project progressed, the Field Manager manual was revised by issuing memos that served as addenda to the original manual.

2.9.3 Telephone Interviewer Training

Telephone interviewer training was conducted between February 7 and 9, 1994, and was held in a hotel in downtown Chicago. The training was conducted off-site in order to train all 110 interviewers concurrently. The training site met four key criteria: reasonably accessible to NORC; easily accessible by public transportation; adequate power to support 110 computers and a LAN; and adequate space--six rooms for training and one room for breaks.

The interviewers were divided into six training groups of roughly equal size and each group was assigned one lead and three assistant trainers. With the exception of two assistant trainers, all the trainers had worked on the NELS:88/92 Parent, Student, and School Administrator Components. Some had also worked on the NELS:88/94 Field Test.

Training consisted of a mixture of lecture, demonstration, and hands-on practice, with emphasis placed on the latter. Specific modules included: project overview; gaining cooperation; conversational interviewing techniques; on-line coding of industry and occupation, schools (IPEDS), and major field of study; confidentiality procedures; quality control; and the TNMS. Each interviewer sat at a table equipped with a PC on which they used specially designed exercises to practice CATI, on-line coding, and using the TNMS. Some of the exercises were completed alone, others were completed with a partner, while still others were completed by the group. Each interviewer was given additional time to practice at the PC before the second and third day of training. See Appendix B for the training agenda.

Following completion of the project-specific training, interviewers were required to complete a one-on-one check-out module with a supervisor to demonstrate their command of CATI, gaining cooperation, TNMS, and the four types of on-line coding required for the interview. Interviewers were evaluated on these elements and, when necessary, given additional training prior to commencing data collection.

2.9.4 Locator Training for Central Office Locators

Locator training was conducted in two groups of 25 locators, both conducted at the Lake Park facility. The first group was trained from March 23 to 25 and the second from April 6 to 8. Seven FMs and a DFM also participated in the first session. The training was broken into two sessions due to the complexity of the software; smaller groups of trainees allowed the trainers to give adequate one-on-one guidance throughout the training. This was particularly beneficial when locators needed additional help with the CMS.

Like interviewer training, the approach was a mixture of lecture and hands-on practice, with emphasis placed on the latter. Each locator sat at a table equipped with a PC on which they practiced what they were taught by following specially designed exercises. Exercises were completed either alone, with a partner, or by the group. See Appendix C for the training agenda.

2.9.5 Field Interviewer Training

The Field Interviewers were trained as they were staffed on the project, that is, on a flow basis. As each interviewer was hired, the respective Field Manager requested training materials for him or her from the project administrative assistant at the Central Office. Materials were initially sent via first class mail--subsequently via Federal Express to enable the Field Interviewers to begin work immediately. Extra sets of training materials were sent to the Field Managers for site blitzes and to handle emergency requests.

Prior to participating in the telephone training with their Field Manager, all Field Interviewers completed Self-Study Exercises, read the Field Interviewer and NORC Locating manuals, and looked over the allied forms. At this point, they were prepared to discuss the exercises and how they intended to work their assignment, particularly with reference to their availability. Before beginning training, the Field Managers asked each FI if he or she had returned the two copies of the Affidavits of Nondisclosure to the project administrative assistant and then indicated the date the form was returned on their records. Field Managers and Interviewers then proceeded to review the exercises. While doing so, the Field Managers made references to the NORC Locating Manual, regarding when and how to use it. Portions of the Field Interview Manual were reviewed, including the Self-Administered Questionnaire overview, confidentiality guidelines, disposition codes, and how to gain the respondent's cooperation.

As mentioned above, Field Interviewers were trained over the telephone by their Field Manager after they had read and studied their materials and completed the Self-Study Exercises. The number of participants on these training conference calls depended on the number of Field Interviewers staffed at any one time in a given region. Obviously, more participants made it difficult for the Field Manager to give each interviewer the requisite personal attention. In general, conducting training over the telephone compounds any complications that arise from interviewers progressing at different rates. The extent of coverage varied. If Field Interviewers had worked on the NELS:88/94 Field Test then they required less training because they were familiar with the study. Others, especially those completely new to NELS, required the more training and review.

As changes in procedures occurred during the field period (for example, changes due to discovery of an error in the Self-Administered Questionnaire), the respective Field Managers informed their interviewers. These changes were explained during the weekly conference call or, if the immediacy of the new procedure warranted such action, even a mid-week call from either the Field Manager or Associate Field Manager. On the whole, however, the training materials, which included the Field Interviewer Manual, NORC Locating Manual, Question-by-Question Specifications, and the Self-Study Exercises, were effective and served their purpose of stipulating the project procedures for the Field Interviewers.

Chapter Three: Data Collection

3.1 Staff

The following sections describe the administrative, telephone, and field staff assigned to NELS:88/94.

3.1.1 Telephone Center Staff

For NELS:88/94, the Telephone Center staff consisted of three coordinators, twelve supervisors, three assistant supervisors, three monitors, seventy-five interviewers, twenty-five interviewer/locators, and twenty-five locators. One supervisor and two data entry clerks were responsible for the SQC coding process; and one supervisor and two clerks were responsible for the receipt and flow of cases from the field.

Each of the three coordinators managed a key function in the Telephone Center: one coordinator was responsible for scheduling staff, keeping production and attendance statistics, SQC monitoring and coding, and managing interviewer meetings and individual feedback sessions between supervisors and interviewers; another focused on the locating effort; while the third managed the flow of cases to interviewers and dealt with other sample management tasks. Each coordinator was responsible for overseeing the work of four supervisors.

The twelve supervisors were responsible for monitoring interviewers, reviewing cases, producing reports, chairing group meetings, documenting policy decision requests, and reviewing and resolving problem cases. Additionally, each supervisor was responsible for ten to twelve interviewers; this responsibility included meeting individually with each interviewer to provide feedback on attendance and quality of work.

Assistant supervisors provided some clerical assistance; they had primary responsibility for compiling production statistics from the TNMS and cost information from the financial reports. The assistants produced weekly cost and production reports, and also monitored interviewers and assisted with case review.

When it became apparent that we did not have enough supervisors to handle all the monitoring sessions, three interviewers were selected to be interviewer monitors. The three interviewers selected had excellent interviewing, near perfect attendance, and good leadership qualities.

3.1.2 Field Staff

The field staff for NELS:88/94 consisted of a District Manager, a Division Field Manager, 7 Field Managers, and 185 Field Interviewers. The District Manager served as a liaison between the field and central office staff. The Division Field Manager served as the Field

Project Manager and reported directly to the Central Office Survey Director in charge of field data collection.

The Field Managers supervised the Field Interviewers and reported directly to the Field Project Manager. There were seven Field Managers assigned to NELS:88/94 who were directly responsible for the Field Interviewers' performance. Field Managers mainly focused on propelling the Field Interviewers toward the cost and production goals of the data collection effort while maintaining the defined quality standards. The Field Managers also served as advisors, troubleshooters, and motivators for the interviewers assigned to their regions. The country was divided into seven geographical regions, each managed by a Field Manager:

Region 1:	Alaska, Colorado, Idaho, Montana, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming
Region 2:	Arizona, California, Guam, Hawaii, and Nevada
Region 3:	Illinois, Indiana (Gary only), Iowa, Minnesota, Nebraska, North Dakota, South Dakota, and Wisconsin
Region 4:	Indiana (except Gary), Kentucky, Michigan, Ohio, and West Virginia
Region 5:	Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont
Region 6:	Delaware, Washington D.C., Georgia, Maryland, North Carolina, Pennsylvania, Puerto Rico, South Carolina, Virginia, and the Virgin Islands
Region 7:	Alabama, Arkansas, Florida, Kansas, Louisiana, Mississippi, and Tennessee

The Field Interviewers conducted the actual interviews with respondents and were responsible for completing their assignments within project guidelines. These 185 Field Interviewers and 7 Field Managers resulted in an interviewer to supervisor ratio of 26 to 1: this ratio was much higher than is usual on NORC studies because every available field personnel resource was used to ensure the requisite completion rate within the allotted schedule. Associate Field Managers were employed in four of the seven regions to support the Field Managers.

3.2 Work Flow Control

The plan used to control the flow of cases to interviewers played an important part in the success of the project. This plan had three features: a sample release strategy, quality control, and case delivery management.

3.2.1 Sample Release Strategy: Case Metering

The sample release strategy, known as case metering, released cases to interviewers in a way that ensured that they had "a day's worth of work" available. Prior to NELS:88/94 main survey data collection, case metering had been used on four surveys, one of which was the NELS:88/94 field test.

The traditional sample release strategy of making all cases available at once has several disadvantages. In interviewing, the outcomes reached most frequently when contact is made on the first call are: interview completed, appointment to call a respondent, and respondent no longer lives at the number given for the case. When all cases are released simultaneously, and interviewers have made one or two calls to most of the cases in the sample, many cases are simultaneously sent to the appointment queue for locating. This in turn causes Interviewers to miss appointments to call respondents because so many appointments have been made. Also, the locating process begins with a "bottleneck" already in place. Case metering addresses these problems and has proved to have additional advantages:

- NORC could predict level of effort, outcome distribution, and production rate for all cases based on the level of effort expended in working the initial batch of cases (a randomly selected subset of the NELS:88/94 sample).
- Case metering helped prevent "bottlenecks" from occurring because all cases in the sample were not at the same step simultaneously.
- Because unworked cases were not released to interviewers until the number of cases left was insufficient to sustain productive interviewing, cases were worked very thoroughly and evenly. Analysis of 517 active cases on May 25 showed that 53 percent of the cases had been called 10 times or less, and 22 percent had received between 11 and 20 calls. The last unworked case was released in early May.

Table 3.2.1.1 shows the effect that case metering had on data collection:

Table 3.2.1.1--Number of cases completed each week, and the cumulative number completed each week, throughout the period of telephone data collection

	Completed in week	Cumulative completes	Comments
19-Feb-94	1,399	1,399	
26-Feb-94	1,347	2,746	
05-Mar-94	1,343	4,089	
12-Mar-94	1,419	5,508	
19-Mar-94	1,556	7,064	
26-Mar-94	1,114	8,178	Locating training
02-Apr-94	887	9,065	Last unworked cases from regular sample released
09-Apr-94	695	9,760	
16-Apr-94	521	10,281	
23-Apr-94	356	10,637	
30-Apr-94	312	10,949	
07-May-94	290	11,239	
14-May-94	264	11,503	Washington supplement released 13 May
21-May-94	107	11,610	
28-May-94	263	11,873	
04-Jun-94	60	11,933	

Source: National Education Longitudinal Study of 1988-1994

Table 3.2.1.1 shows that until locating training began and the interviewer staff was reduced in size, the number of complete cases per week ranged from 1,343 to 1,556.

3.2.2 Case Management and Quality Control

On NELS:88/94, NORC Telephone Center supervisors reviewed individual case record to ensure that the case delivery system, the TNMS, was performing as specified, and that interviewers were following the outcome code selection protocol. At all times during NELS:88/94, the TNMS performed according to specifications. Additional training was given to individual interviewers when they used outcome codes incorrectly. The following types of cases were reviewed:

- 5 percent of all "ring no answer" and "answering machine" cases to ensure that the TNMS was routing cases to be retried according to specifications;
- 100 percent of appointments to call respondents to ensure that the appointment outcome code was being used properly;
- 100 percent of respondent and contact refusals to determine which refusal conversion letter should be sent to the household, as well as to discover hostile refusals and refusals to be referred for field interviewing;
- 100 percent of missed appointments to call respondents; this specification was put in place to enable NORC to know how many appointments had been missed in a given hour of a given day; this also allowed supervisors to update the case history to reflect the missed appointment and to apologize to respondents and contacts;
- 5 percent of all cases referred for locating to ensure that interviewers were calling all numbers provided from data collected during NELS:88/92 before referring cases for locating;
- 100 percent of all cases referred for supervisor review to discover possible policy decisions, such as international calls needing approval, cases receiving a certain number of calls without completing an interview, and other unusual situations like computer failure.

3.2.3 Case Delivery Management

On NELS:88/94, before the cases were referred for field interviewing, case delivery management was programmed to allow cases to be tried by telephone interviewers up to 21 times on each day of the week at different times of the day. Cases were begun on one of two "schedules." Each schedule routed "no contact" cases from early evening to late evening the next day from Monday through Thursday, and permitted three retries on Saturday or Sunday.

If a case was tried in each of the designated time slots without completing an interview, the case was referred for supervisor review. The supervisor was required to determine the next appropriate course of action. Usually, cases that have been tried more than 12 times by telephone require another approach, so most of these cases were referred for field interviewing.

Another feature of case delivery management on NELS:88/94 was programming the TNMS not to deliver cases to interviewers when NORC was more than 20 minutes late in keeping an appointment to call a respondent or contact. A supervisor was required to review the case and determine the most appropriate course of action. Usually, the supervisor would recirculate the case to interviewers with instructions to apologize for the missed appointment. Cases were also referred for refusal conversion, locating, or field interviewing if the supervisor reviewed the case history and determined that another treatment would be more likely to result in a completed interview.

3.3 Refusal Conversion

During the interviewer training, interviewers practiced averting refusals and preventing respondents from becoming hard refusals by reviewing the questions raised most often by respondents during the field test and earlier rounds of NELS, as well as the recommended answers to these questions. After this review, each trainee had an opportunity to convince the recalcitrant trainer to participate in the survey. This exposure helped prepare the interviewers to respond in a calm and convincing manner when confronted with a reluctant or hostile respondent.

However, as in any study, some respondents do raise objections and present resistance stronger than an interviewer's power to persuade. In these situations, interviewers were instructed to withdraw from the situation with courtesy and provide in the call notes a detailed description of the respondent's reasons for not participating. Supervisors were instructed to review the call notes and determine whether follow-up measures were warranted. Most cases were then sent a personalized letter from the project director that addressed the respondents' specific objections. A telephone follow-up call was made within 10 days by a refusal conversion specialist.

3.4 CMS Locating

The CMS was structured as a two-tiered system built to accommodate general and specialized locating. General locating included telephone calls to Directory Assistance and next-of-kin and other contacts nominated by the respondents in prior rounds of data collection. Specialized locating included potential sources of information obtained from commercial locating databases and specialized locating. The locating steps are the same as those presented in the *NELS:88/94 Field Test Report*.

The CMS enabled the FMs to participate in the centralized telephone locating in a number of ways. During the first weeks of locating, the FMs reviewed their respective region's locating effort by real-time, on-line monitoring of about 10 percent of the initial cases worked by Telephone Center locators. The FMs made helpful comments to the supervisors responsible for the locating effort, and the supervisors incorporated these comments into the weekly individual and group meeting with the interviewers. The CMS also allowed the FMs to review cases nominated for field work; before the materials were prepared for shipment to the field, the FMs could accept or reject each nominated case. Rejected cases were annotated by the FMs with suggestions for additional locating steps.

The system design required locators to enter informant names, sources of resource information,

and the informant's relationship to the respondent. Once a case was located, the respondent's most recent address and phone number was automatically transferred nightly to the TNMS, eliminating the need for additional manual processing on located cases.

There were several problems encountered during locating:

- Because of the complexity of the CMS, the first weeks of locating focused on manipulating the software correctly rather than on the finer points of finding respondents.
- The system could not keep pace with the locators; processes that normally take less than a minute took five to ten minutes, which caused delays of up to two weeks in specialized locating processing.
- As the history associated with each case grew, the speed of the system decreased.
- Locators were limited to two lines (120 characters) to record information for each call placed.
- Locators were forced to spend some time reworking cases because of difficulties in interpreting call history notes from fellow locators.

The protocol was modified at the end of the telephone center field period when it became apparent that the Telephone Center would not have an opportunity to work cases through all of the specified steps in the allotted time frame. For almost all cases that required locating, the Telephone Center was able to perform high yield locating steps. However, for many cases the high intensity, low yield steps were performed by field staff.

On the whole, the protocol was effective, but it is difficult to determine how much more successful the Telephone Center locating could have been if time had allowed the completion all of the steps listed in the initial protocol. At the close of NELS, telephone center locators found 3,062 of the 5,634 cases requiring locating, and telephone interviewers completed 2,137 of those cases.

3.4.1 Telephone Center and Field Interaction

In an effort to enhance the locating effort, Telephone Center staff and the field staff worked as a team. At the start of locating and prior to cases being sent to the field, field managers:

- Participated in the initial locator training;
- Provided support and feedback to in-house locators through remote monitoring;
- Located respondents; and
- Reviewed cases nominated for field work.

Each Field Manager and phone center supervisor was assigned to a specific geographic region, and weekly conference calls were scheduled between supervisors and FMs. These meetings initially focused on cases in progress in the phone center and topics such as the locators' level of proficiency using the CMS and their overall locating skills. As in-house locating progressed, the focus of the meetings shifted to an active review of cases nominated for the field. Cases were sent to the field only if both the regional FM and phone center supervisor agreed that the case had been fully worked by the phone center. Feedback from these conference calls was shared with locators at weekly group and individual meetings.

As a result of this interaction and in spite of the ever-changing protocol and uneven flow of cases to the field, the FMs knew what kinds of cases to expect in their locating case load and were better able to prepare the field interviewers. The phone center supervisors and locators also received the benefit of assistance from the field.

3.4.2 Telephone Center and Field Locating Results

Table 3.4.2.1 shows the number of cases requiring locating in the various subgroups and the outcome of the locating effort for both the telephone center and field.

Table 3.4.2.1--Number and percent of cases requiring locating, by subgroup, and the outcome of locating by telephone and field staff

	Total	Percent	Needed locating	Found by telephone	Percent	Telephone complete	Field complete	Percent	Final not located	Percent	Other NIR
Totals	15,875<a>	100.00%	4,487	28.26%	2,566	57.19%	1,971	1,956	87.52%	270	6.02%	290
Nonresponders	38	0.24%	5	13.16%	3	7.89%	0	1	2.63%	2	5.26%	2
Poor responders	595	3.75%	141	23.70%	60	10.08%	30	77	17.98%	15	2.52%	19
Dropouts	2,343	14.76%	1,033	44.09%	526	22.45%	373	517	37.99%	96	4.10%	47
Ineligible prior '92	191	1.20%	70	36.65%	25	13.09%	24	34	30.37%	8	4.19%	4
Private school in '88	2,370	14.93%	481	20.30%	328	13.84%	241	176	17.59%	20	0.84%	44
Private school '90/'92	96	0.60%	31	32.29%	23	23.96%	17	9	27.08%	1	1.04%	4
Hispanic	1,457	9.18%	471	32.33%	280	19.22%	201	227	29.38%	24	1.65%	19
Asian Pacific Islander	870	5.48%	236	27.36%	127	14.60%	106	101	23.79%	15	1.72%	16
Native American	132	0.83%	40	30.30%	25	18.94%	18	20	28.79%	0	0.00%	2
Black high test q'tile	79	0.50%	21	26.58%	16	20.25%	11	7	22.78%	0	0.00%	3
Black other	1,112	7.00%	389	34.98%	201	18.08%	143	190	29.95%	30	2.70%	26
White low SES q'tile	1,292	8.14%	387	29.95%	229	17.72%	180	171	27.17%	12	0.93%	24
White high SES q'tile	1,505	9.48%	277	18.41%	181	12.03%	157	88	16.28%	8	0.53%	24
While mid SES	3,789	23.87%	902	23.81%	542	14.30%	470	337	21.30%	39	1.03%	56
1st FU freshened	1	0.01%	0	0.00%	0	0.00%	0	0	0.00%	0	0.00%	
2nd FU freshened	2	0.01%	0	0.00%	0	0.00%	0	0	0.00%	0	0.00%	
Other	3	0.02%	1	33.33%	0	0.00%	0	1	33.33%	0		

Source: National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.
<a> This does not include 89 ineligible or dead sample members.

Chapter Four: Production Statistics, Quality Assurance, and Statistical Quality Control

4.1 Response Rates

The overall unweighted response rate was 94 percent and the weighted response rate was 91 percent. Table 4.1.1 shows both our unweighted and weighted response rates by various subgroups.

NORC achieved an 85 percent weighted response rate for all sampling strata except three as shown in the bottom of Table 4.1.1; Table 4.1.2 shows response rates from the previous and present round(s) of NELS data collection for the Nonresponder and Poor responder subgroups.

4.2 System Measures

The direct collection of data from systems enabled the close monitoring of work flow and level of effort, as well as production and cost predictions. The following CATI variables were measured:

- Number of completed interviews per hour, per day, and cumulatively.
- Number of completed interviews per interviewer hour, per hour, per day, and cumulatively.
- Missed appointments per hour.
- Number of cases each interviewer handled, per hour and per day.
- TNMS interviewer hours per completed interview.
- Number of interviewers logged into TNMS, per hour and per day.

Monitoring the number of completed interviews per hour and per day helped to detect variability from day to day and in the days of the week across weeks. When analyzing data about telephone interviewing level of effort and outcome for the same day of the week across weeks, the same days in different weeks have the same characteristics. For example, Monday and Tuesday late evening hours were generally very productive, and Wednesday early evening hours were more productive than late evening hours.

Completed interviews per interviewer hour is useful for determining effectiveness in a particular hour of the day. Dividing the number of interviews by the number of interviewers working in an hour "normalizes" the total completed interviews for that hour, so that an hour of interviewing that seems most productive can be analyzed further to determine if the production is due solely to the number of interviewers present.

When the number of completed interviews per interviewer hour rose significantly *above* the mean number of completed interviews per interviewer hour, the number of missed appointments was likely to be higher. Thus, those data were used to adjust staff levels in order to preserve efficiency throughout the NELS:88/94 telephone data collection period.

Table 4.1.1--Completion rates by selected strata

	Total	Completed cases	Unweighted percent	Weighted percent
Total	15,875*	14,915	93.95%	90.86%
Respondent sex				
Male	7,895	7,354	93.15%	90.24%
Female	7,980	7,561	94.75%	91.48%
Respondent race/ethnicity				
Asian/Pacific Islander	1,151	1,088	94.53%	90.85%
Hispanic	2,288	2,107	92.09%	87.98%
Black	1,840	1,681	91.36%	87.45%
White	10,303	9,787	94.99%	92.90%
Native American	230	211	91.74%	91.86%
Missing	63	41	65.08%	47.87%
Second follow-up standard test quartile				
Lowest test quartile	2,669	2,497	93.56%	91.98%
2nd	2,850	2,710	95.09%	94.21%
3rd	2,836	2,746	96.83%	96.71%
4th	2,982	2,923	98.02%	98.09%
Missing	55	53	96.36%	98.54%
Did not complete test	4,483	3,986	88.91%	82.62%
Socioeconomic status quartile				
Lowest SES quartile	4,062	3,788	93.25%	91.78%
2nd	3,784	3,587	94.79%	93.56%
3rd	3,742	3,570	95.40%	94.75%
4th	3,635	3,507	96.48%	96.42%
Missing	652	463	71.01%	64.61%
Sample type				
8th grade cohort	14,890	14,041	94.30%	91.48%
2FU freshened	117	102	87.18%	76.88%
1FU freshened	559	501	89.62%	85.14%
Base year ineligible	309	271	87.70%	81.50%
Dropout status				
Never dropped out	13,337	12,654	94.88%	92.38%
Ever dropped out	2,538	2,261	89.09%	83.77%
Original school type				
Public	13,383	12,540	93.70%	90.59%
Catholic	1,355	1,292	95.35%	93.89%
NAIS private	595	568	95.46%	89.37%
Other private	542	515	95.02%	92.12%
Sampling strata				
Nonresponders	38	9	23.68%	24.97%
Poor responders	595	444	74.62%	75.81%
Dropouts	2,343	2,133	91.04%	89.36%
Ineligible prior to '92	191	176	92.15%	91.80%
Private school in '88	2,370	2,269	95.74%	95.66%
Private school '90/'92	96	92	95.83%	98.12%
Hispanic	1,457	1,376	94.44%	95.38%
Asian/Pacific Islander	870	833	95.75%	95.90%
Native American	132	125	94.70%	94.09%
Black high test quartile	79	75	94.94%	96.56%
Black other	1,112	1,034	92.99%	90.20%
White low SES quartile	1,292	1,228	95.05%	93.87%
White high SES quartile	1,505	1,472	97.81%	97.63%
White mid SES	3,789	3,644	96.17%	95.61%
1FU freshened	1	1	100.00%	100.00%
2FU freshened	2	2	100.00%	100.00%
Other	3	2	66.67%	66.67%

Source: National Education Longitudinal Study of 1988-1994
* This does not include 89 ineligible or dead sample members.

Table 4.1.2--Weighted response rates from the previous and present round(s) of NELS:88 data collection

	Nonresponders	Poor responders
Base year	00.00%	53.86%
First follow up	00.00%	77.33%
Second follow up	00.00%	39.27%
Third follow up	24.97%	75.81%

Source: National Education Longitudinal Study of 1988-1994

The number of missed appointments per hour was measured to ensure that we kept missed appointments to a minimum. If appointments were being missed at a greater than acceptable rate in a particular hour, the missed appointment case records, staff levels, and completed interviews per interviewer per hour were reviewed to determine any special causes.

Knowing the TNMS interviewer hours per completd interview was useful for monitoring unit cost. This broader measurement of interviewing level of effort was multiplied by the standard per interviewer rate to give data about cost per completed telephone interview:

- Calls made per interviewer per hour;
- Total calls made by all interviewers, per day and cumulatively;
- Number of calls per completed interview, per day and cumulatively;
- Total number of case records worked by all interviewers, per day;
- Average questionnaire administration time, per day and cumulatively; and
- Total TNMS logged time divided by the amount of time spent in interviews.

Data were also collected directly from the CMS to monitor level of effort and outcomes:

- Number of cases found per locator per hour;
- Number of cases receiving each locating treatment;
- Number of aged locating cases;
- Number of cases sent from telephone interviewing to locating each day; and
- Number of cases released to locators each day.

The number of cases found per locator per hour was used to evaluate locator performance. If a locator found significantly more or fewer cases per hour than the mean, a supervisor reviewed the locator's case assignment to determine the cause. If the locator deviated from the standard process, the supervisor worked with the locator to determine why. This enabled supervisors to identify locators who needed additional training and to discover processes that needed improvement.

The cases receiving each locating treatment were measured. If many cases needed a particular locating treatment, additional locators were assigned to work on these cases. Also, these data informed the rate at which more cases were released to be worked.

The number of cases sent from telephone interviewing to locating each day was measured to inform work flow and staff levels. After the first days of locating, we measured locating outcomes

(that is, how many respondents were found and how many cases were not found and received a particular treatment) to determine locating turnaround time until cases were either found or referred for in-person interviewing.

The number of cases assigned to locators each day was measured and examined along with locating case cycle time, the number of hours locators worked, and the number of respondents found in order to determine the correct number of cases to release to locators. Unfortunately, this strategy was not as successful as we desired.

4.3 Questionnaire Frequency Review

Questionnaire frequencies were produced and reviewed throughout the field period to ensure that the questionnaire was capturing the data as specified. The initial review took place after approximately 2,000 cases were completed. Several errors were identified and corrected early in the field period.

After about half of the field cases were completed, the first SAQ (Self-administered Questionnaire) frequencies were reviewed. These data were again reviewed after all the field cases were completed and before being merged with the CATI data. Finally, a thorough review of the combined CATI and SAQ data took place before the Data Analysis System (DAS) and other data delivery files were produced.

4.4 SQC Monitoring

SQC monitoring was one of the primary responsibilities of telephone supervisors. NORC was contracted to monitor 2 percent of all telephone activities: gaining cooperation, interviewing, refusal aversion and conversion, and locating. The following sections detail the supervisor's responsibilities and some of the problems encountered during SQC monitoring.

4.4.1 Monitoring Schedule Generation

Every Monday morning, before telephone interviewing began, the monitoring supervisor ran the program to generate and print a monitoring schedule for each day of the week (See Exhibit 1). The scheduler program sequentially numbered the sessions, and after each session number on the schedule, the report listed the station to be monitored, that station's telephone extension, and the session start and stop times. After the stop time, there was a blank space for the supervisor in charge of assigning sessions to write in the name of the assigned monitor and another line for a backup monitor.

Difficulties with the Scheduler Program. The scheduler program read the telephone center utilization data, a file with the times each station was expected to be occupied by a NELS interviewer or locator. From time to time, the interviewer and locator station assignments changed because of changing project demands and unexpected changes to interviewer and locator work schedules. Therefore, it was difficult to keep the database up to date and accurately reflecting station use. The

monitoring supervisor spent most of the week making session assignments and updating the scheduler database. The scheduler program divided the day into three parts: morning, afternoon, and evening. If a station was used for even one hour during the day, for example, in the morning, it could be

Exhibit 1--Example of a monitoring schedule

Schedule for: Monitors
Project: 4583
Date generated: 2/27/95
Date to monitor: Monday, February 27, 1994

Session	Start time	Stop time	Monitor	Backup monitor
2170	09:15:00	09:30:00		
2171	09:35:00	09:50:00		
2172	09:55:00	10:10:00		
2173	10:15:00	10:30:00		
2174	10:35:00	10:50:00		
2175	10:55:00	11:10:00		
2176	17:22:00	17:37:00		
2177	17:42:00	17:57:00		
2178	18:02:00	18:17:00		
2179	18:22:00	18:37:00		
2180	18:42:00	18:57:00		
2181	19:02:00	19:17:00		

selected to be monitored for any hour of that part of day--in this case, any hour in the morning. Thus this system selected many vacant stations for monitoring: more than 50 percent of all scheduled sessions during the course of NELS:88/94 data collection were vacant stations.

Another difficulty with the schedule program design was that stations were identified by the network node address. Monitors used a commercial program, NRCall, to visually monitor an interviewer's screen; NRCall worked by using user names and not network and node addresses. In order to know who was working at each station, another program was run to produce a cross-walk between the network node addresses on the session's schedule and the user names needed for NRCall. Since the name of the person logged-in changed throughout the day and week, the cross-walk program had to be run shortly after the beginning of each shift.

The scheduler algorithm allowed for up to six concurrent sessions to ensure random session selection. It was common for session stop and start times to overlap. Since there were times when there were not enough scheduled supervisors to monitor all sessions, three of the best interviewers were selected and trained to be monitors. The additional help reduced the number of sessions missed, but it did not eliminate the problem.

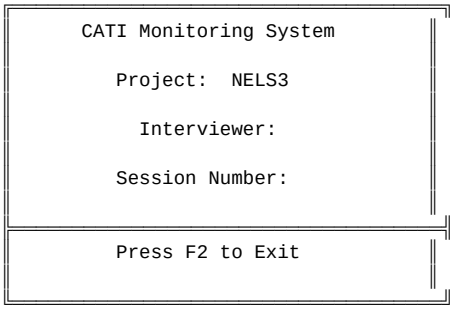
In addition to missing sessions, there was an additional problem with starting the monitoring session on time. The data capture system automatically tracked session start and end times. Since the times between scheduled sessions were irregular--sometimes 1 minute, sometimes 47 minutes--supervisors would note the time of their next monitoring session and continue to work on other tasks. In the meantime, the supervisors who were busy assisting interviewers or locators, would find themselves late for sessions. Even closely watching the clock did not always ensure that the supervisor would be on time because the computer system clock gradually lost time throughout the week.

The scheduler program was not very flexible since it ran a schedule for an entire week at one time. If the staff was reduced mid-week, as sometimes happened late in the data collection, the monitoring schedule for that week could not be easily reduced to reflect this change. Also, a schedule for a given week could not be run in advance because it would over-write the present week's schedule and cause problems analyzing the data for that week.

4.4.2 Monitoring Session Data Capture

Each monitor needed a 286 PC logged into NRCall to view the interviewer's screen and a 386 PC logged into the Paradox monitoring data capture program to document the session. There were five primary data capture screens. The first (Exhibit 2) collected the session number, the user name, and the monitor ID. The next three screens focussed on locating, interviewing, and noninterviewing activities, respectively. The last data capture screen asked for an evaluation of the skills and deficits observed during the entire monitoring session.

Exhibit 2--Screen used to capture interviewer name and session number

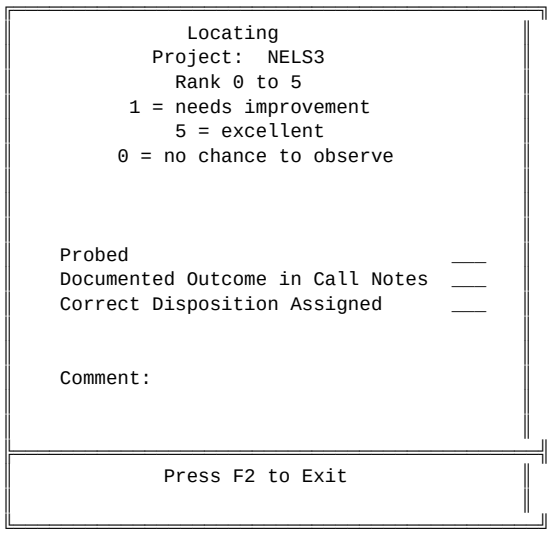


Menu choices for choosing activity (along top of screen)

Choice	Choice Detail
Interviewing	Interviewing
Locating	CMS Locating
Noninterviewing	Gaining Cooperation Lite Locating Refusal Conversion
Station not in Use	No one at Assigned Station
Computer Not in use	Station occupied Computer not in Use
Station in use on Other Project	Different Project
Quit	Session Done Summarize & Quit

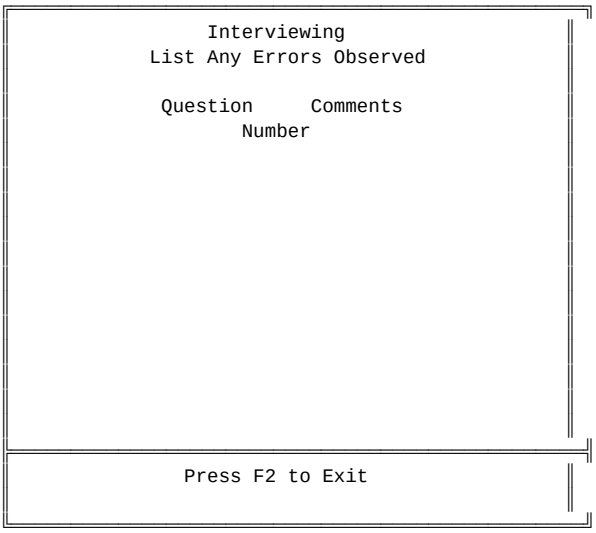
On the locating data capture screen (Exhibit 3), the monitor would rank the locating skills using a 0 to 5 scale. "0" meant the skill, for example, probing, was not observed; "1" meant that the locator needed drastic improvement; "3" meant "average skill demonstrated" and was used whenever the locator did a good job; "5" meant "excellent skill demonstrated." There was also space for comments on the locator's work; however, in most cases when a comment was called for, the comment field was insufficient.

Exhibit 3--Screen used to capture observations of locating activity



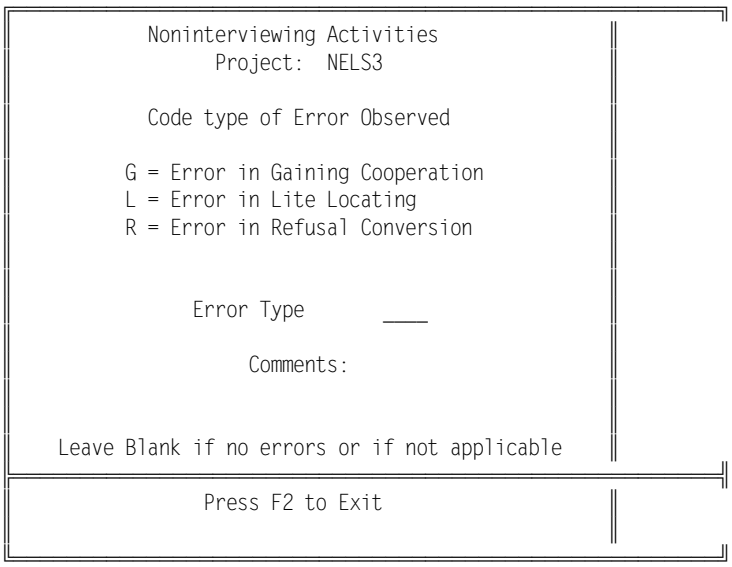
The interviewing data capture screen (Exhibit 4) collected the NELS:88/94 question numbers where errors occurred, as well as comments about the errors. Like the locating screen, the comment field here was insufficient. Although monitors used standard abbreviations, they still had problems conveying the actual errors in detail. For example, a monitor could say that an interviewer failed to probe but might not have enough space to say what probing was needed. This limitation prevented helpful interviewer feedback, but since the SQC approach to monitoring did not call for feedback unless the process was out-of-control, this did not present a problem.

Exhibit 4--Screen used to capture observations of interviewing activity



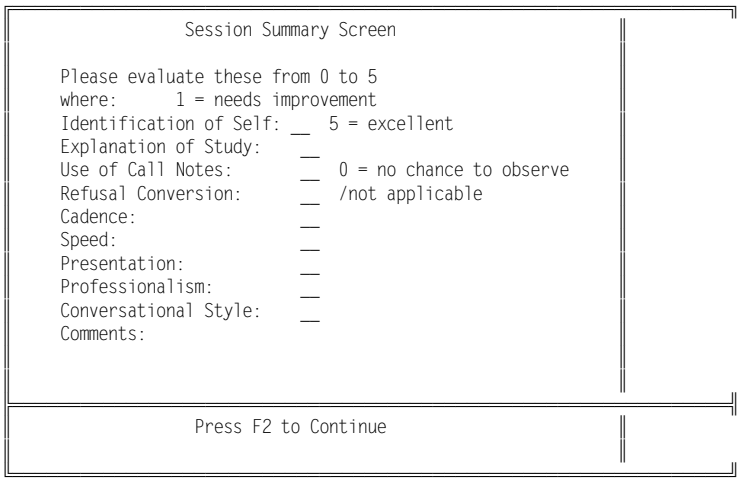
The noninterviewing activities data capture screen (Exhibit 5) was very simplistic. The monitor recorded any errors observed in gaining cooperation, locating, or refusal conversion. There was also a short, usually insufficient, comment field.

Exhibit 5--Screen used to capture observations of non-interviewing activity



On the evaluation screen (Exhibit 6) there were a series of skills listed on the screen, for example, "Conversational Style" and "Professionalism," which the monitor would rate using the same 0 through 5 scale found on the locating data capture screen. Again, the comment field that had an insufficient length. Of all the places in the data capture program, this screen probably required the longest comment field in order to be meaningful to the supervisor reviewing the monitoring data.

Exhibit 6--Screen used to capture session summary information



4.4.3 Monitor Training

In addition to training on the data capture system, all monitors were trained to evaluate conversational interviewing. The monitoring supervisor presented examples of deviations and errors to the group, and the group discussed how they would distinguish between deviations and errors: deviations were acceptable, errors were not. To insure cross-monitor reliability, the monitoring supervisor oversaw the monitors and met with them to discuss monitoring issues.

4.4.4 Monitoring Data Analysis

Since the monitoring data were captured in Paradox, queries could be made to determine if NELS:88/94 data capture done by the interviewers and locators was in control according to SQC standards. If the system did go out of control the data were available to determine why, so that action could be taken to resume control. Although interviewers were not given direct feedback on their monitored interviews, some data were used to determine issues to be discussed in weekly group interviewer meetings.

The data were also used to improve the monitoring process by determining when the most problems completing monitoring sessions occurred. After examining these data adjustments in staff schedules were made to improve our monitoring performance.

4.4.5 Additional Monitoring Problems

When the monitoring of locating work began, two short-term problems were experienced and later corrected. First, the interviewing and monitoring software for NELS:88/94 were on the Novell file server that differed from the file server where the locating software resided. Problems using NRCall to view the screens of the PCs at which the locators were working were experienced because locating was on a different server. Second, there were difficulties connecting by telephone to monitor the telephone extensions on the second floor where the locators were situated.

4.4.6 Monitoring Results

All interviewing tasks remained within statistical control throughout the field period; the cumulative errors per minute monitored, for telephone data collection, was 0.070.

4.5 SQC Coding

Verbatim text and the associated codes from all cases were exported daily until 1,000 cases were complete. At that point, many interviewers had completed about 10 cases. A team of three expert coders reviewed the data and re-coded as necessary. This team provided evaluation data to supervisors so that timely feedback could be given to interviewers about the quality of industry, occupation, IPEDS, and major field of study coding.

For major field of study, industry and occupation coding, the goals of the review were twofold: to judge whether the verbatim strings were complete and appropriate codes assigned. For IPEDS coding, the verbatim strings entered for "uncodable" and foreign institutions were reviewed to ensure that they were sufficient (no review of coded institutions was possible, errors in this process were detected during the on-line monitoring).

Since the error rate on the first 1,000 cases was judged to be acceptable, half of the codes from the second 1,000 completed cases were randomly selected for review. The error rate for the second group was also found to be acceptable, therefore, 25 percent of the next group of 1,000 was reviewed. When the third group of 1,000 cases reflected an acceptable error rate we made yet another reduction in the percent of cases reviewed. The next two groups of 1,000 completed cases were reviewed at 10 percent and 5 percent respectively. Interviewer coding remained in control throughout the field period; after the first 5,000 cases were completed, cases were reviewed at a rate of 5 percent of the interviewers' work.

Feedback to interviewers continued throughout the field period. A control chart was generated for each coding type to plot interviewer coding performance, and was prominently displayed in a heavy traffic area of the telephone center. In addition, original codes were cross-tabulated with the expert codes to identify areas that were giving the interviewers the most trouble. Based on this analysis and the coders notes on the verbatim strings, when necessary, supervisors held retraining sessions with interviewers.

Chapter Five: Weights, Standard Errors, Design Effects, Nonresponse Rates

5.1 Purpose of Weighting

Weighting survey data compensates for unequal probabilities of selection and adjusts for the effects of nonresponse. Weights are often calculated in several steps. In the first step, unadjusted weights are calculated as the inverse of the probabilities of selection, taking into account all stages of the sample selection process. In the second step, these initial weights are adjusted to compensate for unit nonresponse; such nonresponse adjustments are typically carried out separately within multiple weighting cells. These steps were followed in creating the NELS:88/94 weights.

In order to maintain consistency in weights across the various waves and across the various weights within waves, multidimensional raking was also applied when creating NELS:88 weights. In the third follow-up, raking was performed with respect to base year school characteristics, race, gender, and status in each of the rounds.

5.2 Calculation of Third Follow-up Weights

The following procedures were used to calculate the weights for use with the third follow-up data.

I. Weights to be calculated

A. F3QWT

This weight applies to all members of the third follow-up sample who completed a questionnaire in 1994, regardless of their participation status in previous rounds. When used with the appropriate sample flags (F3UNIV2A, F3F1STFL, and F3UNIV2D), this weight allows projections to the following populations:

- spring 1988 eighth graders eligible to complete questionnaires in 1992 and 1994, regardless of 1988 and 1990 eligibility;

- spring 1990 tenth graders eligible to complete questionnaires in 1992 and 1994, regardless of 1990 eligibility; and

- spring 1992 twelfth graders eligible to complete questionnaires in 1992 and 1994.

B. F3PNLWT

This panel weight applies to sample members who completed questionnaires in all four rounds of NELS:88. F3PNLWT can be used in longitudinal analyses to make projections to the population of spring 1988 eighth graders.

C. F3F1PNWT

This panel weight applies to sample members who completed questionnaires in 1990, 1992, and 1994, regardless of base year status. F3F1PNWT allows projections (when used with the flag variable F3F1PNFL) in longitudinal analyses to the population of spring 1990 tenth graders.

D. F3F2PNWT

This panel weight applies to sample members who completed questionnaires in 1992 and 1994, regardless of base year or first follow-up status. F3F2PNWT allows projections (when used with the flag variable F3F2PNFL) in longitudinal analyses to the population of spring 1992 twelfth graders.

E. F3CXTWT

This weight is intended to be used with the 1992 school administrator and teacher data. It applies to 1994 respondents who were early graduates from or students in the spring of 1992 at the sampled second follow-up schools and who completed a 1992 questionnaire. (Teacher and school administrator data were collected from a subsample of the 1992 schools.) This weight allows analysts to generate national statistics for students using the associated teacher and school administrator data despite the bias against small cluster sizes in sample selection.

F. F3PAQWT

This weight is intended to be used with the 1992 parent data. It applies to all 1994 respondents for whom second follow-up parent questionnaire data were collected.

G. F3TRSCWT

This weight is intended to be used with the high school transcript data collected in the second follow-up. It applies to 1994 respondents whose second follow-up status was dropout, early graduate, or student in a sampled school and for whom transcripts were collected in 1992.

H. F3QWTG8

This weight is equal to F3QWT for 1994 respondents who were in the eighth grade in the spring of 1988 and is equal to zero for all other respondents. Use of this weight allows projections to the population of spring 1988 eighth graders who were eligible to complete questionnaires in 1992 and 1994, regardless of 1988 and 1990 eligibility.

I. F3QWTG10

This weight is equal to F3QWT for 1994 respondents who were in the tenth grade in the spring of 1990 and is equal to zero for all other respondents. For this weight, 1990 tenth grade cohort membership is based on the 1990 enrollment status used in 1994 weighting (see II.A below). For sample members whose status was not determined in 1990, 1990 enrollment status was imputed. F3QWTG10 allows projections to the population of spring 1990 tenth graders who were eligible to complete questionnaires in 1992 and 1994, regardless of 1990 eligibility.

J. F3QWTG12

This weight is equal to F3QWT for 1994 respondents who were in the twelfth grade in the spring of 1992 and is equal to zero for all other respondents. For this weight, 1992 twelfth grade cohort membership is based on the 1992 enrollment status used in 1994 weighting (see II.A below). For sample members whose status was not determined in 1992, 1992 enrollment status was imputed. F3QWTG12 allows projections to the population of spring 1992 twelfth graders who were eligible to complete questionnaires in 1992 and 1994.

K. F3QWT92G

This weight is equal to F3QWT for 1994 respondents who received a high school diploma between September 1, 1991 and August 31, 1992 or respondents whose diploma receipt date is not known but who began their postsecondary education between June 1 and October 31, 1992. F3QWT92G is zero for all other 1994 respondents. F3QWT92G allows projections to the population of persons who received a high school diploma in the 1991-1992 academic year.

II. Process for calculation of weights

A. Expand the second follow-up classification scheme

As a part of the second follow-up weighting process, all sample members were divided into basic sample groups depending upon their status during data collection for each of the three rounds of NELS:88. Freshened students were assigned the status of their linked student for those rounds where they were not yet in the sample. The possible values included:

1. Eligible, dropout as of survey date
2. Eligible, in school, in expected grade
3. Eligible, in school, not in expected grade
4. Ineligible
    a. in school, in expected grade
    b. in school, not in expected grade
    c. not in school
5. Out of scope (deceased or out of country)
6. Eligible, freshened, dropout as of survey date
7. Eligible, freshened, in school

8. Ineligible, freshened

Sample members for whom status was unknown had their status imputed based upon the weighted distribution of status across others in their base year, first follow-up, and second follow-up categories and, where group size permitted, race and gender were also considered.

In this classification scheme, "dropout" generally refers to a student who has left a diploma granting high school program. This would include members who are not pursuing an education at all, home study students, members who are continuing their education in a nontraditional school, and institutionalized members. There were two exceptions to this general rule. First, early graduates were included in the "in school" category. Second, because sample members who attended nontraditional schools during the first follow-up were classified as students then, they were treated as such during the calculation of their first follow-up status.

"Ineligible" refers to members who were not given the questionnaire due to a language barrier or a mental or physical incapacity.

"Expected grade" means 10th grade in the first follow-up and 12th grade in the second follow-up.

A third follow-up status was defined and used in conjunction with the status categories developed during the second follow-up. The possible values for the third follow-up status included:

1. Eligible, received high school diploma
2. Eligible, received GED or certificate
3. Eligible, working toward high school diploma or equivalent
4. Eligible, did not finish high school and is not working toward diploma or equivalency
5. Deceased or ineligible for third follow-up

Sample members for whom status was not determined in 1994 had their status imputed using the method employed in the second follow-up.

"Ineligible for third follow-up" refers only to sample members who were not given the questionnaire because they entered the NELS:88 sample as exchange students and had returned to their home country prior to the 1994 data collection.

B. Calculate the third follow-up design weight

In the second follow-up, multiple design weights were created to allow for school and parent subsampling. For weights unaffected by second follow-up sampling (F2QWT, F2PNLWT) and for the dropouts and early graduates for F2TRSCWT (transcript), the second follow-up design weight was equal to the sample member's first follow-up design weight. For F2CXTWT (teacher and school administrator) and for sample members associated with sampled schools for F2TRSCWT, the second follow-up design weight was equal to the first follow-up design weight divided by the school's selection probability. For F2PAQWT, the design weight used was the first follow-up design weight divided by the parent's second follow-up selection probability.

The basic 1994 design weight was calculated at the time of the 1994 sampling. Sampling groups were defined and each was assigned a percentage of cases to be selected. Cases were selected such that the overall selection probability was a fixed percent per sampling group, but with probability of selection within the group proportional to the second follow-up design weight. This design weight, F3RAWWT, was used to compute F3QWT, F3F2PNWT, F3F1PNWT, and F3PNLWT. F3QWTG8, F3QWTG10, F3QWTG12, and F3QWT92G were in turn derived from F3QWT. Using a similar procedure as the second follow-up, the design weight used for F3PAQWT was F3RAWWT divided by the parent's second follow-up selection probability. The design weights for F3TRSCWT and F3CXTWT were F3RAWWT divided by the second follow-up school selection probability for those sample members whose inclusion was determined by school affiliation or F3RAWWT for those who were included despite their school affiliation.

C. Calculate third follow-up expanded weight

This cross-sectional weight was developed for all members of the NELS:88/94 sample, regardless of their questionnaire completion status and was used to develop targets for the 1994 respondent weights. A multidimensional raking procedure was used to adjust the basic third follow-up design weight, F3RAWWT, where the marginal target categories were based on roster race (API, Hispanic, other) and gender, base year school type, base year school region, base year school urbanicity, and the status values from the classification scheme described in step II.A. Target margins were developed using the first follow-up expanded weight for students who received one and the second follow-up design weight for freshened students.

For this weight only, the NELS sample members who were excluded from the 3FU sample because they were deceased or ineligible for the 2FU sample were included. This was to ensure a consistency in the population sizes across the rounds. These cases were dropped when the targets were developed, thereby automatically

shrinking the targets to accommodate the loss of the corresponding population members.

D. Adjustment for nonresponse

Creation of nonresponse adjustment cells for each 1994 weight was based on combinations of the classification scheme described in II.A. as well as roster gender and roster race (Hispanic, API, other) for the members of that weight's population. The steps for creating the nonresponse cells and adjusted weight included:

1. Cells were initially defined by dividing sample members into groups based upon their base year, first follow-up, and second follow-up status. Cells that had fewer than 50 members or less than 10 respondents were combined at the second follow-up level. Base year and first follow-up distinctions were maintained, but within these, cells with second follow-up values of 1, 2, or 3 were combined as necessary to achieve the minimum cell size. Combining cells with status 1 and 3 occurred first. If necessary, cells with status of 1 and 3 then were combined with cells with status 2.

2. Cells that contained more than 100 members and 20 respondents might have been eligible for division. A cell was divided if all resulting subgroups met the minimum 50/10 requirement. Divisions were first considered on the basis of third follow-up status, then roster gender, then roster race.

3. Once the cells were defined for a given weight, the appropriate third follow-up design weight for each responding member was inflated by a factor equal to the inverse of the weighted response rate for the cell.

E. Multidimensional raking

Using F2QWT, targets were developed for each weight for race (White, Black, Hispanic, API, Native American, other), gender, base year school region, base year school urbanicity, and base year school type. Targets were developed for current and prior round status and total population sums for each weight using F3EXPWT.

Table 5.2.1--Statistics for NELS:88 third follow-up weights

	F3QWT	F3PNLWT	F3F1PNWT	F3F2PNWT	F3CXTWT	F3PAQWT	F3TRSCWT
Mean	214.67	226.25	226.45	218.21	227.69	251.57	252.28
Variance	55,899.72	61,822.48	60,950.67	57,695.52	130,221.50	85,368.41	193,899.00
Standard deviation	236.43	248.64	246.88	240.20	360.86	292.18	440.34
Coefficient of variation (X 100)	110.14	109.90	109.02	110.08	158.49	116.14	174.55
Minimum	7.96	11.27	10.93	9.34	16.48	8.27	7.20
Maximum	6,135.13	7,549.94	7,521.50	7,118.84	12,444.78	8,358.50	12,940
Skewness	7.65	10.94	9.34	8.92	16.60	8.59	10.78
Kurtosis	108.61	211.61	163.12	147.95	428.73	142.01	185.95
Sum	3,201,743	2,968,426	3,160,792	3,201,743	2,677,913	3,197,396	3,155,673
Number of cases	14,915	13,120	13,958	14,673	11,761	12,710	12,509

	F3QWTG8	F3QWTG10	F3QWTG12	F3QWT92G
Mean	214.06	208.98	206.66	202.48
Variance	55,531	48,003.99	43,861.64	39,828
Standard deviation	235.65	219.10	209.43	199.57
Coefficient of variation (X 100)	110.08	104.84	101.34	98.56
Minimum	7.96	7.96	16.23	7.96
Maximum	6,135.13	4,907.83	4,907.83	4,907.83
Skewness	7.69	6.92	7.23	7.37
Kurtosis	109.82	86.00	97.27	103.00
Sum	3,063,693	2,829,380	2,572,268	2,356,268
Number of cases	14,312	13,539	12,447	11,637

Source: NCES, National Education Longitudinal Study of 1988-1994.

5.3 Standard Errors and Design Effects

In this section, the calculation of standard errors as a measure of sampling variability in survey results are discussed; the standard error is an estimate of the expected difference between a statistic from a particular sample and the corresponding population value.

Survey Standard Errors. Because the NELS:88 sample design involved stratification, the disproportionate sampling of certain strata, and clustered (i.e. multi-stage) probability sampling, the resulting statistics are more variable than they would have been had they been based on data from a simple random sample of the same size.

The calculation of exact standard errors for survey estimates can be difficult and expensive. Popular statistical analysis packages such as SPSS (Statistical Program for the Social Sciences) or SAS (Statistical Analysis System) do not adjust for complex sampling designs of the type used in NELS:88 in the calculation of standard errors. However, several procedures are available for calculating precise estimates of sampling errors for complex samples. Procedures such as Taylor Series approximations, Balanced Repeated Replication (BRR), and Jackknife Repeated Replication (JRR) produce similar results.<1> Consequently, it is largely a matter of convenience which approach is taken. For NELS:88, NORC used the Taylor Series procedure to calculate the standard errors.

Design Effects. The impact of departures from simple random sampling on the precision of sample estimates is often measured by the design effect (designated as DEFF). For any statistical estimator (for example, a mean or a proportion), the design effect is the ratio of the estimate of the variance of a statistic derived from consideration of the sample design to that obtained from the formula for simple random samples. The square root of the design effect (also called the root design effect, and designated as DEFT) is also useful. The following formulas define the design effects and root design effect for this section:

$$\text{DEFF} = \frac{(\text{DESIGN-SE})^2}{(\text{SRS-SE})^2} \qquad (1)$$

$$\text{DEFT} = \frac{\text{DESIGN-SE}}{\text{SRS-SE}} \qquad (2)$$

where DESIGN-SE designates the standard error of an estimate calculated by taking into account the complex nature of the survey design, and SRS-SE designates the standard error of the same estimate calculated as if the survey design was a simple random sample.

5.3.1 Third Follow-up Standard Errors and Design Effects

Standard errors and design effects were calculated for 30 means and proportions based on the NELS:88 third follow-up student and dropout data. As in the previous rounds, the goal was to estimate standard errors/design effects for all respondents including dropouts.

Selection of Third Follow-up Items. Criteria similar to those used in the second follow-up were used to select questions for the third follow-up standard error/design effects analysis. The first criterion was whether a question had been used in the NELS:88 analysis of standard errors/design effects in any of the previous rounds. This overlap resulted in the inclusion of five items. Additional items were then chosen if they appeared in the crosswalk of the other rounds. Sixteen of the remaining items selected appear in one or more of the previous rounds. The remaining nine items were chosen at random from the third follow-up such that three items involved information about postsecondary education, three pertained to work activity, and three involved personal information about the respondent.

Results. Standard errors and design effects were calculated for each of the items for the sample as a whole, including students and dropouts. The analyses were then repeated for the 17 sampling subgroups. Standard errors and design effects were calculated using the third follow-up respondents weighted by the full sample questionnaire design weight, F3QWT.

The individual item standard errors, design effects (DEFF), and root design effects (DEFT) for all respondents are presented along with summary statistics in Tables 5.3.1 through 5.3.15. Four of the sampling subgroups were omitted from the design effect analysis because of insufficient sample size. These were "Nonresponders," "1990 Freshened," "1992 Freshened," and "Other."

Table 5.3.1--Explanation of variable names for variables used in computation of standard errors and design effects

PPOSTEX1	Respondent reported taking the SAT
PPOSTEX2	Respondent reported taking the ACT
PPOSTEX3	Respondent reported taking the ASVAB
PPOSTEX4	Respondent reported taking other entrance exam
CHILDREN	Respondent has children of his/her own
SUCSLWRK	Having success in work is very important
LOTSMONY	Having lots of money is very important
STRGFRND	Strong friendships are very important
STDYWORK	Having steady work is very important
CHLDOPTY	Giving my children better opportunities than I had is very important
DEATH	Respondent has experienced death in the family
ILLDISBL	Respondent or family member has been ill or disabled
CRIME	Respondent or family member has been a victim of crime
YRREC	Respondent reported the date of receiving diploma/GED/certificate
TVWATCH	Respondent reports watching more than 2 hours of television per weekday
EDEXPECT	Highest level of education respondent expects to attain is graduate degree
OCCFUTCD=MGR	Respondent expects to have a managerial position at age 30
OCCFUTCD=TECH	Respondent expects to be working in a technical position at age 30
MARSTAT	Respondent's current marital status is married
F3PSENUM	Number of postsecondary institutions respondent reports attending
JOBS1:Y/N	Respondent reports holding at least one job between June and December 1992
HOBBIES	Respondent spends time on hobbies
PARSPORT	Respondent spends time participating in sports
VOLUNTE2	Respondent has volunteered for a work or union related organization
VOLUNTE4	Respondent has volunteered for a religious organization
VOLUNTE8	Respondent has volunteered for an "other" organization
NUMARIED	Number of times respondent has been married
NUMCHILD	Number of children born to respondent
NUMJOBS1	Number of jobs held by respondent between June and December 1992
MAJCODE1=Phil.	Respondent's major at first postsecondary institution was philosophy

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94

Table 5.3.2--NELS:88 third follow-up student data, standard errors and design effects for all students

	Estimate	Design std. err.*	DEFF	DEFT	Unweighted N	SRS std. err.**
Summary statistics						
Mean			2.94	1.70		
Standard deviation			0.78	0.22		
Minimum			1.49	1.22		
Maximum			5.17	2.27		
Variables						
PPOSTEX1	41.90	0.79	3.82	1.96	14889	0.404
PPOSTEX2	30.21	0.72	3.67	1.91	14889	0.376
PPOSTEX3	21.47	0.66	3.86	1.96	14889	0.336
PPOSTEX4	4.32	0.26	2.42	1.56	14889	0.167
CHILDREN	16.34	0.60	3.92	1.98	14891	0.303
SUCSLWRK	89.66	0.38	2.31	1.52	14845	0.250
LOTSMONY	38.61	0.66	2.72	1.65	14847	0.400
STRGFRND	85.13	0.51	3.05	1.75	14847	0.292
STDYWORK	89.61	0.41	2.69	1.64	14847	0.250
CHLDOPTY	91.44	0.38	2.73	1.65	14825	0.230
DEATH	45.94	0.61	2.22	1.49	14827	0.409
ILLDISBL	28.13	0.60	2.64	1.63	14821	0.369
CRIME	10.59	0.41	2.63	1.62	14825	0.253
YRREC	81.57	0.63	3.92	1.98	14915	0.318
TVWATCH	59.00	0.62	2.36	1.53	14842	0.404
EDEXPECT	33.71	0.72	3.46	1.86	14888	0.387
OCCFUTCD=MGR	8.22	0.33	2.09	1.45	14551	0.228
OCCFUTCD=TECH	5.94	0.29	2.19	1.48	14551	0.196
MARSTAT	9.35	0.39	2.69	1.64	14907	0.238
F3PSENUM	0.75	0.01	3.19	1.79	14912	0.006
JOBS1:Y/N	78.02	0.60	3.11	1.76	14879	0.340
HOBBIES	52.81	0.64	2.44	1.56	14846	0.410
PARSPORT	48.76	0.64	2.44	1.56	14844	0.410
VOLUNTE2	1.47	0.16	2.61	1.62	14843	0.099
VOLUNTE4	10.91	0.39	2.32	1.52	14843	0.256
VOLUNTE8	6.96	0.31	2.20	1.48	14843	0.209
NUMARIED	0.11	0.01	3.70	1.92	14908	0.003
NUMCHILD	0.21	0.01	5.17	2.27	14891	0.004
NUMJOBS1	1.19	0.01	1.49	1.22	14879	0.008
MAJCODE1=phil.	0.23	0.10	4.16	2.04	9617	0.049

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.3--NELS:88 third follow-up student data, standard errors and design effects for poor responders

	Estimate	Design std. err.*	DEFF	DEFT	Unweighted N	SRS std. err.**
Summary statistics						
Mean			1.26	1.11		
Standard deviation			0.33	0.13		
Minimum			0.94	0.97		
Maximum			2.61	1.61		
Variables						
PPOSTEX1	41.47	2.70	1.33	1.15	443	2.341
PPOSTEX2	18.95	1.82	0.96	0.98	443	1.862
PPOSTEX3	16.88	1.90	1.14	1.07	443	1.780
PPOSTEX4	5.73	1.12	1.03	1.01	443	1.104
CHILDREN	25.69	2.32	1.25	1.12	442	2.078
SUCSLWRK	88.77	1.63	1.17	1.08	438	1.509
LOTSMONY	49.90	2.53	1.12	1.06	439	2.386
STRGFRND	79.13	2.18	1.26	1.12	439	1.940
STDYWORK	88.46	2.06	1.82	1.35	439	1.525
CHLDOPTY	90.81	1.65	1.43	1.20	438	1.380
DEATH	45.41	2.46	1.07	1.03	438	2.379
ILLDISBL	30.01	2.47	1.27	1.13	437	2.192
CRIME	13.57	1.97	1.45	1.20	438	1.636
YRREC	58.54	2.61	1.25	1.12	444	2.338
TVWATCH	64.32	2.26	0.97	0.99	437	2.292
EDEXPECT	21.80	2.00	1.03	1.02	441	1.966
OCCFUTCD=MGR	5.64	1.09	0.97	0.98	433	1.108
OCCFUTCD=TECH	5.73	1.11	0.99	0.99	433	1.117
MARSTAT	12.23	1.60	1.06	1.03	444	1.555
F3PSENUM	0.53	0.04	1.38	1.18	444	0.034
JOBS1:Y/N	74.32	2.43	1.36	1.17	439	2.085
HOBBIES	50.15	2.71	1.29	1.13	438	2.389
PARSPORT	43.49	2.54	1.15	1.07	439	2.366
VOLUNTE2	0.67	0.38	0.95	0.98	438	0.389
VOLUNTE4	10.78	1.85	1.56	1.25	438	1.482
VOLUNTE8	7.10	1.33	1.17	1.08	438	1.227
NUMARIED	0.13	0.02	1.56	1.25	443	0.016
NUMCHILD	0.34	0.03	0.94	0.97	442	0.031
NUMJOBS1	1.08	0.05	1.23	1.11	439	0.045
MAJCODE1=Phil.	1.31	1.30	2.61	1.61	200	0.805

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.4--NELS:88 third follow-up student data, standard errors and design effects for dropouts

	Estimate	Design std. err.*	DEFF	DEFT	Unweighted N	SRS std. err.**
Summary statistics						
Mean			2.79	1.65		
Standard deviation			0.83	0.25		
Minimum			1.21	1.10		
Maximum			5.46	2.34		
Variables						
PPOSTEX1	26.28	1.45	2.31	1.52	2124	0.955
PPOSTEX2	7.77	0.88	2.29	1.51	2124	0.581
PPOSTEX3	10.48	1.09	2.69	1.64	2124	0.665
PPOSTEX4	3.02	0.67	3.26	1.81	2124	0.371
CHILDREN	46.46	2.02	3.49	1.87	2128	1.081
SUCSLWRK	86.91	1.12	2.33	1.53	2114	0.734
LOTSMONY	50.84	1.91	3.09	1.76	2114	1.087
STRGFRND	76.40	1.51	2.67	1.63	2114	0.924
STDYWORK	88.66	1.25	3.28	1.81	2114	0.690
CHLDOPTY	96.80	0.51	1.76	1.33	2109	0.384
DEATH	53.77	1.77	2.67	1.63	2115	1.084
ILLDISBL	35.20	1.93	3.45	1.86	2114	1.039
CRIME	16.79	1.40	2.97	1.72	2114	0.813
YRREC	38.90	1.86	3.10	1.76	2133	1.056
TVWATCH	67.58	1.71	2.83	1.68	2120	1.017
EDEXPECT	10.74	1.57	5.46	2.34	2125	0.672
OCCFUTCD=MGR	5.03	0.66	1.87	1.37	2060	0.482
OCCFUTCD=TECH	4.94	0.60	1.58	1.26	2060	0.478
MARSTAT	19.00	1.28	2.27	1.51	2131	0.850
F3PSENUM	0.24	0.02	3.31	1.82	2132	0.011
JOBS1:Y/N	67.94	1.77	3.05	1.75	2123	1.013
HOBBIES	47.82	1.97	3.29	1.81	2115	1.086
PARSPORT	41.68	1.97	3.38	1.84	2116	1.072
VOLUNTE2	0.77	0.21	1.21	1.10	2114	0.191
VOLUNTE4	5.33	0.66	1.83	1.35	2114	0.488
VOLUNTE8	5.40	0.86	3.06	1.75	2114	0.492
NUMARIED	0.26	0.02	4.08	2.02	2131	0.010
NUMCHILD	0.68	0.03	2.49	1.58	2128	0.019
NUMJOBS1	1.02	0.03	1.86	1.36	2123	0.022
MAJCODE1=Phil.	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
Note: "low n" indicates sample size is insufficient for reliable estimates.
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.5--NELS:88 third follow-up student data, standard errors and design effects for respondents ineligible prior to 1992

	Design Estimate	Design std. err.*	DEFF	DEFT	Unweighted N	SRS std. err.**
Summary statistics						
Mean			1.23	1.11		
Standard deviation			0.16	0.08		
Minimum			0.80	0.90		
Maximum			1.56	1.25		
Variables						
PPOSTEX1	41.83	4.49	1.46	1.21	176	3.718
PPOSTEX2	16.48	2.97	1.13	1.06	176	2.797
PPOSTEX3	18.15	3.20	1.21	1.10	176	2.905
PPOSTEX4	3.31	1.31	0.94	0.97	176	1.348
CHILDREN	8.47	2.30	1.19	1.09	175	2.104
SUCSLWRK	93.75	2.09	1.28	1.13	172	1.846
LOTSMONY	57.11	4.38	1.35	1.16	172	3.774
STRGFRND	76.88	3.74	1.35	1.16	172	3.214
STDYWORK	90.89	2.45	1.25	1.12	172	2.194
CHLDOPTY	93.73	2.02	1.19	1.09	172	1.849
DEATH	46.56	4.26	1.25	1.12	171	3.814
ILLDISBL	23.14	3.52	1.18	1.09	170	3.234
CRIME	11.07	2.58	1.16	1.08	171	2.399
YRREC	81.85	3.40	1.37	1.17	176	2.905
TVWATCH	66.27	4.18	1.33	1.15	170	3.626
EDEXPECT	23.55	3.61	1.27	1.13	176	3.198
OCCFUTCD=MGR	5.36	1.54	0.80	0.90	172	1.718
OCCFUTCD=TECH	11.13	2.89	1.45	1.21	172	2.398
MARSTAT	6.43	1.98	1.15	1.07	176	1.848
F3PSENUM	0.62	0.05	1.23	1.11	176	0.045
JOBS1:Y/N	71.95	3.75	1.23	1.11	176	3.386
HOBBIES	57.08	4.34	1.32	1.15	172	3.774
PARSPORT	47.05	4.22	1.23	1.11	172	3.806
VOLUNTE2	1.73	1.05	1.11	1.06	172	0.995
VOLUNTE4	7.14	1.98	1.02	1.01	172	1.963
VOLUNTE8	4.66	1.66	1.07	1.03	172	1.607
NUMARIED	0.07	0.02	1.11	1.05	176	0.019
NUMCHILD	0.12	0.04	1.56	1.25	175	0.032
NUMJOBS1	1.18	0.10	1.56	1.25	176	0.080
MAJCODE1=Phil.	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
Note: "low n" indicates sample size is insufficient for reliable estimates.
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.6--NELS:88 third follow-up student data, standard errors and design effects for respondents in private school in 1988

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			4.43	2.05		
Standard deviation			2.25	0.48		
Minimum			1.59	1.26		
Maximum			12.98	3.60		
Variables						
PPOSTEX1	63.59	2.78	7.58	2.75	2269	1.010
PPOSTEX2	42.11	2.71	6.84	2.62	2269	1.036
PPOSTEX3	14.22	1.74	5.63	2.37	2269	0.733
PPOSTEX4	6.22	1.23	5.89	2.43	2269	0.507
CHILDREN	3.60	0.68	3.02	1.74	2268	0.391
SUCSLWRK	89.30	1.44	4.92	2.22	2266	0.649
LOTSMONY	26.24	1.46	2.50	1.58	2266	0.924
STRGFRND	91.28	1.02	2.96	1.72	2265	0.593
STDYWORK	87.50	1.31	3.55	1.88	2265	0.695
CHLDOPTY	85.45	1.36	3.37	1.84	2264	0.741
DEATH	41.58	1.73	2.79	1.67	2262	1.036
ILLDISBL	27.79	2.00	4.51	2.12	2261	0.942
CRIME	11.16	1.29	3.80	1.95	2262	0.662
YRREC	94.84	1.00	4.64	2.16	2269	0.464
TVWATCH	50.38	1.90	3.27	1.81	2263	1.051
EDEXPECT	56.93	2.32	4.98	2.23	2267	1.040
OCCFUTCD=MGR	9.44	1.01	2.66	1.63	2230	0.619
OCCFUTCD=TECH	4.84	0.85	3.51	1.87	2230	0.454
MARSTAT	2.64	0.64	3.61	1.90	2268	0.337
F3PSENUM	1.13	0.03	5.33	2.31	2269	0.013
JOBS1:Y/N	79.35	1.59	3.50	1.87	2268	0.850
HOBBIES	51.68	1.70	2.62	1.62	2265	1.050
PARSPORT	53.68	2.23	4.53	2.13	2266	1.048
VOLUNTE2	2.40	1.16	12.98	3.60	2266	0.322
VOLUNTE4	12.60	1.17	2.82	1.68	2266	0.697
VOLUNTE8	8.62	0.78	1.75	1.32	2266	0.590
NUMARIED	0.03	0.01	8.16	2.86	2268	0.004
NUMCHILD	0.04	0.01	5.95	2.44	2268	0.004
NUMJOBS1	1.22	0.04	3.63	1.90	2268	0.021
MAJCODE1=Phil.	0.36	0.17	1.59	1.26	1990	0.135

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.7--NELS:88 third follow-up student data, standard errors and design effects for respondents in private school in 1990 or 1992

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			1.58	1.24		
Standard deviation			0.48	0.20		
Minimum			0.38	0.62		
Maximum			2.57	1.60		
Variables						
PPOSTEX1	64.46	6.38	1.63	1.28	92	4.990
PPOSTEX2	46.30	6.83	1.73	1.31	92	5.199
PPOSTEX3	18.30	6.21	2.37	1.54	92	4.032
PPOSTEX4	3.64	2.68	1.88	1.37	92	1.953
CHILDREN	1.23	0.93	0.65	0.81	92	1.150
SUCSLWRK	83.46	4.89	1.59	1.26	92	3.874
LOTSMONY	34.15	6.35	1.65	1.28	92	4.944
STRGFRND	86.88	4.55	1.67	1.29	92	3.520
STDYWORK	78.71	6.24	2.14	1.46	92	4.268
CHLDOPTY	81.11	6.43	2.48	1.58	92	4.081
DEATH	45.38	6.82	1.73	1.31	92	5.191
ILLDISBL	34.92	6.39	1.65	1.29	92	4.970
CRIME	6.23	2.99	1.41	1.19	92	2.520
YRREC	93.58	2.96	1.34	1.16	92	2.556
TVWATCH	42.41	6.46	1.57	1.25	92	5.152
EDEXPECT	56.31	6.54	1.60	1.26	92	5.171
OCCFUTCD=MGR	11.00	4.09	1.49	1.22	87	3.355
OCCFUTCD=TECH	7.31	4.47	2.57	1.60	87	2.790
MARSTAT	4.59	2.85	1.71	1.31	92	2.182
F3PSENUM	1.03	0.06	1.28	1.13	92	0.053
JOBS1:Y/N	84.41	3.93	1.08	1.04	92	3.782
HOBBIES	55.96	6.65	1.65	1.28	92	5.176
PARSPORT	51.16	6.67	1.64	1.28	92	5.212
VOLUNTE2	2.83	1.80	1.09	1.04	92	1.728
VOLUNTE4	12.49	5.00	2.11	1.45	92	3.446
VOLUNTE8	11.27	4.05	1.51	1.23	92	3.296
NUMARIED	0.05	0.03	1.70	1.30	92	0.023
NUMCHILD	0.02	0.02	1.00	1.00	92	0.020
NUMJOBS1	1.24	0.10	1.06	1.03	92	0.097
MAJCODE1=Phil.	0.96	0.69	0.38	0.62	77	1.114

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.8--NELS:88 third follow-up student data, standard errors and design effects for only public and Hispanic

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			2.22	1.46		
Standard deviation			1.00	0.30		
Minimum			1.01	1.00		
Maximum			6.27	2.50		
Variables						
PPOSTEX1	34.22	2.30	3.22	1.79	1370	1.282
PPOSTEX2	26.47	2.09	3.07	1.75	1370	1.192
PPOSTEX3	27.16	3.01	6.27	2.50	1370	1.202
PPOSTEX4	5.88	0.75	1.39	1.18	1370	0.636
CHILDREN	17.46	1.78	3.02	1.74	1375	1.024
SUCSLWRK	92.05	0.98	1.80	1.34	1371	0.730
LOTSMONY	38.63	2.23	2.88	1.70	1371	1.315
STRGFRND	80.38	1.50	1.95	1.40	1371	1.073
STDYWORK	91.55	0.79	1.11	1.05	1371	0.751
CHLDOPTY	96.09	0.56	1.14	1.07	1368	0.524
DEATH	42.92	2.31	2.98	1.73	1368	1.338
ILLDISBL	25.80	1.77	2.23	1.49	1366	1.184
CRIME	11.09	1.39	2.68	1.64	1367	0.849
YRREC	88.13	1.31	2.26	1.50	1376	0.872
TVWATCH	64.61	1.83	2.00	1.42	1367	1.293
EDEXPECT	30.72	1.64	1.74	1.32	1374	1.245
OCCFUTCD=MGR	7.88	0.91	1.53	1.24	1344	0.735
OCCFUTCD=TECH	7.01	0.94	1.82	1.35	1344	0.696
MARSTAT	12.37	1.34	2.28	1.51	1375	0.888
F3PSENUM	0.75	0.02	1.38	1.18	1375	0.017
JOBS1:Y/N	73.52	2.16	3.28	1.81	1370	1.192
HOBBIES	52.56	1.98	2.15	1.47	1371	1.349
PARSPORT	54.06	1.78	1.75	1.32	1369	1.347
VOLUNTE2	0.72	0.23	1.01	1.00	1369	0.229
VOLUNTE4	13.07	1.33	2.13	1.46	1369	0.911
VOLUNTE8	5.23	0.78	1.68	1.30	1369	0.602
NUMARIED	0.13	0.01	1.21	1.10	1373	0.009
NUMCHILD	0.19	0.02	2.78	1.67	1375	0.012
NUMJOBS1	1.09	0.04	2.37	1.54	1370	0.026
MAJCODE1=Phil.	0.16	0.16	1.38	1.18	884	0.136

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.9--NELS:88 third follow-up student data, standard errors and design effects for only public and Asian/Pacific Islander

	Design Estimate	Design std. err.*	DEFF	DEFT	Unweighted N	SRS std. err.**
Summary statistics						
Mean			2.10	1.43		
Standard deviation			0.67	0.24		
Minimum			0.52	0.72		
Maximum			3.95	1.99		
Variables						
PPOSTEX1	63.60	2.54	2.32	1.52	833	1.667
PPOSTEX2	28.01	2.34	2.26	1.50	833	1.556
PPOSTEX3	21.79	2.62	3.36	1.83	833	1.430
PPOSTEX4	8.07	1.17	1.54	1.24	833	0.944
CHILDREN	6.04	1.36	2.71	1.65	831	0.826
SUCSLWRK	87.91	1.34	1.40	1.18	829	1.132
LOTSMONY	40.62	2.67	2.45	1.57	830	1.705
STRGFRND	89.98	1.22	1.37	1.17	831	1.041
STDYWORK	85.69	2.09	2.95	1.72	830	1.216
CHLDOPTY	92.13	1.20	1.64	1.28	828	0.936
DEATH	34.24	2.52	2.33	1.53	826	1.651
ILLDISBL	22.18	2.05	2.02	1.42	828	1.444
CRIME	7.64	1.38	2.24	1.50	828	0.923
YRREC	95.18	0.96	1.67	1.29	833	0.742
TVWATCH	52.52	2.65	2.34	1.53	829	1.734
EDEXPECT	52.28	2.75	2.52	1.59	832	1.732
OCCFUTCD=MGR	9.96	2.09	3.95	1.99	810	1.052
OCCFUTCD=TECH	7.18	1.26	1.93	1.39	810	0.907
MARSTAT	4.51	1.25	3.02	1.74	832	0.719
F3PSENUM	0.97	0.03	2.04	1.43	832	0.021
JOBS1:Y/N	69.41	2.31	2.08	1.44	829	1.600
HOBBIES	53.90	2.39	1.91	1.38	831	1.729
PARSPORT	59.48	2.41	2.00	1.42	831	1.703
VOLUNTE2	2.06	0.71	2.07	1.44	831	0.493
VOLUNTE4	11.00	1.51	1.93	1.39	831	1.086
VOLUNTE8	7.63	1.12	1.48	1.22	831	0.921
NUMARIED	0.06	0.01	1.45	1.20	833	0.008
NUMCHILD	0.07	0.01	1.13	1.06	831	0.009
NUMJOBS1	1.01	0.05	2.30	1.52	829	0.033
MAJCODE1=Phil.	0.07	0.07	0.52	0.72	706	0.097

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.10--NELS:88 third follow-up student data, standard errors and design effects for only public and Native American

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			1.43	1.18		
Standard deviation			0.47	0.20		
Minimum			0.69	0.83		
Maximum			2.59	1.61		
Variables						
PPOSTEX1	35.58	5.83	1.85	1.36	125	4.282
PPOSTEX2	31.03	5.83	1.99	1.41	125	4.137
PPOSTEX3	46.70	6.13	1.89	1.37	125	4.462
PPOSTEX4	1.45	1.02	0.91	0.96	125	1.068
CHILDREN	23.39	4.78	1.56	1.25	122	3.833
SUCSLWRK	92.78	2.12	0.84	0.92	125	2.314
LOTSMONY	51.50	5.97	1.78	1.34	125	4.470
STRGFRND	83.65	4.53	1.87	1.37	125	3.309
STDYWORK	95.15	1.93	1.01	1.00	125	1.922
CHLDOPTY	95.02	1.81	0.86	0.93	124	1.953
DEATH	51.24	4.94	1.22	1.10	125	4.571
ILLDISBL	29.38	3.91	0.92	0.96	125	4.074
CRIME	8.37	2.62	1.12	1.06	125	2.478
YRREC	91.28	3.11	1.52	1.23	125	2.523
TVWATCH	63.33	4.72	1.20	1.09	125	4.311
EDEXPECT	31.26	4.87	1.37	1.17	124	4.163
OCCFUTCD=MGR	3.81	1.68	0.92	0.96	120	1.748
OCCFUTCD=TECH	1.44	0.90	0.69	0.83	120	1.085
MARSTAT	14.53	3.98	1.59	1.26	125	3.152
F3PSENUM	0.62	0.08	1.72	1.31	125	0.061
JOBS1:Y/N	67.25	5.96	1.98	1.41	123	4.232
HOBBIES	63.11	6.00	1.93	1.39	125	4.316
PARSPORT	52.46	6.10	1.86	1.37	125	4.467
VOLUNTE2	5.40	3.25	2.59	1.61	125	2.020
VOLUNTE4	11.55	2.84	0.99	0.99	125	2.858
VOLUNTE8	4.94	1.70	0.77	0.88	125	1.938
NUMARIED	0.15	0.04	1.56	1.25	125	0.032
NUMCHILD	0.26	0.05	1.29	1.14	122	0.044
NUMJOBS1	1.08	0.12	1.66	1.29	123	0.093
MAJCODE1=Phil.	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
Note: "low n" indicates sample size is insufficient for reliable estimates.
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.11--NELS:88 third follow-up student data, standard errors and design effects for only public and black with high test scores

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			1.59	1.24		
Standard deviation			0.51	0.22		
Minimum			0.39	0.63		
Maximum			2.84	1.69		
Variables						
PPOSTEX1	70.98	6.61	1.59	1.26	75	5.241
PPOSTEX2	36.07	7.28	1.72	1.31	75	5.545
PPOSTEX3	33.58	7.06	1.68	1.29	75	5.453
PPOSTEX4	4.47	2.24	0.88	0.94	75	2.384
CHILDREN	8.95	5.18	2.47	1.57	75	3.297
SUCSLWRK	89.39	5.45	2.35	1.53	75	3.555
LOTSMONY	27.18	6.78	1.74	1.32	75	5.137
STRGFRND	86.14	5.73	2.06	1.44	75	3.990
STDYWORK	90.83	4.16	1.56	1.25	75	3.332
CHLDOPTY	95.38	3.63	2.24	1.50	75	2.424
DEATH	53.09	6.85	1.41	1.19	75	5.762
ILLDISBL	37.37	7.20	1.66	1.29	75	5.586
CRIME	14.15	4.89	1.48	1.22	75	4.024
YRREC	95.05	4.22	2.84	1.69	75	2.504
TVWATCH	58.03	8.16	2.05	1.43	75	5.698
EDEXPECT	58.47	6.91	1.47	1.21	75	5.690
OCCFUTCD=MGR	11.27	4.55	1.55	1.25	75	3.652
OCCFUTCD=TECH	9.28	4.29	1.64	1.28	75	3.350
MARSTAT	2.02	1.44	0.78	0.89	75	1.627
F3PSENUM	0.98	0.07	1.56	1.25	75	0.056
JOBS1:Y/N	83.01	4.51	1.08	1.04	75	4.336
HOBBIES	39.93	7.43	1.73	1.31	75	5.655
PARSPORT	40.11	6.64	1.38	1.17	75	5.660
VOLUNTE2	2.71	1.79	0.91	0.95	75	1.876
VOLUNTE4	23.66	6.29	1.64	1.28	75	4.907
VOLUNTE8	13.55	4.72	1.43	1.19	75	3.952
NUMARIED	0.02	0.01	0.39	0.63	75	0.016
NUMCHILD	0.11	0.06	1.78	1.33	75	0.045
NUMJOBS1	1.13	0.11	1.04	1.02	75	0.108
MAJCODE1=Phil.	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
Note: "low n" indicates sample size is insufficient for reliable estimates.
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.12--NELS:88 third follow-up student data, standard errors and design effects: only public and black with other scores

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			2.01	1.40		
Standard deviation			0.57	0.20		
Minimum			0.82	0.91		
Maximum			3.10	1.76		
Variables						
PPOSTEX1	40.48	2.66	3.03	1.74	1033	1.527
PPOSTEX2	21.71	1.69	1.74	1.32	1033	1.283
PPOSTEX3	24.94	1.89	1.97	1.40	1033	1.346
PPOSTEX4	3.64	0.95	2.66	1.63	1033	0.583
CHILDREN	21.68	1.88	2.15	1.47	1034	1.282
SUCSLWRK	94.69	0.76	1.18	1.09	1029	0.699
LOTSMONY	59.60	2.57	2.83	1.68	1030	1.529
STRGFRND	65.27	2.31	2.42	1.56	1029	1.484
STDYWORK	94.79	0.96	1.92	1.39	1030	0.692
CHLDOPTY	98.06	0.39	0.82	0.91	1029	0.430
DEATH	57.16	2.41	2.44	1.56	1027	1.544
ILLDISBL	32.27	2.25	2.38	1.54	1027	1.459
CRIME	13.50	1.36	1.62	1.27	1026	1.067
YRREC	84.71	1.97	3.10	1.76	1034	1.119
TVWATCH	76.40	2.13	2.60	1.61	1031	1.322
EDEXPECT	29.48	1.85	1.70	1.30	1031	1.420
OCCFUTCD=MGR	7.86	1.38	2.68	1.64	1019	0.843
OCCFUTCD=TECH	8.31	1.13	1.71	1.31	1019	0.865
MARSTAT	3.95	0.66	1.19	1.09	1034	0.606
F3PSENUM	0.72	0.03	2.04	1.43	1034	0.021
JOBS1:Y/N	66.43	1.92	1.71	1.31	1033	1.469
HOBBIES	43.64	2.26	2.14	1.46	1030	1.545
PARSPORT	44.72	1.95	1.58	1.26	1030	1.549
VOLUNTE2	0.96	0.37	1.48	1.22	1030	0.304
VOLUNTE4	14.42	1.33	1.48	1.21	1030	1.095
VOLUNTE8	5.37	1.00	2.03	1.42	1030	0.702
NUMARIED	0.04	0.01	2.44	1.56	1034	0.006
NUMCHILD	0.26	0.02	1.38	1.18	1034	0.017
NUMJOBS1	0.99	0.04	1.90	1.38	1033	0.029
MAJCODE1=Phil.	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
Note: "low n" indicates sample size is insufficient for reliable estimates.
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.13--NELS:88 third follow-up student data, standard errors and design effects: only public and white with low SES

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			1.50	1.21		
Standard deviation			0.40	0.16		
Minimum			0.83	0.91		
Maximum			2.78	1.67		
Variables						
PPOSTEX1	22.23	1.55	1.70	1.30	1224	1.188
PPOSTEX2	24.95	1.61	1.69	1.30	1224	1.237
PPOSTEX3	31.99	1.91	2.05	1.43	1224	1.333
PPOSTEX4	3.09	0.62	1.57	1.25	1224	0.495
CHILDREN	14.31	1.32	1.74	1.32	1227	1.000
SUCSLWRK	89.59	1.18	1.83	1.35	1223	0.873
LOTSMONY	40.38	1.61	1.32	1.15	1223	1.403
STRGFRND	89.15	1.24	1.95	1.39	1223	0.889
STDYWORK	92.44	0.95	1.58	1.26	1223	0.756
CHLDOPTY	95.47	0.65	1.19	1.09	1223	0.595
DEATH	46.44	1.80	1.59	1.26	1223	1.426
ILLDISBL	26.44	1.50	1.41	1.19	1222	1.262
CRIME	5.94	0.77	1.30	1.14	1221	0.676
YRREC	89.22	1.31	2.19	1.48	1228	0.885
TVWATCH	62.11	1.55	1.25	1.12	1223	1.387
EDEXPECT	16.44	1.34	1.60	1.27	1225	1.059
OCCFUTCD=MGR	7.65	0.84	1.20	1.10	1200	0.767
OCCFUTCD=TECH	7.05	0.86	1.35	1.16	1200	0.739
MARSTAT	15.23	1.30	1.61	1.27	1227	1.026
F3PSENUM	0.47	0.02	1.38	1.18	1228	0.017
JOBS1:Y/N	82.95	1.17	1.19	1.09	1227	1.074
HOBBIES	53.31	1.77	1.54	1.24	1223	1.427
PARSPORT	44.81	1.74	1.50	1.22	1222	1.423
VOLUNTE2	0.67	0.23	0.97	0.98	1222	0.234
VOLUNTE4	8.30	0.89	1.27	1.13	1222	0.789
VOLUNTE8	5.75	0.80	1.44	1.20	1222	0.666
NUMARIED	0.17	0.01	0.83	0.91	1228	0.011
NUMCHILD	0.16	0.02	2.78	1.67	1227	0.012
NUMJOBS1	1.26	0.03	0.94	0.97	1227	0.031
MAJCODE1=Phil.	0.18	0.18	0.96	0.98	548	0.184

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.14--NELS:88 third follow-up student data, standard errors and design effects: only public and white with high SES

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			1.61	1.25		
Standard deviation			0.77	0.25		
Minimum			0.83	0.91		
Maximum			5.17	2.27		
Variables						
PPOSTEX1	58.69	1.92	2.24	1.50	1472	1.283
PPOSTEX2	49.48	2.04	2.45	1.57	1472	1.303
PPOSTEX3	19.99	1.47	1.99	1.41	1472	1.042
PPOSTEX4	5.22	0.61	1.11	1.05	1472	0.580
CHILDREN	2.73	0.62	2.13	1.46	1471	0.425
SUCSLWRK	88.36	1.05	1.57	1.25	1470	0.837
LOTSMONY	23.15	1.55	1.99	1.41	1470	1.100
STRGFRND	95.10	0.58	1.06	1.03	1470	0.563
STDYWORK	86.44	1.01	1.28	1.13	1470	0.893
CHLDOPTY	82.91	1.16	1.39	1.18	1467	0.983
DEATH	37.20	1.47	1.36	1.17	1470	1.261
ILLDISBL	23.25	1.21	1.21	1.10	1468	1.102
CRIME	6.88	0.74	1.26	1.12	1470	0.660
YRREC	97.92	0.46	1.53	1.24	1472	0.372
TVWATCH	47.79	1.58	1.47	1.21	1470	1.303
EDEXPECT	61.11	1.63	1.64	1.28	1472	1.271
OCCFUTCD=MGR	9.94	0.83	1.11	1.05	1442	0.788
OCCFUTCD=TECH	3.79	0.62	1.52	1.23	1442	0.503
MARSTAT	2.81	0.44	1.04	1.02	1471	0.431
F3PSENUM	1.12	0.02	1.78	1.33	1472	0.015
JOBS1:Y/N	83.62	1.17	1.47	1.21	1470	0.965
HOBBIES	58.50	1.55	1.45	1.21	1469	1.286
PARSPORT	56.28	1.48	1.31	1.14	1469	1.294
VOLUNTE2	2.25	0.41	1.12	1.06	1470	0.387
VOLUNTE4	14.74	1.04	1.27	1.13	1470	0.924
VOLUNTE8	11.04	1.21	2.19	1.48	1470	0.818
NUMARIED	0.03	0.00	1.04	1.02	1472	0.005
NUMCHILD	0.03	0.01	5.17	2.27	1471	0.004
NUMJOBS1	1.28	0.03	1.44	1.20	1470	0.025
MAJCODE1=Phil.	0.13	0.09	0.83	0.91	1338	0.099

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

Table 5.3.15--NELS:88 third follow-up student data, standard errors and design effects for only public and white with middle SES

	Design				Unweighted	SRS
	Estimate	std. err.*	DEFF	DEFT	N	std. err.**
Summary statistics						
Mean			1.76	1.30		
Standard deviation			0.75	0.25		
Minimum			0.83	0.91		
Maximum			4.16	2.04		
Variables						
PPOSTEX1	37.05	1.09	1.85	1.36	3639	0.801
PPOSTEX2	37.44	1.24	2.39	1.55	3639	0.802
PPOSTEX3	28.18	1.21	2.63	1.62	3639	0.746
PPOSTEX4	3.00	0.34	1.44	1.20	3639	0.283
CHILDREN	7.92	0.60	1.79	1.34	3637	0.448
SUCSLWRK	90.41	0.53	1.17	1.08	3627	0.489
LOTSMONY	32.28	0.95	1.50	1.22	3626	0.776
STRGFRND	90.97	0.57	1.43	1.20	3627	0.476
STDYWORK	91.06	0.50	1.11	1.05	3627	0.474
CHLDOPTY	91.60	0.48	1.08	1.04	3622	0.461
DEATH	46.39	0.96	1.34	1.16	3621	0.829
ILLDISBL	25.99	0.87	1.42	1.19	3622	0.729
CRIME	8.46	0.66	2.04	1.43	3622	0.462
YRREC	95.46	0.49	2.02	1.42	3644	0.345
TVWATCH	52.22	0.95	1.32	1.15	3626	0.826
EDEXPECT	31.71	1.03	1.78	1.34	3641	0.771
OCCFUTCD=MGR	9.92	0.76	2.29	1.51	3545	0.502
OCCFUTCD=TECH	6.10	0.61	2.30	1.52	3545	0.402
MARSTAT	8.95	0.55	1.35	1.16	3643	0.473
F3PSENUM	0.84	0.01	0.83	0.91	3644	0.011
JOBS1:Y/N	85.99	0.74	1.66	1.29	3640	0.575
HOBBIES	56.04	0.94	1.30	1.14	3626	0.824
PARSPORT	48.65	1.03	1.54	1.24	3624	0.830
VOLUNTE2	1.74	0.25	1.33	1.15	3625	0.217
VOLUNTE4	10.53	0.68	1.78	1.33	3625	0.510
VOLUNTE8	5.99	0.47	1.42	1.19	3625	0.394
NUMARIED	0.10	0.01	4.00	2.00	3644	0.005
NUMCHILD	0.08	0.01	4.16	2.04	3637	0.005
NUMJOBS1	1.35	0.02	1.38	1.18	3640	0.017
MAJCODE1=Phil.	0.07	0.05	0.96	0.98	2571	0.051

Source: NCES, National Education Longitudinal Study of 1988-1994 12/12/94
* Standard error calculated taking into account the sample design
** Standard error calculated under assumptions of simple random sampling

5.3.2 Use of Design Effects and Approximate Standard Errors

Researchers who do not have access to software for computing accurate estimates of standard errors can use the mean design effects presented in this report to approximate the standard errors of statistics based on the NELS:88 data. Design-corrected standard errors for a proportion can be estimated from the standard error computed using the formula for the standard error of a proportion based on a simple random sample and the appropriate mean root design effect (DEFT):

$$SE = DEFT \times SQRT(p(1-p)/n) \qquad (1)$$

where p is the weighted proportion of respondents giving a particular response, n is the size of the sample, and DEFT is the mean root design effect.

Similarly, the standard error of a mean can be estimated from the weighted variance of the individual scores and the appropriate mean DEFT:

$$SE = DEFT \times SQRT(Var/n) \qquad (2)$$

where Var is the sample variance, n is the size of the sample, and DEFT is the mean root design effect.

Standard errors may also be needed for other types of estimates than the simple means and proportions that are the basis for the results presented here. A rule of thumb can be used to estimate approximate standard errors for comparisons between subgroups. If the subgroups crosscut schools, then the design effect for the difference between the subgroup means will be somewhat smaller than the design effect for the individual means; consequently, the variance of the difference estimate will be less than the sum of the variances of the two subgroup means from which it is derived:

$$Var(b-a) < Var(b) + Var(a) \qquad (3)$$

in which Var(b–a) refers to the variance of the estimated difference between the subgroup means, and Var(a) and Var(b) refer to the variances of the two subgroup means. It follows from equation (3) that Var(a) + Var(b) can be used in place of Var(b–a) with conservative results.

A final rule of thumb is that more complex estimators show smaller design effects than simple estimators.<2> Thus, correlation and regression coefficients tend to have smaller design effects than subgroup comparisons, and subgroup comparisons have smaller design effects than means. This implies that it will be conservative to use the mean root design effects presented here in calculating approximate standard errors for complex statistics, such as multiple regression coefficients. The procedure for calculating such approximate standard errors is the same as with simpler estimates: first, a standard error is calculated using the formula for data from a simple

random sample; then, the simple random sample standard error is multiplied by the appropriate mean root design effect.

One analytic strategy for accommodating complex survey designs is to use the mean design effect to adjust for the effective sample size resulting from the design. For example, one could create a new rescaled, design effect-adjusted weight, which is the product of the inverse of the design effect and the rescaled case weight

(e.g., NEWWGT=((1/DEFF)$*$(F3QWT$_i$/(ΣF3QWT$_i$/N)))

for second follow-up full sample data), and use this new weight to deflate the obtained sample size to take into account the inefficiencies due to a sample design that departs from a simple random sample. Using this procedure, statistics calculated by a statistical program such as SPSS will reflect the reduction in sample size in the calculation of standard errors and degrees of freedom. Such techniques only approximately capture the effect of the sample design on sample statistics. However, while not providing a complete accounting of the sample design, this procedure is a decidedly better approach than conducting an analysis that assumes the data were collected from a simple random sample. The analyst applying this correction procedure should carefully examine the statistical software he or she is using and assess whether the program treats weights in a way that will produce the effect described above.

5.4 Unit Nonresponse

Unit nonresponse occurs when an individual respondent (such as a student, school administrator, or teacher) declines to participate, or when the cooperation of a school cannot be secured. In the base year, an analysis of school-level nonresponse suggested that, to the extent that schools can be characterized by size, control, organizational structure, student composition, and other characteristics, the impact of nonresponding schools on the quality of the student sample is small (for details, see the *Base Year Sample Design Report*). School nonresponse has not been assessed in the first or second follow-ups for two reasons. First, there was practically no school-level nonresponse; institutional cooperation levels approached 99 percent in both rounds. Second, the first and second follow-up samples were student-driven, unlike the two-stage initial sample design in the base year. Hence, even if a school refused in either the first or second follow-ups, the individual student was pursued outside of school. In the third follow-up, school level nonresponse was not a factor because the respondents were no longer in high school.

The effect of student-level nonresponse within the responding schools was not assessed in the base year, although males, blacks, and Hispanics tended to be nonparticipants more often than females, whites, or Asians. The NELS:88 weights are constructed to adjust for unit nonresponse. The weighted unit nonresponse rate for various subgroups in the third follow-up are shown in Table 5.4.1.

Table 5.4.1--Unit nonresponse rate by subgroup

	Target n	Wtd. nonresponse
Total	15875*	0.0914
Sex		
Male	7895	0.0976
Female	7980	0.0852
Race/ethnicity		
Asian/Pacific Islander	1151	0.0915
Hispanic	2288	0.1202
Black	1840	0.1255
White	10303	0.071
Native American	230	0.0814
Missing	63	0.5213
Second follow-up test quartile		
Lowest quartile	2669	0.0802
2nd	2850	0.0579
3rd	2836	0.0329
4th	2982	0.0191
Missing	55	0.0146
Did not complete test	4483	0.1738
Socioeconomic status		
Lowest quartile	4062	0.0822
2nd	3784	0.0644
3rd	3742	0.0525
4th	3635	0.0358
Missing	652	0.3539
8th grade cohort 14890	0.0852	
2FU freshened	117	0.2312
1FU freshened	559	0.1486
Base year ineligible	309	0.185
Never dropped out	13337	0.0762
Ever dropped out	2538	0.1623
Public	13383	0.0941
Catholic	1355	0.0611
NAIS private	595	0.1063
Other private	542	0.0788
1994 sampling subgroup		
Nonresponders	38	0.7503
"Poor" responders	595	0.2419
"Good" responders	15242	0.0572
Dropouts	2343	0.1064
Ineligible before '92	191	0.082
Private school in '88	2370	0.0434
Private school '90/'92	96	0.0188
Only Public and:		
Hispanic	1457	0.0462
Asian	870	0.041
Native American	132	0.0591
Black w/high test	79	0.0344
Black other 1112	0.098	
White low SES	1292	0.0613
White high SES	1505	0.0237
White middle SES	3789	0.0439
Other	3	0.3333

Source: NCES, National Education Longitudinal Study of 1988-1994

* This does not include 89 ineligible and dead sample members.

5.5 Item Nonresponse

Sampling and coverage errors are two key components of total survey error. Sampling error is quantified through the standard errors and design effects for key variables as reported above. There are other sources and types of nonobservational error, including estimate error or bias associated with unit (individual) nonresponse and item nonresponse. In addition to its role as a potential source of bias, item nonresponse also diminishes the number of observations that can be used in calculating statistics from affected data elements and thus increases sampling variances. Since item nonresponse is an important potential and uncorrected source of data bias, it is necessary to measure its impact so that analysts can properly take potential response biases into account when developing their analysis plans. NCES's standard asserts that total weighted nonresponse for an item (unit nonresponse multiplied by item nonresponse) should not exceed 30 percent. This section reports specifically on nonsampling measurement error as a function of item nonresponse in key variables.

Item nonresponse occurs when a respondent fails to complete certain items on the survey instrument. While bias associated with unit nonresponse has been controlled by making adjustments to case weights, item nonresponse has generally not been compensated for in the NELS:88 student component datasets. There are two exceptions to this generalization.

The first exception is machine editing, through which certain nonresponse problems are rectified for some items by imposing inter-item consistency, particularly by forcing logical agreement between filter and dependent questions. For example, the missing response to a filter question can often be inferred if dependent questions have been answered. Because the edited files were used in the nonresponse analysis reported below, this adjustment to item nonresponse is reflected in the results of the analysis.

The second exception is that some key classification variables have been constructed in part from additional sources of information when questionnaire data are missing. Data from school records (for example, student sex or race/ethnicity as given on the sampling roster) or other respondent sources (for example, the second follow-up questionnaire) have been used to replace missing data.

A further point to note is that there may be some hidden nonresponse in the NELS:88 questionnaire data that is impossible to quantify. This is the case because many questions use a "mark all that apply" format in the SAQ or involve global "anything else" questions in the interview. While such a format results in slightly less burden to the respondent, it also makes it impossible to distinguish between a negative response and nonresponse. The resulting inability to distinguish negative response and nonresponse creates the potential for nonresponse biases that cannot be measured and thus cannot become the basis for precise warnings to users about the limitations of data.

A final point is that unit nonresponse is a further source of missing item data--nonparticipating students complete no questionnaire items. Weights accommodate student nonresponse by projecting questionnaire data to the full population, with appropriate adjustments for defined subgroups. However, nonresponse-adjusted weights cannot compensate for the bias

that arises if nonrespondents and respondents would have answered the questionnaire differently. Hence "total response" should be thought of as the survey (unit) response rate times the item response rate. (For example, given a cross-sectional weighted student response rate of 91 percent, and an item response rate of 88 percent, total response would be 80 percent.)

Two main objectives guide the following item nonresponse analysis. One objective is to quantify student questionnaire nonresponse for the entire sample on key variables that appeared on the student questionnaire. A second objective is to describe nonresponse patterns in terms of sampling subgroups.

Population and Data File Definitions.

Definition 1: "Item"
For purposes of this analysis, "item" refers to each data element or variable. For a question composed of multiple subparts, each subpart eliciting a distinct response is counted as an item for item nonresponse purposes. (Thus, a single question that poses three subquestions is treated as three variables.)

Definition 2: "Response Rate"
NCES standards stipulate that item response rates (Ri) "are to be calculated as the number of respondents for whom an in-scope response was obtained (i.e., the response conformed to acceptable categories or ranges), divided by the number of completed interviews for which the question (or questions if a composite variable) was intended to be asked":

$$Ri = \frac{\text{weighted \# of respondents with in-scope responses}}{\text{weighted \# of completed interviews for which question was intended to be asked}}$$

In-scope responses were considered to be valid answers (including a "don't know" response when this was a legitimate response option). Out-of-scope responses were refusals, and missing responses.

Definition 3: "Analysis Populations"
The item nonresponse analysis population for the student questionnaire was used. This consisted of all students who completed any form of the questionnaire, regardless of whether specific nonquestionnaire data such as test scores were missing.

Definition 4: "Student and Dropout Questionnaire Data File"
The public use data file with machine-edited, weighted data was used as the basis for the analysis. Nonresponse rates of composite and other constructed variables and test data were not examined in this analysis.

Definition 5: "Nonresponse"
For the student questionnaire, several reserved codes were used to categorize nonresponse. The reserved codes and definitions appear below. The first two--reserved codes--define out-of-scope

or illegitimate nonresponse, and were used as the basis for this nonresponse analysis.

Refused critical item. Respondent was unwilling to answer the question at the time of the questionnaire administration and upon nonresponse follow-up by survey administrators.

Missing. The response is illegitimately missing. That is, a datum that should be present for this respondent is missing. Data elements not appearing on the abbreviated or modified student or dropout questionnaires were considered as illegitimately missing.

Legitimate skip. The response is legitimately missing. That is, owing either to responses to preceding filter questions or to other respondent characteristics, data for this item should not be present for this respondent. Responses under this reserved code were not included in the nonresponse analysis.

Don't know. "Don't Know" is often used as a nonresponse code. In the NELS:88 dataset, "Don't Know" is embedded as a legitimate response category in some of the questionnaire items. For purposes of this analysis, "Don't Know" was not classified as a nonresponse.

Table 5.5 shows item nonresponse rates (proportions) for the key items for all third follow-up respondents and for the sampling subgroups.

Table 5.5--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	Children	Marital status	Year and month first child born	1988 at risk of dropping out factors	Race or ethnicity as of 1994	Annual support for another person as of 1994	Expected income at age 30	Total earnings from jobs in 1993
Total	0.0021	0.0004	0.0000	0.1243	0.0038	0.0596	0.0074	0.0674
1994 sampling subgroup								
Nonresponders	low n	low n	low n	low n	low n	low n	low n	low n
Poor responders	0.0038	0.0000	0.0000	0.5776	0.0228	0.0814	0.0143	0.1031
Ever dropped out	0.0031	0.0012	0.0000	0.1073	0.0018	0.0540	0.0093	0.0488
Ineligible prior to 1992	0.0042	0.0000	low n	0.9785	0.0039	low n	0.0238	0.0474
Private school in 1988	0.0004	0.0001	0.0000	0.0183	0.0003	0.0981	0.0050	0.0808
Private school in 1990 or 1992	0.0000	0.0000	low n	0.0190	0.0000	low n	0.0000	0.0558
Only public and Hispanic	0.0004	0.0006	0.0000	0.0996	0.0000	0.0278	0.0057	0.0940
Only public and Asian Pacific Islander	0.0012	0.0009	0.0000	0.1109	0.0000	0.0899	0.0049	0.1089
Only public and Native American	0.0357	0.0000	low n	0.0714	0.0000	low n	0.0067	0.0810
Only public and Black with high tests	0.0000	0.0000	low n	0.0124	0.0000	low n	0.0000	0.1225
Only public and Black with other scores	0.0000	0.0000	0.0000	0.0660	0.0000	0.0148	0.0047	0.1047
Only public and White with low SES	0.0003	0.0008	0.0000	0.0219	0.0000	0.0343	0.0115	0.0571
Only public and White with high SES	0.0006	0.0006	0.0000	0.0279	0.0000	0.0661	0.0030	0.0609
Only public and White with middle SES	0.0030	0.0003	0.0000	0.0268	0.0000	0.0920	0.0070	0.0436
1990 freshened	low n	low n	low n	low n	low n	low n	low n	low n
1992 freshened	low n	low n	low n	low n	low n	low n	low n	low n
Other	low n	low n	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

Table 5.5 (Continued)--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	Attendance spells at first postsecondary institution	Attended first choice postsecondary institution	Degree or certificate sought at first institution	Enrollment status at first institution	Highest level of education expected in 1994	In state at first postsecondary institution	Postsecondary education institution applied to	Still enrolled in first institution
Total	0.0012	0.3143	0.0004	0.0004	0.0016	0.0781	0.0000	0.0021
1994 sampling subgroup								
Nonresponders	low n	low n	low n	low n	low n	low n	low n	low n
Poor responders	0.0043	0.5321	0.0000	0.0000	0.0043	0.1591	0.0000	0.0053
Ever dropped out	0.0017	0.6267	0.0013	0.0000	0.0029	0.2201	0.0000	0.0063
Ineligible prior to 1992	0.0000	0.3103	0.0000	0.0000	0.0000	0.1446	0.0000	0.0000
Private school in 1988	0.0009	0.2113	0.0003	0.0000	0.0007	0.0733	0.0000	0.0023
Private school in 1990 or 1992	0.0000	0.2849	0.0000	0.0000	0.0000	0.0393	0.0000	0.0000
Only public and Hispanic	0.0031	0.4726	0.0000	0.0000	0.0009	0.1150	0.0000	0.0039
Only public and Asian Pacific Islander	0.0000	0.2434	0.0000	0.0000	0.0009	0.0624	0.0000	0.0000
Only public and Native American	0.0000	0.4363	0.0000	0.0129	0.0056	0.1055	0.0000	0.0000
Only public and Black with high tests	0.0000	0.1045	0.0000	0.0000	0.0000	0.0085	0.0000	0.0000
Only public and Black with other score	0.0000	0.3478	0.0000	0.0013	0.0019	0.0709	0.0000	0.0010
Only public and White with low SES	0.0000	0.3875	0.0020	0.0000	0.0016	0.0827	0.0000	0.0015
Only public and White with high SES	0.0019	0.1720	0.0006	0.0013	0.0000	0.0322	0.0000	0.0019
Only public and White with middle SES	0.0003	0.3064	0.0005	0.0000	0.0007	0.0594	0.0000	0.0010
1990 freshened	low n	low n	low n	low n	low n	low n	low n	low n
1992 freshened	low n	low n	low n	low n	low n	low n	low n	low n
Other	low n	low n	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

Table 5.5 (Continued)--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	Type of first institution	Valid post-secondary education institution attended	Year and month started first institution	Satisfied with job security	Satisfied with job's importance	Satisfied with job's pay and benefits	Satisfied with job's working conditions	Satisfied with opportunities for education
Total	0.0776	0.0001	0.0028	0.0172	0.0170	0.0175	0.0170	0.0178
1994 sampling subgroup								
Nonresponders	low n	low n	low n	low n	low n	low n	low n	low n
Poor responders	0.1382	0.0000	0.0053	0.0279	0.0279	0.0279	0.0279	0.0279
Ever dropped out	0.2166	0.0000	0.0043	0.0149	0.0143	0.0145	0.0143	0.0157
Ineligible prior to 1992	0.1054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Private school in 1988	0.0849	0.0000	0.0017	0.0127	0.0127	0.0127	0.0133	0.0141
Private school in 1990 or 1992	0.0393	0.0000	0.0000	low n	low n	low n	low n	low n
Only public and Hispanic	0.1131	0.0009	0.0043	0.0197	0.0197	0.0197	0.0197	0.0218
Only public and Asian Pacific Islander	0.0656	0.0000	0.0000	0.0188	0.0188	0.0188	0.0188	0.0188
Only public and Native American	0.1055	0.0000	0.0000	0.0178	0.0178	0.0645	0.0178	0.0178
Only public and Black with high tests	0.0085	0.0000	0.0000	low n	low n	low n	low n	low n
Only public and Black with other scores	0.0730	0.0000	0.0020	0.0207	0.0207	0.0207	0.0207	0.0207
Only public and White with low SES	0.0841	0.0000	0.0124	0.0204	0.0204	0.0215	0.0204	0.0214
Only public and White with high SES	0.0343	0.0000	0.0019	0.0032	0.0032	0.0032	0.0032	0.0032
Only public and White with middle SES	0.0606	0.0000	0.0021	0.0159	0.0154	0.0159	0.0154	0.0154
1990 freshened	low n	low n	low n	low n	low n	low n	low n	low n
1992 freshened	low n	low n	low n	low n	low n	low n	low n	low n
Other	low n	low n	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

Table 5.5 (Continued)--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	Satisfied with opportunities for advancement	Satisfied with opportunities to use education	1994 high school diploma status	Last high school program type	Was birth control used during first sexual intercourse	Was birth control used during last sexual intercourse	Year and month of first sexual intercourse	Spent time on religious activities
Total	0.0173	0.0173	0.0005	0.0389	0.0083	0.0234	0.0665	0.0055
1994 sampling subgroup								
Nonresponders	low n	low n	low n	low n	low n	low n	low n	low n
Poor responders	0.0279	0.0279	0.0019	0.2529	0.0144	0.0448	0.0902	0.0101
Ever dropped out	0.0143	0.0143	0.0019	0.0205	0.0088	0.0191	0.0606	0.0080
Ineligible prior to 1992	0.0000	0.0000	0.0000	0.0511	0.0404	0.0579	0.1286	0.0334
Private school in 1988	0.0127	0.0127	0.0000	0.0044	0.0047	0.0181	0.0585	0.0020
Private school in 1990 or 1992	low n	low n	0.0000	0.0000	0.0000	0.0000	0.0411	0.0000
Only public and Hispanic	0.0197	0.0206	0.0000	0.0078	0.0075	0.0321	0.0763	0.0028
Only public and Asian Pacific Islander	0.0188	0.0188	0.0006	0.0097	0.0055	0.0163	0.1133	0.0030
Only public and Native American	0.0178	0.0178	0.0000	0.0103	0.0030	0.0193	0.0712	0.0000
Only public and Black with high tests	low n	low n	0.0000	0.0000	0.0114	0.0117	0.0122	0.0000
Only public and Black with other scores	0.0207	0.0207	0.0000	0.0320	0.0074	0.0223	0.0692	0.0028
Only public and White with low SES	0.0204	0.0214	0.0003	0.0050	0.0108	0.0342	0.0712	0.0029
Only public and White with high SES	0.0061	0.0032	0.0000	0.0027	0.0034	0.0146	0.0506	0.0019
Only public and White with middle SES	0.0159	0.0154	0.0000	0.0049	0.0080	0.0172	0.0604	0.0066
1990 freshened	low n	low n	low n	low n	low n	low n	low n	low n
1992 freshened	low n	low n	low n	low n	low n	low n	low n	low n
Other	low n	low n	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

Table 5.5 (Continued)--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	Spent time partici-pating in sports	Spent time reading for pleasure	Spent time talking or doing things with parents	Spent time working on hobbies	Employer-tuition assistance received	Hours per week training was attended in 1993	Informal on-the-job training received	Off-site formal training received
Total	0.0050	0.0053	0.0054	0.0051	0.0289	0.0306	0.0289	0.0289
1994 sampling subgroup								
Nonresponders	low n	low n	low n	low n	low n	low n	low n	low n
Poor responders	0.0081	0.0101	0.0101	0.0101	0.0835	0.0300	0.0835	0.0835
Ever dropped out	0.0063	0.0080	0.0089	0.0077	0.0313	0.0436	0.0313	0.0313
Ineligible prior to 1992	0.0313	0.0334	0.0313	0.0313	low n	low n	low n	low n
Private school in 1988	0.0020	0.0020	0.0025	0.0020	0.0085	0.0096	0.0085	0.0085
Private school in 1990 or 1992	0.0000	0.0000	0.0000	0.0000	low n	low n	low n	low n
Only public and Hispanic	0.0033	0.0024	0.0024	0.0024	0.0117	0.0370	0.0117	0.0117
Only public and Asian Pacific Islander	0.0030	0.0030	0.0030	0.0030	low n	low n	low n	low n
Only public and Native American	0.0000	0.0000	0.0000	0.0000	low n	low n	low n	low n
Only public and Black with high tests	0.0000	0.0000	0.0000	0.0000	low n	low n	low n	low n
Only public and Black with other scores	0.0028	0.0028	0.0028	0.0028	0.0268	0.0534	0.0268	0.0268
Only public and White with low SES	0.0029	0.0029	0.0029	0.0029	0.0157	0.0321	0.0157	0.0157
Only public and White with high SES	0.0019	0.0013	0.0019	0.0019	0.0239	0.0261	0.0239	0.0239
Only public and White with middle SES	0.0069	0.0066	0.0061	0.0058	0.0197	0.0235	0.0197	0.0197
1990 freshened	low n	low n	low n	low n	low n	low n	low n	low n
1992 freshened	low n	low n	low n	low n	low n	low n	low n	low n
Other	low n	low n	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

Table 5.5 (Continued)--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	On-site formal training received	Total weeks training was attended in 1993	Importance of being able to find steady work	Importance of having lots of money	Importance of having strong friend-ships	Importance of profess-ional employment success	Importance of providing children with better opportunities	Types of volunteer organizations worked
Total	0.0289	0.0303	0.0046	0.0046	0.0048	0.0046	0.0049	0.0061
1994 sampling subgroup								
Nonresponders	low n	low n	low n	low n	low n	low n	low n	low n
Poor responders	0.0835	0.0300	0.0081	0.0081	0.0081	0.0081	0.0081	0.0121
Ever dropped out	0.0313	0.0335	0.0067	0.0063	0.0070	0.0062	0.0069	0.0078
Ineligible prior to 1992	low n	low n	0.0313	0.0313	0.0313	0.0313	0.0313	0.0313
Private school in 1988	0.0085	0.0096	0.0020	0.0020	0.0021	0.0020	0.0020	0.0020
Private school in 1990 or 1992	low n	low n	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Only public and Hispanic	0.0117	0.0318	0.0024	0.0024	0.0024	0.0024	0.0024	0.0120
Only public and Asian Pacific Islander	low n	low n	0.0035	0.0030	0.0030	0.0030	0.0035	0.0030
Only public and Native American	low n	low n	0.0000	0.0000	0.0000	0.0000	0.0054	0.0000
Only public and Black with high tests	low n	low n	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Only public and Black with other scores	0.0268	0.0271	0.0028	0.0028	0.0039	0.0028	0.0034	0.0028
Only public and White with low SES	0.0157	0.0300	0.0029	0.0029	0.0029	0.0029	0.0029	0.0041
Only public and White with high SES	0.0239	0.0261	0.0013	0.0013	0.0013	0.0013	0.0018	0.0013
Only public and White with middle SES	0.0197	0.0352	0.0056	0.0056	0.0056	0.0056	0.0058	0.0063
1990 freshened	low n	low n	low n	low n	low n	low n	low n	low n
1992 freshened	low n	low n	low n	low n	low n	low n	low n	low n
Other	low n	low n	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

Table 5.5 (Continued)--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	Employer provided paid maternity or paternity leave	Employer provided paid vacation with pay	Employer provided sick days	Employer provided unpaid leave to care for others	Employer provided unpaid maternity or paternity leave	Industry of longest held 1993 job	Job expected at age 30 in 1994	Jobs held in 1993
Total	0.0169	0.0150	0.0151	0.0164	0.0157	0.4491	0.0061	0.0031
1994 sampling subgroup								
Nonresponders	low n	low n	low n	low n	low n	low n	low n	low n
Poor responders	0.0214	0.0214	0.0214	0.0247	0.0214	0.2839	0.0137	0.0094
Ever dropped out	0.0149	0.0118	0.0123	0.0145	0.0128	0.0875	0.0078	0.0048
Ineligible prior to 1992	0.0043	0.0043	0.0043	0.0043	0.0043	0.3587	0.0125	0.0000
Private school in 1988	0.0079	0.0074	0.0074	0.0090	0.0081	0.7170	0.0030	0.0032
Private school in 1990 or 1992	low n	low n	low n	low n	low n	0.6878	0.0161	0.0000
Only public and Hispanic	0.0239	0.0227	0.0227	0.0239	0.0239	0.4288	0.0050	0.0027
Only public and Asian Pacific Islander	0.0193	0.0193	0.0193	0.0193	0.0193	0.6929	0.0061	0.0010
Only public and Native American	0.0327	0.0178	0.0178	0.0178	0.0327	0.4145	0.0194	0.0325
Only public and Black with high tests	low n	low n	low n	low n	low n	0.6505	0.0000	0.0000
Only public and Black with other scores	0.0244	0.0194	0.0194	0.0224	0.0194	0.4129	0.0022	0.0024
Only public and White with low SES	0.0209	0.0204	0.0204	0.0204	0.0209	0.2509	0.0047	0.0016
Only public and White with high SES	0.0059	0.0032	0.0032	0.0032	0.0032	0.7571	0.0019	0.0019
Only public and White with middle SES	0.0153	0.0135	0.0135	0.0135	0.0144	0.4621	0.0061	0.0010
1990 freshened	low n	low n	low n	low n	low n	low n	low n	low n
1992 freshened	low n	low n	low n	low n	low n	low n	low n	low n
Other	low n	low n	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

Table 5.5 (Continued)--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	Registered to vote	Voted in 1992 presi-dential election	Voted in last year in local or state election	Employer provided a pension plan	Employer provided childcare assistance	Employer provided dental benefits	Employer provided life insurance	Employer provided medical benefits
Total	0.0047	0.0049	0.0048	0.0154	0.0157	0.0150	0.0153	0.0159
1994 sampling subgroup								
Nonresponders	low n	low n	low n	low n	low n	low n	low n	low n
Poor responders	0.0101	0.0101	0.0101	0.0214	0.0214	0.0214	0.0214	0.0253
Ever dropped out	0.0054	0.0054	0.0054	0.0110	0.0123	0.0123	0.0123	0.0123
Ineligible prior to 1992	0.0313	0.0313	0.0313	0.0043	0.0043	0.0043	0.0043	0.0043
Private school in 1988	0.0023	0.0023	0.0023	0.0074	0.0093	0.0074	0.0081	0.0074
Private school in 1990 or 1992	0.0000	0.0000	0.0000	low n	low n	low n	low n	low n
Only public and Hispanic	0.0035	0.0035	0.0035	0.0239	0.0239	0.0227	0.0227	0.0248
Only public and Asian Pacific Islander	0.0030	0.0030	0.0030	0.0293	0.0293	0.0160	0.0193	0.0181
Only public and Native American	0.0000	0.0000	0.0000	0.0178	0.0178	0.0178	0.0178	0.0178
Only public and Black with high tests	0.0000	0.0000	0.0000	low n	low n	low n	low n	low n
Only public and Black with other scores	0.0028	0.0028	0.0028	0.0194	0.0207	0.0194	0.0194	0.0194
Only public and White with low SES	0.0029	0.0029	0.0029	0.0227	0.0215	0.0204	0.0204	0.0225
Only public and White with high SES	0.0013	0.0018	0.0018	0.0032	0.0032	0.0032	0.0032	0.0032
Only public and White with middle SES	0.0051	0.0056	0.0053	0.0139	0.0139	0.0135	0.0139	0.0135
1990 freshened	low n	low n	low n	low n	low n	low n	low n	low n
1992 freshened	low n	low n	low n	low n	low n	low n	low n	low n
Other	low n	low n	low n	low n	low n	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

Table 5.5 (Continued)--Proportion of third follow-up respondents not responding to Descriptive Summary Report variables by sampling subgroup

	Labor force status in 1993	Months unemployed in 1993	First postsecondary education intensity and timing
Total	0.0087	0.0090	0.0073
1994 sampling subgroup			
Nonresponders	low n	low n	low n
Poor responders	0.0146	0.0171	0.0102
Ever dropped out	0.0192	0.0186	0.0396
Ineligible prior to 1992	0.0028	0.0000	0.0000
Private school in 1988	0.0055	0.0022	0.0051
Private school in 1990 or 1992	0.0000	0.0000	0.0000
Only public and Hispanic	0.0092	0.0128	0.0089
Only public and Asian Pacific Islander	0.0046	0.0100	0.0060
Only public and Native American	0.0134	0.0175	0.0129
Only public and Black with high tests	0.0000	0.0000	0.0000
Only public and Black with other scores	0.0137	0.0181	0.0053
Only public and White with low SES	0.0058	0.0042	0.0135
Only public and White with high SES	0.0012	0.0018	0.0057
Only public and White with middle SES	0.0062	0.0054	0.0035
1990 freshened	low n	low n	low n
1992 freshened	low n	low n	low n
Other	low n	low n	low n

Source: NCES, National Education Longitudinal Study of 1988-1994 Methodology 1/26/95
Note: "low n" indicates that the sample size is too small for a reliable estimate to be calculated.

5.6 Nonresponse Bias Analysis

Comparisons were made between subgroups defined on the basis of whether the respondent had complete data for each of 15 critical variables used in the *NELS:88/94 Descriptive Summary Report.* A case was classified as "valid" for a given variable if the respondent had an in-scope response code (including "don't know"), and as "missing" if the response code corresponded to "missing" or "refused." Respondents classified as "legitimate skip" for a given variable were excluded from the analysis of that variable.

The distribution of valid and missing cases was broken down by gender, race/ethnicity, socioeconomic status, school type, and 1994 diploma status. The results are shown in Tables 5.6.1 - 5.6.15 below. Note that some of the apparently significant differences are due to one or another of the subgroups accounting for 100 percent of a given category. In this case, the standard error is zero, and the t-value should not be interpreted.

Annual support for another person as of 1994 (AMTSUPRT):

For reported annual support for another person as of 1994, there were significantly more females in the missing category than in the valid category. There were also significantly more whites in the missing category and significantly fewer Hispanics. No other differences in Table 5.6.1 are statistically significant.

Table 5.6.1--Bias analysis for annual support for another person as of 1994 (AMTSUPRT)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	94.04	0.97	5.96	0.97	
Gender as of 1994					
Male	59.21	2.31	39.04	8.00	2.422
Female	40.79	2.31	60.96	8.00	-2.422
Race or ethnicity as of 1994					
Asian/Pacific Islander	2.35	0.44	3.65	1.82	-0.694
Hispanic	21.56	2.16	7.43	2.66	4.124
Black	28.44	2.48	18.74	7.44	1.237
White	45.51	2.55	66.82	7.81	-2.594
American Indian/ Alaskan native	2.15	0.59	3.36	2.50	-0.471
1992 High school sector					
Public	95.44	1.48	100.00	0.00	na
Catholic	2.54	0.73	0.00	0.00	na
Other private	2.01	1.33	0.00	0.00	na
1994 High school diploma status					
High school diploma	66.84	2.28	61.55	8.43	0.606
GED or equivalent	10.03	1.31	9.09	5.65	0.162
Working toward degree	10.78	1.79	14.13	6.49	-0.498
Dropout	12.35	1.38	15.24	6.03	-0.467
1992 Socioeconomic quartile					
Low quartile	44.71	2.33	35.91	8.49	1.000
Middle two quartiles	46.77	2.32	56.65	8.56	-1.114
High quartile	8.51	1.17	7.44	3.60	0.283

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.
"na" indicates "not applicable."

Enrollment status at first postsecondary institution (ENRLSTA1):

None of the comparisons with non-zero standard errors are statistically significant.

Table 5.6.2--Bias analysis for enrollment status at first postsecondary institution (ENRLSTA1)

	Valid Percent Valid	Valid Standard Error	Missing Percent Missing	Missing Standard Error	t-value
Total	99.96	0.02	0.04	0.02	
Gender as of 1994					
Male	47.98	0.78	69.69	24.58	-0.883
Female	52.02	0.78	30.31	24.58	0.883
Race or ethnicity as of 1994					
Asian/Pacific Islander	5.03	0.39	0.00	0.00	na
Hispanic	9.30	0.77	0.00	0.00	na
Black	11.50	0.78	22.70	20.43	-0.548
White	73.37	1.16	61.60	23.95	0.491
American Indian/ Alaskan native	0.81	0.17	15.71	15.41	-0.967
1992 High school sector					
Public	87.72	0.85	100.00	0.00	na
Catholic	7.03	0.56	0.00	0.00	na
Other private	5.25	0.64	0.00	0.00	na
1994 High school diploma status					
High school diploma	94.88	0.42	100.00	0.00	na
GED or equivalent	3.42	0.33	0.00	0.00	na
Working toward degree	0.95	0.14	0.00	0.00	na
Dropout	0.74	0.23	0.00	0.00	na
1992 Socioeconomic quartile					
Low quartile	14.26	0.66	0.00	0.00	na
Middle two quartiles	50.35	0.95	20.32	19.97	1.502
High quartile	35.39	1.15	79.68	19.97	-2.214

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.
"na" indicates "not applicable."

Type of first postsecondary institution attended (F3SEC2A1):

There are significantly more respondents with GEDs or certificates in the missing category, as is the case with respondents currently enrolled or working on a GED or certificate, while those who do have a diploma constitute a significantly greater percentage in the valid response group. Low and Middle SES account for a greater percentage of the missing group, while High SES respondents represent a significantly greater proportion of the valid group.

Table 5.6.3--Bias analysis for type of first postsecondary institution attended (F3SEC2A1)

	Valid		Missing		
	Percent valid	standard error	Percent missing	standard error	t-value
Total	92.24	0.56	7.76	0.56	
Gender as of 1994					
Male	47.81	0.82	50.31	3.01	-0.801
Female	52.19	0.82	49.69	3.01	0.801
Race or ethnicity as of 1994					
Asian/Pacific Islander	4.99	0.37	5.35	1.36	-0.255
Hispanic	8.94	0.74	13.44	2.68	-1.619
Black	11.17	0.79	15.76	2.63	-1.671
White	74.17	1.13	63.75	3.62	2.748
American Indian/ Alaskan native	0.73	0.17	1.70	0.55	-1.685
1992 High school sector					
Public	87.86	0.81	84.31	4.87	0.719
Catholic	7.06	0.58	6.34	2.15	0.323
Other private	5.07	0.54	9.36	4.78	-0.892
1994 High school diploma status					
High school diploma	95.90	0.41	81.25	2.32	6.218
GED or equivalent	2.82	0.32	10.51	1.93	-3.931
Working toward degree	0.63	0.11	6.39	1.81	-3.176
Dropout	0.65	0.24	1.85	0.56	-1.970
1992 Socioeconomic quartile					
Low quartile	13.82	0.67	19.61	2.15	-2.571
Middle two quartiles	49.79	0.96	57.30	2.58	-2.728
High quartile	36.39	1.16	23.08	2.56	4.736

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Still enrolled at first postsecondary institution (F3STILL):

For this variable, there were significantly more females in the missing category than in the valid category. None of the other comparisons with non-zero standard errors are statistically significant.

Table 5.6.4--Bias analysis for still enrolled at first postsecondary institution (F3STILL)

	Valid		Missing		
	Percent valid	standard error	Percent missing	standard error	t-value
Total	99.79	0.06	0.21	0.06	
Gender as of 1994					
Male	48.06	0.77	22.51	10.13	2.515
Female	51.94	0.77	77.49	10.13	-2.515
Race or ethnicity as of 1994					
Asian/Pacific Islander	5.01	0.39	10.56	9.05	-0.613
Hispanic	9.29	0.77	12.22	8.55	-0.341
Black	11.49	0.78	24.80	15.42	-0.862
White	73.39	1.16	52.43	14.57	1.434
American Indian/ Alaskan native	0.81	0.17	0.00	0.00	na
1992 High school sector					
Public	87.61	0.90	81.63	11.46	0.520
Catholic	7.00	0.57	12.35	11.24	-0.475
Other private	5.38	0.73	6.02	4.02	-0.157
1994 High school diploma status					
High school diploma	94.79	0.43	81.74	9.59	1.359
GED or equivalent	3.39	0.33	15.83	9.28	-1.340
Working toward degree	1.07	0.18	2.44	2.48	-0.551
Dropout	0.75	0.23	0.00	0.00	3.261
1992 Socioeconomic quartile					
Low quartile	14.22	0.66	39.59	15.54	-1.631
Middle two quartiles	50.40	0.94	29.47	11.75	1.776
High quartile	35.38	1.14	30.94	12.98	0.341

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.
"na" indicates "not applicable."

Types of volunteer organizations worked with (F3VOLUNT):

High SES respondents showed significantly fewer missing responses. None of the other comparisons with non-zero standard errors are statistically significant for this variable.

Table 5.6.5--Bias analysis for types of volunteer organizations worked with (F3VOLUNT)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	99.39	0.10	0.61	0.10	
Gender as of 1994					
Male	50.76	0.63	39.76	7.76	1.413
Female	49.24	0.63	60.24	7.76	-1.413
Race or ethnicity as of 1994					
Asian/Pacific Islander	3.92	0.30	1.81	1.12	1.820
Hispanic	11.34	0.83	14.06	7.95	-0.340
Black	13.68	0.82	16.54	5.95	-0.476
White	69.57	1.18	65.97	8.48	0.420
American Indian/ Alaskan native	1.49	0.34	1.62	1.62	-0.079
1992 High school sector					
Public	91.11	0.64	96.45	3.48	-1.509
Catholic	5.09	0.40	0.00	0.00	na
Other private	3.79	0.50	3.55	3.48	0.068
1994 High school diploma status					
High school diploma	80.91	0.67	73.25	7.18	1.062
GED or equivalent	6.35	0.41	7.90	4.25	-0.363
Working toward degree	5.38	0.31	8.26	4.35	-0.660
Dropout	7.36	0.44	10.59	4.35	-0.739
1992 Socioeconomic quartile					
Low quartile	24.58	0.78	35.42	8.98	-1.203
Middle two quartiles	50.22	0.75	55.27	8.74	-0.576
High quartile	25.20	0.90	9.31	4.24	3.666

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.
"na" indicates "not applicable."

Year and month of first sexual intercourse (FIRSTSEX):

For this variable, there were significantly more females in the missing category than in the valid category. Those who have a diploma also constitute a significantly greater percentage in the missing response group, while those with GEDs or certificates have fewer in the missing group. None of the other comparisons with non-zero standard errors are statistically significant for this variable.

Table 5.6.6--Bias analysis for year and month of first sexual intercourse (FIRSTSEX)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	93.35	0.32	6.65	0.32	
Gender as of 1994					
Male	52.81	0.72	40.23	2.33	5.158
Female	47.19	0.72	59.77	2.33	-5.158
Race or ethnicity as of 1994					
Asian/Pacific Islander	2.81	0.25	4.62	0.71	-2.405
Hispanic	11.27	0.77	11.89	2.08	-0.280
Black	15.01	0.90	15.42	2.25	-0.169
White	69.40	1.20	65.17	2.73	1.418
American Indian/ Alaskan native	1.51	0.31	2.90	1.32	-1.025
1992 High school sector					
Public	92.44	0.55	92.21	1.36	0.157
Catholic	4.90	0.40	3.43	0.74	1.748
Other private	2.67	0.34	4.36	1.17	-1.387
1994 High school diploma status					
High school diploma	77.70	0.79	84.16	1.67	-3.497
GED or equivalent	7.62	0.50	4.27	0.84	3.427
Working toward degree	6.10	0.38	4.92	1.09	1.022
Dropout	8.59	0.54	6.65	1.05	1.643
1992 Socioeconomic quartile					
Low quartile	25.53	0.81	30.32	2.56	-1.784
Middle two quartiles	51.74	0.80	47.52	2.55	1.579
High quartile	22.73	0.89	22.15	1.96	0.269

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Labor force status in 1993 (LABFOR93):

For this variable, dropouts constitute a significantly greater proportion of the missing group. A significantly higher proportion of valid respondents is accounted for by respondents with diplomas and high SES respondents. None of the other comparisons are statistically significant for this variable.

Table 5.6.7--Bias analysis for labor force status in 1993 (LABFOR93)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	99.13	0.10	0.87	0.10	
Gender as of 1994					
Male	50.77	0.63	41.45	5.53	1.675
Female	49.23	0.63	58.55	5.53	-1.675
Race or ethnicity as of 1994					
Asian/Pacific Islander	3.92	0.30	2.35	1.02	1.477
Hispanic	11.33	0.83	14.35	3.42	-0.858
Black	13.56	0.81	29.21	5.59	-2.771
White	69.70	1.18	53.18	5.85	2.768
American Indian/ Alaskan native	1.50	0.34	0.92	0.66	0.781
1992 High school sector					
Public	91.13	0.64	92.66	2.93	-0.510
Catholic	5.08	0.40	3.18	1.39	1.314
Other private	3.79	0.50	4.15	2.63	-0.134
1994 High school diploma status					
High school diploma	81.06	0.66	58.10	5.74	3.974
GED or equivalent	6.35	0.41	7.91	2.35	-0.654
Working toward degree	5.34	0.31	11.81	4.42	-1.460
Dropout	7.25	0.43	22.19	4.80	-3.100
1992 Socioeconomic quartile					
Low quartile	24.52	0.78	38.92	5.74	-2.486
Middle two quartiles	50.24	0.74	51.15	5.98	-0.151
High quartile	25.24	0.91	9.93	3.10	4.739

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Voted last year in local, state, or national election (NATELEC):

For this variable, the only significant comparison showed Catholic school students were more likely to be in the valid response group.

Table 5.6.8--Bias analysis for voted last year in local, state, or national election (NATELEC)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	99.52	0.08	0.48	0.08	
Gender as of 1994					
Male	50.76	0.63	36.03	7.74	1.897
Female	49.24	0.63	63.97	7.74	-1.897
Race or ethnicity as of 1994					
Asian/Pacific Islander	3.91	0.30	2.29	1.42	1.116
Hispanic	11.38	0.84	5.13	2.06	2.809
Black	13.67	0.82	18.65	7.25	-0.683
White	69.54	1.18	71.88	7.55	-0.306
American Indian/ Alaskan native	1.49	0.34	2.05	2.04	-0.271
1992 High school sector					
Public	91.13	0.63	94.64	4.47	-0.778
Catholic	5.08	0.39	0.81	0.81	4.750
Other private	3.79	0.50	4.55	4.41	-0.171
1994 High school diploma status					
High school diploma	80.91	0.67	70.10	8.16	1.320
GED or equivalent	6.34	0.41	10.53	5.25	-0.796
Working toward degree	5.38	0.31	9.40	5.30	-0.757
Dropout	7.37	0.44	9.97	4.88	-0.531
1992 Socioeconomic quartile					
Low quartile	24.63	0.78	28.77	8.11	-0.508
Middle two quartiles	50.21	0.74	58.75	8.65	-0.984
High quartile	25.16	0.90	12.47	5.36	2.335

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Job expected at age 30 (OCCFUTCD):

For this variable, the only significant comparison showed Catholic school students were more likely to be in the valid response group.

Table 5.6.9--Bias analysis for job expected at age 30 in 1994 (OCCFUTCD)

	Percent valid	Valid standard error	Percent missing	Valid standard error	t-value
Total	99.39	0.09	0.61	0.09	
Gender as of 1994					
Male	50.76	0.63	38.62	7.14	1.694
Female	49.24	0.63	61.38	7.14	-1.694
Race or ethnicity as of 1994					
Asian/Pacific Islander	3.91	0.30	2.99	1.37	0.656
Hispanic	11.38	0.84	7.75	2.72	1.275
Black	13.73	0.82	8.15	3.88	1.407
White	69.51	1.18	76.66	5.28	-1.322
American Indian/ Alaskan native	1.48	0.33	4.45	2.24	-1.312
1992 High school sector					
Public	91.13	0.64	93.58	3.64	-0.663
Catholic	5.08	0.40	1.11	1.11	3.365
Other private	3.78	0.50	5.31	3.49	-0.434
1994 High school diploma status					
High school diploma	80.89	0.67	76.54	5.91	0.731
GED or equivalent	6.36	0.41	6.35	2.53	0.004
Working toward degree	5.39	0.31	7.58	4.25	-0.514
Dropout	7.37	0.44	9.53	4.00	-0.537
1992 Socioeconomic quartile					
Low quartile	24.64	0.78	26.40	5.99	-0.291
Middle two quartiles	50.20	0.74	58.57	7.15	-1.164
High quartile	25.17	0.90	15.02	5.30	1.888

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

In-state at first postsecondary institution (PSEFIRIO):

For this variable, respondents with GEDs/Certificates constitute a significantly greater proportion of the missing group, as do respondents currently enrolled or working on a GED/Certificate, and low and middle SES respondents. A significantly higher proportion of valid respondents is accounted for by whites, respondents with diplomas, and high SES respondents.

Table 5.6.10--Bias analysis for in state at first postsecondary institution (PSEFIRIO)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	92.19	0.53	7.81	0.53	
Gender as of 1994					
Male	47.95	0.81	48.70	3.02	-0.240
Female	52.05	0.81	51.30	3.02	0.240
Race or ethnicity as of 1994					
Asian/Pacific Islander	4.98	0.37	5.48	1.36	-0.355
Hispanic	8.91	0.74	13.87	2.66	-1.796
Black	11.17	0.78	15.74	2.61	-1.678
White	74.23	1.13	62.93	3.49	3.080
American Indian/ Alaskan native	0.71	0.16	1.98	0.67	-1.844
1992 High school sector					
Public	87.62	0.84	87.48	4.02	0.034
Catholic	7.10	0.58	5.92	2.13	0.535
Other private	5.29	0.59	6.61	3.71	-0.351
1994 High school diploma status					
High school diploma	95.98	0.40	80.37	2.47	6.239
GED or equivalent	2.74	0.30	11.35	2.00	-4.257
Working toward degree	0.63	0.11	6.44	1.86	-3.118
Dropout	0.65	0.24	1.84	0.55	-1.983
1992 Socioeconomic quartile					
Low quartile	13.78	0.67	20.23	2.11	-2.914
Middle two quartiles	49.64	0.99	59.15	2.67	-3.340
High quartile	36.58	1.19	20.62	2.34	6.080

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Registered to vote (REGVOTE):

For this variable, Catholic school students were more likely to be in the valid response group, as were high SES respondents. None of the other comparisons are statistically significant.

Table 5.6.11--Bias analysis for registered to vote (REGVOTE)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	99.53	0.08	0.47	0.08	
Gender as of 1994					
Male	50.75	0.63	37.10	7.94	1.714
Female	49.25	0.63	62.90	7.94	-1.714
Race or ethnicity as of 1994					
Asian/Pacific Islander	3.91	0.30	2.36	1.46	1.040
Hispanic	11.38	0.84	5.29	2.13	2.660
Black	13.67	0.82	19.20	7.44	-0.739
White	69.55	1.18	71.04	7.76	-0.190
American Indian/ Alaskan native	1.49	0.34	2.11	2.10	-0.291
1992 High school sector					
Public	91.13	0.63	94.46	4.61	-0.716
Catholic	5.08	0.39	0.84	0.84	4.578
Other private	3.79	0.50	4.70	4.56	-0.198
1994 High school diploma status					
High school diploma	80.91	0.67	70.51	8.35	1.242
GED or equivalent	6.34	0.41	10.85	5.40	-0.833
Working toward degree	5.38	0.31	9.68	5.45	-0.788
Dropout	7.37	0.44	8.96	4.87	-0.325
1992 Socioeconomic quartile					
Low quartile	24.62	0.78	29.27	8.23	-0.562
Middle two quartiles	50.21	0.74	59.77	8.73	-1.091
High quartile	25.17	0.90	10.96	5.21	2.688

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Total earnings from jobs in 1993 (TOTLEAR2):

For this variable, blacks constitute a significantly greater proportion of the missing group, as do respondents with diplomas. A significantly higher proportion of valid respondents is accounted for by whites, respondents with GEDs/Certificates, and respondents currently working on a GED/Certificate. None of the other comparisons are statistically significant.

Table 5.6.12--Bias analysis for total earnings from jobs in 1993 (TOTLEAR2)

	Valid		Missing		
	Percent valid	standard error	Percent missing	standard error	t-value
Total	93.26	0.36	6.74	0.36	
Gender as of 1994					
Male	52.55	0.70	52.71	2.73	-0.057
Female	47.45	0.70	47.29	2.73	0.057
Race or ethnicity as of 1994					
Asian/Pacific Islander	3.53	0.28	5.39	1.28	-1.420
Hispanic	10.55	0.79	14.33	1.79	-1.932
Black	11.33	0.76	20.88	3.04	-3.048
White	73.36	1.11	58.75	3.07	4.475
American Indian/ Alaskan native	1.23	0.24	0.64	0.32	1.475
1992 High school sector					
Public	91.76	0.63	87.50	1.89	2.138
Catholic	4.91	0.41	8.03	1.43	-2.097
Other private	3.32	0.48	4.46	1.36	-0.790
1994 High school diploma status					
High school diploma	82.73	0.65	92.17	2.25	-4.031
GED or equivalent	6.03	0.38	2.13	0.53	5.980
Working toward degree	4.71	0.31	1.29	0.54	5.493
Dropout	6.54	0.47	4.41	2.20	0.947
1992 Socioeconomic quartile					
Low quartile	23.29	0.77	23.43	2.37	-0.056
Middle two quartiles	51.99	0.78	47.61	2.88	1.468
High quartile	24.73	0.88	28.97	2.60	-1.545

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Degree or certificate sought at first institution (TYPDEGC1):

None of the comparisons with non-zero standard errors are statistically significant.

Table 5.6.13--Bias analysis for degree or certificate sought at first institution (TYPDEGC1)

	Valid		Missing		
	Percent valid	standard error	Percent missing	standard error	t-value
Total	99.96	0.02	0.04	0.02	
Gender as of 1994					
Male	47.99	0.79	49.15	24.12	-0.048
Female	52.01	0.79	50.85	24.12	0.048
Race or ethnicity as of 1994					
Asian/Pacific Islander	5.03	0.39	0.00	0.00	12.897
Hispanic	9.29	0.77	13.65	13.41	-0.325
Black	11.51	0.78	0.00	0.00	14.756
White	73.36	1.16	86.35	13.41	-0.965
American Indian/ Alaskan native	0.82	0.17	0.00	0.00	4.824
1992 High school sector					
Public	87.72	0.85	90.90	9.32	-0.340
Catholic	7.02	0.56	9.10	9.32	-0.223
Other private	5.25	0.64	0.00	0.00	8.203
1994 High school diploma status					
High school diploma	94.88	0.42	100.00	0.00	-12.190
GED or equivalent	3.42	0.33	0.00	0.00	10.364
Working toward degree	0.95	0.14	0.00	0.00	6.786
Dropout	0.74	0.23	0.00	0.00	3.217
1992 Socioeconomic quartile					
Low quartile	14.25	0.66	19.91	18.21	-0.311
Middle two quartiles	50.34	0.95	42.89	23.99	0.310
High quartile	35.40	1.16	37.20	23.27	-0.077

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Months unemployed in 1993 (UNEMPL93):

For this variable, public school students constitute a significantly greater proportion of the missing group, as do dropouts and low SES respondents. A significantly higher proportion of valid respondents is accounted for by whites, Catholic school students, students of "other private" schools, respondents with diplomas, and high SES respondents. None of the other comparisons are statistically significant.

Table 5.6.14--Bias analysis for months unemployed in 1993 (UNEMPL93)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	99.10	0.11	0.90	0.11	
Gender as of 1994					
Male	50.64	0.63	55.87	5.78	-0.900
Female	49.36	0.63	44.13	5.78	0.900
Race or ethnicity as of 1994					
Asian/Pacific Islander	3.91	0.30	3.65	1.27	0.199
Hispanic	11.33	0.83	14.28	3.47	-0.827
Black	13.56	0.81	28.28	5.65	-2.579
White	69.72	1.18	50.65	5.99	3.124
American Indian/ Alaskan native	1.48	0.33	3.14	2.13	-0.770
1992 High school sector					
Public	91.09	0.64	97.53	1.09	-5.095
Catholic	5.09	0.40	1.84	0.96	3.125
Other private	3.82	0.50	0.63	0.50	4.511
1994 High school diploma status					
High school diploma	81.06	0.66	58.36	5.62	4.012
GED or equivalent	6.33	0.41	9.41	2.45	-1.240
Working toward degree	5.34	0.31	11.45	4.32	-1.411
Dropout	7.26	0.43	20.78	4.61	-2.920
1992 Socioeconomic quartile					
Low quartile	24.49	0.77	41.66	5.82	-2.925
Middle two quartiles	50.28	0.75	46.82	5.93	0.579
High quartile	25.23	0.91	11.52	3.84	3.474

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Voted in 1992 presidential election (VOTEPRES):

For this variable, Hispanics were more likely to be in the valid response group, as were Catholic school students. None of the other comparisons are statistically significant.

Table 5.6.15--Bias analysis for voted in 1992 presidential election (VOTEPRES)

	Percent valid	Valid standard error	Percent missing	Missing standard error	t-value
Total	99.51	0.08	0.49	0.08	
Gender as of 1994					
Male	50.76	0.63	36.98	7.69	1.786
Female	49.24	0.63	63.02	7.69	-1.786
Race or ethnicity as of 1994					
Asian/Pacific Islander	3.91	0.30	2.26	1.40	1.152
Hispanic	11.39	0.84	5.06	2.02	2.893
Black	13.67	0.82	18.37	7.15	-0.653
White	69.54	1.18	72.30	7.44	-0.366
American Indian/ Alaskan native	1.49	0.34	2.02	2.01	-0.260
1992 High school sector					
Public	91.13	0.63	94.73	4.40	-0.810
Catholic	5.08	0.39	0.80	0.80	4.809
Other private	3.79	0.50	4.48	4.34	-0.158
1994 High school diploma status					
High school diploma	80.91	0.67	70.54	8.06	1.282
GED or equivalent	6.34	0.41	10.38	5.18	-0.777
Working toward degree	5.38	0.31	9.26	5.22	-0.742
Dropout	7.37	0.44	9.82	4.81	-0.507
1992 Socioeconomic quartile					
Low quartile	24.63	0.78	28.33	8.00	-0.460
Middle two quartiles	50.21	0.74	59.39	8.54	-1.071
High quartile	25.16	0.90	12.28	5.28	2.405

Source: NCES, National Education Longitudinal Study of 1988-1994
Note: Percentages may not add to 100 percent due to rounding.

Chapter Six: Data Quality

Since its inception in 1988, the National Education Longitudinal Study has established and maintained a consistently high level of data quality. The quality of the data collected in the third follow-up can be assessed at three levels. First, several a priori controls were set in place in the data collection system, CATI, which helped insure quality on-line as the instrument was being administered. Second, as the data were coded a series of decision rules applied at the data entry level helped insure consistency. Finally, evaluation of the data post hoc insures internal consistency and comparability to the previous rounds of NELS.

6.1 Computer-Assisted Telephone Interview (CATI) Contingency Checks and Data Quality

As described above, the AutoQuest CATI system was used to present the questionnaire items to the interviewer on a series of screens, each with one or more questions. Between screens, the system evaluated the responses to completed questions and used the results to route the interviewer to the next appropriate question. Because the appropriate skip patterns were implemented by the system on-line, the system avoided the sometimes confusing instructions involved in skipping intermediate questionnaire items.

The system also applied a series of cross-checks to the responses, such as valid ranges, data field size and data type (e.g., numeric or text), and consistency with other answers or data from previous rounds. If it detected an inconsistency because of an interviewer's incorrect entry, or if the respondent simply realized that he or she made an error earlier in the interview, the interviewer could go back and change the earlier response. As the new response was entered, all of the edit checks that were performed at the first response were performed again. The system then worked its way forward through the questionnaire using the new value in all skip instructions, consistency checks, and the like until it reached the first unanswered question, and control was then returned to the interviewer. In addition, when problems were encountered, the system could suggest prompts for the interviewer to use in eliciting a better or more complete answer.

6.2 Decision Rules for Computer-Assisted Data Entry (CADE)

For the third follow-up, a number of decision rules were needed to ensure that verbatim and occasional unexpected responses were dealt with in a consistent manner. Verbatim responses were collected on a number of items such as occupation and major field of study. In order to make efficient use of the data, it was also desirable to assign consistent, standard codes to these responses. For example, when respondents indicated their occupation, the interviewers recorded their verbatim response. The system then checked that response using a keyword search, matching it to a subset of standard industry and occupation codes, and presented the interviewers with a set of choices based on the keyword matches. The interviewer then chose the option which most closely matched the information provided by the respondent, probing for

additional information when necessary. The chosen response codes were subsequently subjected to quality control by having professional coders read and recode the verbatim responses. On a regularly basis throughout the data collection process, feedback on the results of this quality evaluation was given to the interviewers.

Additional decision rules involved the coding of unexpected responses. In the CATI data collection, out of range responses were trapped on-line allowing the interviewer to correct them during data collection. However, with the SAQ, occasional out of range values did occur. For example, dropout respondents were asked to indicate what grade they were in when they dropped out. The intended range had a lower limit of 9, however a small number of respondents gave 8 as the grade level. It was decided to combine them with the 9th grade dropouts. In general, these decisions involved only a small number of respondents and a small number of variables per respondent.

6.3 Internal Consistency of Responses to Related Items

The third follow-up questionnaire contains a number of items related to a single topic or variable, and information obtained directly from one item can often be cross-checked indirectly by looking at other items indirectly. For example, there are three questions related to marriage: Current Marital Status, Were You Ever Married, and How Many Times Have You Been Married. If the responses to these questions are consistent, a respondent whose current status is single, never married should show "zero" as the number of times married and "no" as the response to "Were you ever married" on the SAQ or "Legitimate Skip" to the same question on the CATI. Table 6.3.1 shows a cross-tabulation of Current Marital Status by Number of Times Married, which indicates that five cases inconsistently indicate zero marriages for currently married respondents. This is the only inconsistency in this table, and represents far less than 1 percent of the data.

Table 6.3.1--Cross-tabulation of current marital status by number of times married

	Number of times married			
	0	1	2	3
Current marital status				
Single, never married	12388	0	0	0
Married	5	1346	26	2
Divorced, separated	0	149	2	0
Widowed	0	1	0	0
Marriage-like relation	960	21	0	0

Source: NCES, National Education Longitudinal Study of 1988-1994

Table 6.3.2 shows no inconsistency between the responses to "Were you ever married" and Number of Times Married. (The large number of "legitimate skips" is due to the skip pattern in CATI based on the response to current marital status.)

Table 6.3.2--Cross-tabulation of ever married by number of times married

	Number of times married			
	0	1	2	3
Ever married				
Yes	0	21	0	0
No	959	0	0	0
Legitimate skip	12399	1498	28	2

Source: NCES, National Education Longitudinal Study of 1988-1994

Similarly, information related to high school completion is provided by a variable directly specifying 1994 high school diploma status. This indicator estimates that 87 percent (with a standard error of .53) of respondents have received a high school diploma, GED, or certificate. A second variable indicates the month and year the respondent received a diploma, GED, or certificate. The percentage of valid responses (taking into account the legitimate skips) to this item provides an indirect estimate of the same information, which yields an estimate of 87 percent (with a standard error of .63).

The NELS:88/94 dataset also contains variables pre-loaded from the second follow-up, which provided a cross check for responses to similar items and allowed the CATI interviewers to prompt for responses from respondents with missing values from the previous round. Two critical variables for data quality are sex and race/ethnicity.

Table 6.3.3 shows the cross-tabulation of F2SEX by F3SEX and shows an extremely high degree of consistency between the two separate codings of respondent sex.

Table 6.3.3-Cross-tabulation of 1992 sex (F2SEX) by 1994 Sex (F3SEX)

	F3SEX		
	Male	Female	Total
Total	7350	7565	14915
F2SEX			
Male	7349	5	7354
Female	1	7560	7561

Source: NCES, National Education Longitudinal Study of 1988-1994

Similarly, Table 6.3.4 shows relatively few inconsistencies between the second follow-up coding of race/ethnicity and that of the third follow-up. Furthermore, these results show the advantage of using preloaded variables in CATI. Most of the "inconsistencies" are due to the reclassification of second follow-up missing values (code 8) to valid values in the third follow-

up.

Table 6.3.4--Cross-tabulation of 1992 race (F2RACE1) by 1994 race (F3RACE)

	F3RACE							
	1	2	3	4	5	6	-6	Total
Total	1087	2107	1685	9802	212	1	21	14915
F2RACE								
1	1084	0	0	4	0	0	0	1088
2	0	2104	0	3	0	0	0	2107
3	0	0	1681	0	0	0	0	1681
4	0	0	0	9787	0	0	0	9787
5	0	0	0	0	211	0	0	211
8	3	3	4	8	1	1	21	41

Source: NCES, National Education Longitudinal Study of 1988-1994

Additional variables that were used in the second round to compute design effects also appeared in the third round questionnaire and were once again used to compute design effects (see Chapter 5). These were also examined for consistency of responses between the two rounds, and the results are shown in Tables 6.3.5 to 6.3.8. For the most part, these are consistent with the level of quality indicated above. For responses related to taking the three specified entrance exams (SAT, ACT, and ASVAB), coding errors representing 1 percent of responses for SAT and ACT and 5 percent for ASVAB appear as those who responded "yes" in the second follow-up and "no" in the third.

Table 6.3.5--"Have you taken the SAT?": cross-tabulation of second follow-up by third follow-up

	2nd Follow-up			
	Yes	Plan to	Do not plan to	Not thought about it
Total	4889	959	3834	2110
3rd follow up				
Yes	4828	193	326	195
No	61	766	3508	1915

Source: NCES, National Education Longitudinal Study of 1988-1994

Table 6.3.6--"Have you taken the ACT?": cross-tabulation of second follow-up by third follow-up

	2nd Follow-up			
	Yes	Plan to	Do not plan to	Not thought about it
Total	3867	1002	4529	2342
3rd follow up				
Yes	3805	196	232	115
No	62	806	4297	2227

Source: NCES, National Education Longitudinal Study of 1988-1994

Table 6.3.7--"Have you taken the ASVAB?": cross-tabulation of second follow-up by third follow-up

	2nd Follow-up			
	Yes	Plan to	Do not plan to	Not thought about it
Total	2719	238	6452	2329
3rd follow up				
Yes	2572	43	177	112
No	147	195	6275	2217

Source: NCES, National Education Longitudinal Study of 1988-1994

The one exception to the relatively low level of inconsistency in responses was observed in the reports of taking "other" entrance exams. While this could be due to failure to remember after two years or to a different understanding of the term entrance exam, it may also be a function of the difference in questionnaire modalities (in the second follow-up, the SAQ item may have been clearer than the third follow-up CATI probe), and this may indicate the need for caution in interpreting data on "other" categories based on verbatim responses to global "anything else" probes.

Table 6.3.8--"Have you taken another entrance exam?": cross-tabulation of second follow-up by third follow-up

	2nd Follow-up			
	Yes	Plan to	Do not plan to	Not thought about it
Total	769	640	5819	4375
3rd follow up				
Yes	95	49	239	161
No	674	591	5580	4214

Source: NCES, National Education Longitudinal Study of 1988-1994

Though not an indicator of the quality of the data coding per se, it is also interesting to compare the second follow-up responses indicating intention to take or not to take an exam with the third follow-up responses on whether the exam was taken. In all four questions, the vast majority of respondents who indicated that they intended to take an exam in the second follow-up report that they did not take it, while the majority of those who said they did not intend to take an exam report that they in fact did not take it. Thus, researchers should exercise caution before attempting to use reported intention as a surrogate for actual behavior.

6.4 Comparison of Third Follow-up Design Effects to Previous Rounds

Table 6.4.1 shows that the design effects in the third follow-up are somewhat lower than those of the first and second follow-ups but are higher than those in the base year. For the most part, the other statistics on the design effects are comparable to those observed for the second follow-up.

Subsampling existed in NELS:88 in the 1990 round, and this introduced additional variability into the weights along with some loss in sample efficiency. However, in the 1994 round, subsampling was conducted so that the probability of retention was inversely proportional to the second follow-up raw weight. This is the primary reason for the decrease in the third follow-up design effect. Additionally, the somewhat reduced design effect for the 1994 round may also reflect the considerable degree of sample dispersion that occurred after the respondents had completed high school and entered postsecondary institutions, the military, or other sectors of the labor market. This dispersion increases variability not due to the sampling design and hence increases the denominator in the calculation of the design effect.

Table 6.4.1--NELS:88 base year through third follow-up: mean design effects (DEFFs) and root design effects (DEFTs) for student and dropout respondents (full sample)

	Year							
	BY DEFF	BY DEFT	F1 DEFF	F1 DEFT	F2 DEFF	F2 DEFT	F3 DEFF	F3 DEFT
Mean	2.54	1.56	3.86	1.92	3.71	1.89	2.94	1.70
SD	1.11	0.33	1.68	0.41	1.68	0.37	0.78	0.22
Min	1.35	1.16	2.01	1.42	2.10	1.45	1.49	1.22
Max	5.01	2.24	8.46	2.91	11.12	3.33	5.17	2.27

Source: NCES, NELS:88 Second Follow-Up Student Component Data File User's Manual.
NCES, National Education Longitudinal Study of 1988-1994 12/08/94

Chapter Seven: Composite Variables

Composite variables are constructed in order to enhance substantive analyses. Since research questions frequently require independent or control variables such as the type of postsecondary institution or the individual's gender, a large set of classification variables has been carefully constructed and added to the records.

Most composite variables were constructed from two or more sources, and they may combine questionnaire items from the same or different NELS:88 data files, as well as from the same survey year or across different survey waves. Some composites are drawn from an external sampling resource that is unavailable to users, or use an external conceptual scheme in order to rank order or otherwise recode survey data. A few composites are sufficiently central to analyses that they have been constructed in each round of the survey. Some values should change over time; for example, if a sample member marries or has children, the family formation variables will change. Some variables, such as race/ethnicity and gender, should in theory be constant for an individual over time, yet in practice may change if new information updates the old. For example, regardless of actual participation in NELS:88, a race/ethnicity composite is constructed for all sample members. In a situation where a former nonparticipant later takes part in the survey, the value of the race composite may in very rare instances change from a value that had been imputed on earlier datasets. Such differences illustrate how the validity of certain classification variables is strengthened over time. In terms of these variables, the most recent round contains the best information for sample members who participated in that wave of NELS:88.

7.1 Demographic Composites

Many of the NELS:88 composite variables are respondent demographic characteristics. For example, F3SEX represents gender while F3RACE is the higher level race/ethnicity composite that has been constructed for the third follow-up. These variables are important to so many research questions that missing data cannot be tolerated. In the second follow-up, these characteristics were taken directly from the second follow-up new student supplement or from analogous first follow-up variables. If these sources were not available or contained missing data, sample member gender was taken from base year school rosters. Any cases that still suffered from missing values had gender imputed from the sample member's name or if that could not be done unambiguously, the value for gender was randomly assigned. Second follow-up race was also constructed from several sources of information, the first source being student self report (from either the base year student questionnaire or the first or second follow-up new student supplement). If the student information was missing or, for student-reported race of Native American, inconsistent with that of the base year parent report, the values from the parent questionnaire were used. If race was still missing, the race identified on the school roster was used.

The derived second follow-up values for gender were preloaded into the CATI

questionnaire and used to ensure that the correct respondent had been located for interview. Although the respondent was not asked the question, in a few instances the interviewer noted that the preloaded value was incorrect and recorded a corrected value for sex.

The derived NELS:88/92 values for race were also preloaded in the CATI questionnaire and, in those instances where a race value was missing, a question was asked. In order to create the F3API and F3HISP subcategories, more specific questions were subsequently asked of all sample members who were of Hispanic or Asian or Pacific Islander (API) background. In a few instances, when asked more specific questions, the respondent answered that he or she was not API or Hispanic, and then the preloaded race value was changed. In each case, the respondent asked that the value be changed to White. Gender and race/ethnicity questions were not asked in the hard copy questionnaire, so for these cases F3SEX, F3RACE, F3API, and F3HISP will be equal to the analogous second follow-up variables.

7.2 High School Status

The variable F3DIPLOM, which contains the sample member's high school completion status (diploma, GED, certificate, currently enrolled, currently working toward equivalency, or dropout), was derived from several sources. When available, 1992 transcript or questionnaire data indicating the completion of a diploma or equivalent was preloaded into the CATI questionnaire. If prior round data did not indicate that the respondent had completed high school, the respondent was asked about his or her current status and last high school program type. F3HSPROG, last high school program type, was derived from 1992 transcript data when available and from 1994 questionnaire data only when it was not available from the transcripts. The 1994 questionnaire asked the date the sample member completed his or her diploma or equivalency, F3HSCPDT. If the question was not answered, then when available 1992 transcript and questionnaire sources were used. F3EVDOST indicates if the sample member ever dropped out of high school, regardless of his or her current status. F3SEQ indicates if the sample members received their high school diploma with the class of 1992. Both F3EVDOST and F3SEQ draw on 1994 data when available and use second follow-up transcript and questionnaire data as secondary sources.

7.3 Labor Force Experience

NELS:88/94 questions about respondents' labor force experience between June 1992 and their interview dates were used to create a variety of composites. JOBFIRHR, JOBFIRIN, JOBFIROC, JOBLASHR, JOBLASIN, JOBLASOC contain the hours per week, industry, and occupation codes for the first and last jobs that the primarily employed respondents reported. LABR0692 to LABR0894 is a series of monthly variables that summarize their employed/unemployed status. UNEMPL92 and UNEMPL93 contain the number of full calendar months that the respondent reported being unemployed during 1992 and 1993. F3SAMJOB reflects whether the respondent was employed by the same employer throughout the entire reporting period. LABFOR93 describes overall 1993 labor force participation status.

7.4 Postsecondary Education

A variety of composites were created by using NELS:88/94 questions about the respondent's participation in postsecondary education in conjunction with the 1993/94 IPEDS data. For example, F3NUMINT indicates the total number of postsecondary institutions the respondent reported attending, including military training programs which were later determined not to be valid postsecondary institutions. F3PSENUM is the corrected number of valid postsecondary institutions the sample members reported attending. TRANSTYP reflects respondents' patterns of transferring between different types of institutions. ENROL0692 to ENROL0894 is a month by month series of variables that concatenate the student's enrollment status and institution type. F3PSEATN contains the highest level of education the sample member has attained. For those sample members who had achieved associate degrees and certificates by their interview, EAADATE, ECEDATE, TIMAA, and TIMCERT contain the dates and time to completion information. F3STILL is a flag that shows whether, at the time of the interview, the respondent was still enrolled in his or her first institution. F3ATTEND contains the total number of months that the respondent attended a postsecondary institution between June 1992 and August 1994. Please note that if the respondent was still enrolled at the time of the interview, the assumed ending date for calculation of enrollment and attendance was August 1994. PSEBEGST is a measure of the timing and intensity of first postsecondary attendance. PSECHOIC indicates if and when the sample members attended the first institution to which they reported applying. F3SEC1A1 and F3SEC1A2 contain the type of institution for the first and second institutions to which they reported applying. When available, data on the institutions to which respondents applied was obtained from the 1994 questionnaire data, and if 1994 data were not available, 1992 data were used.

F3PSEAT, F3PSECT, F3PSEEN, and F3SEC2A are each a series of variables that describe for up to five institutions the numbers of months the respondent attended the institution, continuity of attendance, the number of months enrolled at the institution, and the type of the institution. Attendance is defined as the time the respondent was actually at the institution. In cases where the respondent attended an institution several separate times, the times between spells were not used to calculate the variable.

Enrollment is defined as the total amount of time between the first enrollment and the last enrollment, including time between separate spells. PSEFIR, PSEFIRDT, PSEFIRMJ, PSEFIRST, PSEFIRTY, PSEFIRSZ, PSEFIRMN, PSEFIRIO, PSELONG, PSELONDT, PSELONMJ, PSELONST, PSELONTY, PSELONSZ, PSELONMN, PSELONIO, PSELAST, PSELASDT, PSELASMJ, PSELASST, PSELASTY, PSELASSZ, PSELASMN, and PSELASIO are a series of variables that contain the institution code, initial date of enrollment, code for major field of study, full or part time status, type of institution, size centile, percent minority, and in-state or out-of-state status (relative to the sample member's home state) for the first, longest enrolled, and last institutions attended.

In the institution level file, F3SECT contains the type of each institution. TUITFEES is a measure of the cost of attending the institution and TOTATTND, a measure of the total annual attendance (TUITFEES and TOTATTND are expressed in deciles).

7.5 Family Formation and Values

NELS:88/94 questions addressing marital status, children, and values were used to create a number of composites. If 1994 data were not available, 1992 data were used when appropriate. F3MARST and F3MARDT contain the sample member's marital status and the date of a first marriage. F3NUMCHL and F3CHLDDT contain the number of biological children and the birth date of the first biological child. F3SEXDT contains the date of first sexual intercourse. F3JOBSAT and F3WORKO are weighted scales that draw on multiple questions concerning job satisfaction and work orientation. F3VOLUNT contains the number of types of volunteer organizations with which the respondent reporting working in the prior year. F3VOTED and F3RGVOTE provide information about voting history.

Endnotes

<1> Frankel, M.R., *Inference from Survey Samples: An Empirical Investigation* (Ann Arbor: Institute for Social Research, 1971).

<2> Kish, L., and Frankel, M. (1974). Inference from complex samples. *Journal of the Royal Statistical Society: Series B (Methodological)*, 36, 2-37.

Appendix A

CATI Instrument Code

NELS:88/94 Main Study
CATI Instrument Code

Definitions:

- *J* means *jump*.
- ^ means *insert*. For example, in the question "Now, please think back to the middle of February 1994. At that time were you... ^C1", *^C1* indicates that the response category identified as C1 is inserted in the question text.
- An asterisk (*) indicates a comment.
- *Q*, as in *Q1UT*, holds a variable.

```
L91                     209=REFUSED
L92                     210=DON'T KNOW
Q1UT        R7          CASEID
Q2UT        R20         P_R1STNM - RESPONDENT'S FIRST NAME
Q3UT        R1          P_R2NDNM - RESPONDENT'S MIDDLE INITIAL
Q4UT        R20         P_R3RDNM - RESPONDENT'S LAST NAME
Q5UT        R2          P_RDOB-MONTH
Q6UT        R2          P_RDOB-DAY
Q7UT        R2          P_RDOB-YEAR
Q8FT        R    1      P_SEX
C1                      MALE
C2                      FEMALE
Q9FT        R    1      P_RACE
C1                      ASIAN OR PACIFIC ISLANDER
C2                      HISPANIC, REGARDLESS OF RACE
C3                      BLACK, NOT OF HISPANIC ORIGIN
C4                      WHITE, NOT OF HISPANIC ORIGIN
C5                      AMERICAN INDIAN OR ALASKAN NATIVE
C6                      OTHER
Q10UT       R3          P_SSN-FIRST 3 DIGITS
Q11UT       R2          P_SSN-SECOND 2 DIGITS
Q12UT       R4          P_SSN-THIRD 4 DIGITS
*FIRST SET OF STATUS VARS - 1=MISSING 2=NOT MISSING
Q13UT       R1          P_RDOB-MONTH STATUS
Q14UT       R1          P_RDOB-DAY STATUS
Q15UT       R1          P_RDOB-YEAR STATUS
Q16UT       R1          P_SEX STATUS
Q17UT       R1          P_RACE STATUS
Q18UT       R1          P_SSN STATUS-FIRST 3 DIGITS
Q19UT       R1          P_SSN STATUS-SECOND 2 DIGITS STATUS
Q20UT       R1          P_SSN STATUS-THIRD 4 DIGITS STATUS
*END OF FIRST SET OF STATUS VARS
Q21FT       R    1      P_HS STATUS
C1                      received a high school diploma?
C2                      received a GED?
C3                      received a certificate of attendance?
C4                      are currently enrolled in high school?
C5                      are currently working toward the equivalent of a hs diploma
/ (GED)?
C6                      did not graduate or earn GED/cert & are not currently worki
/ng toward GED/cert?
Q22UT       R40         P_NAME OF LAST SECONDARY SCHOOL ATTENDED
Q23UT       R2          P_DATE RECEIVED DIPLOMA,GED/CERT MONTH
Q24UT       R2          P_DATE RECEIVED DIPLOMA,GED/CERT DAY
```

```
Q25UT       R2        P_DATE RECEIVED DIPLOMA,GED/CERT YEAR
Q26FT       R    1    P_LAST GRADE ENROLLED
C1                    9TH GRADE
C2                    10TH GRADE
C3                    11TH GRADE
C4                    12TH GRADE
C5                    NO GRADE SYSTEM
Q27UT       R2        -SDATESEC MONTH
Q28UT       R2        -SDATESEC YEAR
Q29UT       R2        -EDATESEC MONTH
Q30UT       R2        -EDATESEC YEAR
Q31FT       R    1    P_APPLY POSTSEC
C1                    YES
C2                    NO
Q32FMT      R    1    P_POSTSEC ENTRANCE EXAMS
C1                    SAT (Scholastic Aptitude Test)
C2                    ACT (American College Testing exam)
C3                    ASVAB (Armed Services Vocational Aptitude Battery)
C4                    OTHER
C5                    NONE
C6                                                    EXIT SCREEN
Q33FT       R    1    P_NUM APPLY POSTSEC
C1                    NONE
C2                    1
C3                    2 - 4
C4                    5 OR MORE
Q34FT       R    1    P_LOOP COUNTER
C1
C2
Q35UT       R40       P_NAME POSTSEC
Q36UT       R40       P_POSTSEC CITY
Q37UT       R2        P_POSTSEC STATE
Q38FT       R    1    MISSING
*P_ACCEPTED POSTSEC
C1                    YES
C2                    NO
Q39FT       R    1    MISSING
*P_APPLY AID POSTSEC
C1                    YES
C2                    NO
Q40FT       R    1    MISSING
*P_OFFERED AID POSTSEC
C1                    YES
C2                    NO
R34  40
*STATUS VARIABLES 1=MISSING 2=NOT MISSING
Q41UT       R1        P_NAME OF LAST SSECONDARY SCHOOL ATTENDED STATUS
Q42UT       R1        P_DATE RECEIVED DIPLOMA,GED/CERT MONTH STATUS
Q43UT       R1        P_DATE RECEIVED DIPLOMA,GED/CERT DAY STATUS
Q44UT       R1        P_DATE RECEIVED DIPLOMA,GED/CERT YEAR STATUS
Q45UT       R1        P_APPLY POSTSEC STATUS
Q46UT       R1        P_POSTSEC ENTRANCE EXAMS STATUS
Q47UT       R1        P_NUM APPLY POSTSEC STATUS
Q48UT       R1        P_LOOP COUNTER STATUS
Q49UT       R1        P_NAME POSTSEC STATUS
Q50UT       R1        P_POSTSEC CITY STATUS
Q51UT       R1        P_POSTSEC STATE STATUS
Q52UT       R1        P_ACCEPTED POSTSEC STATUS
Q53UT       R1        P_APPLY AID POSTSEC STATUS
Q54UT       R1        P_OFFERED AID POSTSEC STATUS
Q55UT       R1        P_HS STATUS STATUS
Q56UT       R1        P_LAST GRADE ENROLLED STATUS
Q57ET
Q58ET
```

```
Q59ET
Q60ET
Q61FT       R    1
*61FT       R    1   P_LOOPCOUTNER FOR HHROSTER HOUSEHOLD MEMBERS
C1                   HUSBAND, WIFE, OR PARTNER?
C2                   CHILDREN OR STEP-CHILDREN (R'S CHILDREN ONLY)?
C3                   FATHER (BIOLOGICAL/NATURAL)?
C4                   OTHER MALE GUARDIAN (SUCH AS A STEPFATHER OR FOSTER FATHER)
/?
C5                   MOTHER (BIOLOGICAL/NATURAL)?
C6                   OTHER FEMALE GUARDIAN (SUCH AS A STEPMOTHER OR FOSTER MOTHE
/R)?
C7                   OTHERS NOT ALREADY LISTED ABOVE?
Q62UT       R2
*62UT       R2       P_HHROSTER - HHPRTNER--HHOTHERS NUMBER OF HOUSEHOLD TYPES
Q63UT       R40      P_RADDRESS - RESPONDENT'S STREET ADDRESS
Q64UT       R40      P_RCITY - RESPONDENT'S CITY
Q65UT       R2       P_RSTATE - RESPONDENT'S STATE
Q66UT       R5       P_RZIP - RESPONDENT'S ZIP
Q67UT       R3       P_RAREACODE - RESPONDENT'S AREA CODE
Q68UT       R7       P_RPHONE - RESPONDENT'S PHONE
Q69UT       R20      P_PARENT FIRST NAME
Q70UT       R20      P_PARENT MIDDLE NAME
Q71UT       R20      P_PARENT LAST NAME
Q72UT       R40      P_PARENT STREET
Q73UT       R40      P_PARENT CITY
Q74UT       R2       P_PARENT STATE
Q75UT       R5       P_PARENT ZIP
Q76UT       R3       P_PARENT AREACODE
Q77UT       R7       P_PARENT PHONE
Q78FT       R    1   P_DROPOUT STATUS
C1                   NOT DROPOUT
C2                   DROPOUT
Q79UT        5       INTERVIEWER NAME
Q80UT        4       INTERVIEWER ID
Q81UT        35      BANNER Q|Intv: ^79  Resp: ^2 ^4
Q82UT        9       Current month
Q83UT        8       Current year-2 digits
Q84UT        7       Current year-4 digits
*! ADD BANNER Q
*! ADD CURRENT MONTH Q
*! ADD CURRENT YEAR Q
Q85UT        10      Current day of the month - 2 digits
J86  87
Q86X                 DUMMY FOR REFUSED
C1                   ╤
G                    1=1(G0)
J87  88
Q87X                 DUMMY FOR DON'T KNOW
C1                   ╥
G                    1=1(G0)
J88  89
Q88X                 DUMMY FOR NOT APPLICABLE
C1                   ╙
G                    1=1(G0)
Q89UT        31      TNMS REFERENCE NUMBER
J90  91
Q90X                 DUMMY FOR MISSING
C1                   ╘
G                    1=1(G0)
V                    H
*!
*!
Q91UT        12      DATE - DATE OF INTERVIEW
```

```
Q92UT        2       ELAPSED TIME BEFORE mode
*************************************
Q93UP                CONFIDENTIALITY PLEDGE
/
/INTERVIEWER:  ONLY READ CONFIDENTIALITY PLEDGE IF R DID NOT RECEIVE ADVANCE
/LETTER.
/
/Before I go on, I am required to let you know that your participation in
/this study is voluntary, and that all information you provide will be kept
/confidential.  Let's begin.
Q94UT        2       ELAPSED TIME AFTER CONFIDENTIALITY PLEDGE
*!
* SCREEN mode
Q95FB                MODE - MODE OF ADMINISTRATION
/^C1
/
/INTERVIEWER:  CODE CASE TYPE.
/
/^B
C1                   R LOCATED AND INTERVIEWED BY TELEPHONE CENTER INTERVIEWER.
C2                   R CALLED IN AND INTERVIEWED BY TELEPHONE CENTER INTERVIEWER
/.
C3                   CASE COMPLETED IN THE FIELD AND ENTERED BY TELEPHONE CENTER
/ INTERVIEWER.
*************************************
*!
*!
Q96UT        2       ELAPSED TIME AFTER mode
* SCREEN actstatus
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN IN REVISED FORM FROM
* HS&B 2ND FOLLOW-UP SOPHOMORE COHORT, Q.3.
* ORIG_QTYPE = FIXED, MULTIPLE
Q97FMC       10      ACTSTATUS - R'S ACTIVITY STATUS AS OF FEBRUARY 15, 1993
*PRE MARCH 1
*^C1
/Now, let's talk about your current activities.  Are you now . . .
*CHANGE TO NEXT SCREEN MARCH 1
/Now, please think back to the middle of February 1994.  At that time were
/you... ^C1
/
/INTERVIEWER:  READ LIST AND CODE ALL THAT APPLY.
C1                   working for pay at a full-time or part-time job?
C2                   taking vocational or technical courses at any kind of schoo
/l or college?
C3                   taking academic courses at a two- or four-year college?
C4                   serving in an apprenticeship program or government training
/ program?
C5                   serving on active duty in the armed forces?
C6                   keeping house (that is, a full-time homemaker)?
C7                   holding a job but on temporary layoff from work or waiting
/to report to work?, or
C8                   looking for work?
C9                   NONE OF THE ABOVE;E
J98  97             B97(1)+97(8)=WORKING FOR PAY - SHOULDN'T BE LOOKING FOR WORK
Q98UT        2       ELAPSED TIME AFTER actstatus
Q99FB                MARSTAT - CURRENT MARITAL STATUS
*PRE MARCH
*Are you currently . . .?  ^C1
/
/^B
/
/The next few questions are about the composition of your household.
/
/Please tell me who currently lives in your household besides yourself.
```

```
/
/INTERVIEWER:  IF R DOES NOT LIVE ALONE, CODE "OTHER PEOPLE LIVE IN
/HOUSEHOLD."  IF R IS LIVING IN A DORM ROOM, THE HOUSEHOLD INCLUDES ALL
/MEMBERS WHO ARE LIVING IN THE SAME ROOM WITH THE R.  IT WOULD NOT INCLUDE
/MEMBERS OF THE ENTIRE DORMITORY.
/
/^B
*CHANGE MARCH 1
/Are you currently . . .?  ^C1
/
/^B
/
/The next few questions are about the composition of your household.
/
/Again thinking back to the middle of February 1994, please tell me who
/lived in your household besides yourself at that time.
/
/INTERVIEWER:  IF R DOES NOT LIVE ALONE, CODE "OTHER PEOPLE LIVE IN
/HOUSEHOLD."  IF R WAS LIVING IN A DORM ROOM, THE HOUSEHOLD INCLUDES ALL
/MEMBERS WHO WERE LIVING IN THE SAME ROOM WITH THE R.  IT WOULD NOT INCLUDE
/MEMBERS OF THE ENTIRE DORMITORY.
/
/^B
C1                   Single, never married?
C2                   Married?
C3                   Divorced/separated?
C4                   Widowed?, or
C5                   Not married but living in a marriage-like relationship?
Q100FB               HHALONE - HOUSEHOLD MEMBERS
C1                   RESPONDENT LIVES ALONE
C2                   OTHER PEOPLE IN HOUSEHOLD
************************************************************************
Q101UT       2       ELAPSED TIME AFTER hhalone
J102 107             100(1."╤"."╥")
Q102UB               HHROSTER- HH EDIT SCREEN
/INTERVIEWER: ENTER THE NUMBER OF EACH TYPE OF HOUSEHOLD
/MEMBER NEXT TO THE TYPE
/^61M61(N0)="                                                    " ^E62"  "
************************************************************************
J103 102            BM62(G1)+61(1)=SPOUSE/PARTNER MUST NOT BE GREATER THAN ONE!?
/?
J103 102            B99(1.3.4)+M62(1)+61(1)=ROSTER HAS SPOUSE/PARTNER BUT NOT MA
/RRIED OR LIVING TOGETHER IN MARSTAT
J103 102            BM62(G20)+61(2)=IF NUMBER OF CHILDREN IS REALLY GREATER THAN
/ 20, ENTER 20!
J103 102            BM62(G1)+61(3)=NO MORE THAN ONE FATHER IS ALLOWED!
J103 102            BM62(G1)+61(4)=NO MORE THAN ONE MALE GUARDIAN IS ALLOWED!
J103 102            BM62(G1)+61(5)=NO MORE THAN ONE MOTHER IS ALLOWED!
J103 102            BM62(G1)+61(6)=NO MORE THAN ONE FEMALE GUARDIAN ALLOWED!
J103 102            BM62(G20)+61(7)=IF NUMBER OF OTHERS IS REALLY GREATER THAN 2
/0, ENTER 20!
J103 102            BM62("╨"."└"."╨")=INVALID FUNCTION KEY USED
J103 102            BM62(N"|N"+N"╤"+N"╥")+61(1/7)=IF NO PEOPLE IN A CATEGORY, FI
/LL THE FIELD WITH 00
Q103UT       2       ELAPSED TIME AFTER hhroster
Q104UT       14      ADD|62[A1/11]+1X
************************************************************************
J105 100            B104(1)+100(2)=INCONSISTENCY - ROSTER SAYS NO ADDITIONAL PEO
/PLE
Q105FB               HHTOTAL - TOTAL NUMBER IN HOUSEHOLD
/^C2
/This means that you have a total of ^104 people living in your household,
/including yourself.  Is that correct?
/
```

```
/INTERVIEWER:  IF ANSWER IS "NO" CORRECT DISCREPANCIES.
/
/^B
C1                    YES
C2                    NO
G                     2,1
J106 102             B105(2)=CORRECT DISCREPANCIES
Q106UT       2        ELAPSED TIME AFTER hhtotal
J107 108
Q107X                 TEXT SUBSTITUTION FOR SPSNAME1
C1                    spouse's
C2                    partner's
G                     1=99(2)
G                     2=99(5)
*! TEXT SUBST FOR SPSNAM1
*! SKIP [IF "MARSTAT" = 1 OR REF, DK, NA THEN GOTO children]
*! SKIP [IF "MARSTAT" = 3 OR 4 THEN GOTO numaried]
J108 120              99(1."╤"."╥")
J108 114              99(3.4)
* SCREEN spsname1
* Instruct: "INSERT" = "spouse's" IF "MARSTAT" = 2. "INSERT" = "partner's" IF
* Instruct: "MARSTAT" = 5.
Q108UB       40       SPSNAME1 - SPOUSE/PARTNER'S FIRST NAME
/^C1
/
/ What is your ^107 full name?
/
/ FIRST NAME: ^B
/
/ MIDDLE NAME: ^B
/
/ LAST NAME: ^B
V                     {A\'Aa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\
/ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.
/\'aa\ \-\.\'aaa\ \-\.\'aa}
Q109UB       40       SPSNAME2 - SPOUSE/PARTNER'S MIDDLE NAME
V                     {aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \
/-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'
/aa\ \-\.\'aaa\ \-\.\'aa}
Q110UB       40       SPSNAME3 - SPOUSE/PARTNER'S LAST NAME
V                     {A\'Aa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\
/ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.
/\'aa\ \-\.\'aaa\ \-\.\'aa}
J111 108              108("╚"."╘"."╩")=NOT A VALID FUNTION KEY
J111 109              109("╚"."╘"."╩")=NOT A VALID FUNTION KEY
J111 110              110("╚"."╘"."╩")=NOT A VALID FUNTION KEY
Q111UT       2        ELAPSED TIME AFTER spsname1
****************************************
*!
*! SKIP [IF "MARSTAT" = 2 THEN GOTO numaried]
J112 114              99(2)
* SCREEN evrmaried
Q112FB                EVRMARIED - EVER BEEN MARRIED
/^C2
/ Have you ever been married?
/
/^B
C1                    YES
C2                    NO
G                     2,1
Q113UT       2        ELAPSED TIME AFTER evrmaried
****************************************
*!
*! SKIP [IF "EVRMARIED" = 2 (NO) OR REF,DK,N/A THEN GOTO depchild]
```

```
J114 120             112(2."╤"."╥")
* SCREEN numaried
Q114UB       2       NUMARIED - HOW MANY TIMES MARRIED
/^C1
/ How many times have you been married?
/
/^B
V                    (1/4,95){Nn}
*RANGE CHANGED FROM 1/95
Q115UT       2       ELAPSED TIME AFTER numaried
**************************************
*!SKIP [IF NUMARIED = REF,DK,N/A THEN GOTO depchild]
J116 120             114("╤"."╥")
J116 117
Q116X                MARDATE TEXT SUBST
C1                   your
C2                   your first
G                    1=114(1)
G                    2=114(N1)
*! MARDATE TEXT SUBST Q
*!
* SCREEN mardate
* Instruct: "INSERT" = "your" IF "NUMARIAGE" = 1. "INSERT" = "your first" IF
* Instruct: "NUMARIAGE" > 1.
Q117UB       2       MARDATE - FIRST MARRIAGE BEGIN DATE-MONTH
/^C1
/ When did ^116 marriage begin?
/
/^B/^B
V                    (1/12){Nn}
Q118UB       2       MARDATE - FIRST MARRIAGE BEGIN DATE-YEAR
V                    (90/^83,95){NN}
*RANGE FROM YEAR CHANGED FROM 85/CURRENT
*119 118            B117(95)+118(N95).117(N95)+118(95)=MONTH AND YEAR SHOULD BE
/95
J119 118            B118(Q83)+82(LQ117)+117(N95)=DATE IS AFTER CURRENT DATE
Q119UT       2       ELAPSED TIME AFTER mardate
**************************************
*!
* SCREEN depchild
Q120UB       2       DEPCHILD - NUMBER OF DEPENDENT CHILDREN
/^C1
/ Now I'd like to get some information about any dependent children you may
/ have.  Please tell me how many dependent children you have (including children
/ born to you, adopted, foster-care and stepchildren), regardless of whether
/ or not they currently live with you.
/
/ INTERVIEWER:  ENTER "0" IF NONE.
/
/^B
/
/
/ How many children have you had?
/
/ INTERVIEWER:  THE CHILDREN MUST HAVE BEEN BORN TO R.  ENTER "0" IF NONE.
/
/^B
V                    (0/4,95,U5/20){Nn}
Q121UB       2       NUMCHILD - NUMBER CHILDREN BORN TO R
V                    (0/5,95){Nn}
Q122UT       2       ELAPSED TIME AFTER depchild
J123 131             121(0)
Q123S                NUMBER OF CHILDREN LOOP COUNTER
C1                   oldest child
```

```
C2                    next oldest child
C3                    next oldest child
C4                    next oldest child
C5                    next oldest child
G                     1/^121=121(1/5)
G                     1/5=121(95)
Q124UB       2        DOBCHILD1 - BIRTHDATE OF CHILD BORN TO R-MONTH
/
/~IF 121(1)
/ What is the birthdate of that child?
/~ELSE
/ What is the birthdate of the ^123 born to you?
/~END
/
/^B/^B/^B
V                     (1/12){Nn}
Q125UB       2        DOBCHILD1 - BIRTHDATE OF CHILD BORN TO R-DAY
V                     (1/31){Nn}
Q126UB       2        DOBCHILD1 - BIRTHDATE OF CHILD BORN TO R-YEAR
V                     (87/^83,95){NN}
*127 124             B124(95)+(126(N95).125(N95)).126(95)+(124(N95).125(N95)).125
/(95)+(126(N95).124(N95))=INVALID DATE
J127 124             B126(Q83)+82(LQ124).126(Q83)+124(Q82)+85(LQ125)=BIRTH DATE I
/S AFTER CURRENT DATE
J127 124             B124(2)+125(G29).124(9.4.6.11)+125(GE31)=INVALID DATE
J127 124             B129(GQ126)+126(G0)+129(N95).129(Q126)+127(GQ124)+127(N95)+1
/24(G0)+126(G0)=PREVIOUS CHILD IS BORN AFTER THIS CHILD
J127 124             B129(Q126)+127(Q124)+126(G0)+124(G0)+128(GQ125)+125(G0)+128(
/N95)=PREVIOUS CHILD IS BORN AFTER THIS CHILD
J127 128             124(G0)=:/^124:
J127 128             124(0)
Q127U        2       INSERTED DOB MONTH
/HIT ALT-B
J128 129             125(G0)=:/^125:
J128 129             125(0)
Q128U        2       INSERTED DOB DAY
J129 130             126(G0)=:/^126:
J129 130             126(0)
Q129U        2       INSERTED DOB YEAR
/HIT ALT-B
Q130UT       2       ELAPSED TIME AFTER dobchild1
R123 130
**************************************
Q131ET
Q132ET
**************************************
*!
*! SKIP [IF "VSTATUS" <> MISSING THEN GOTO vpostexam]
J133 172             55(2)
* SCREEN hsstatus
* THIS QUESTION IS CODED ONLY IF CURRENT STATUS IS DIFFERENT FROM
* PRELOADED STATUS.
Q133UP               HSSTATUS - HS DIPLOMA GED OR CERT STATUS
/^C1^S2
/~IF 55(1)
/ In the next section of our interview, we will be discussing your education
/ experiences.  We'll begin by talking about your high school experiences.
/~END
/
/ Which of the following best describes your_high school_graduation status?
/ You...
/
/^E21
Q134UT       2       ELAPSED TIME AFTER HSSTATUS
```

```
**************************************
*! SKIP [IF "P_DROPOUT STATUS" = 2 AND "HSSTATUS" = 6 THEN GOTO vpostexam]
J135 174             78(2)+21(6)
*!
*!SKIP [IF "P_NAME OF LAST SECONDARY SCHOOL ATTENDED" = MISSING THEN GOTO
* schoolnm]
J135 137             22(" ")+22S(L2).41(1)
Q135FB               VSECSCHOL-VERIFY PRELOAD NAME OF LAST SECONDARY SCHOOL ATTENDED
/
/
/Was ^22 the last high school you attended?
/^C2
/^B
C1                   YES
C2                   NO
G                    2,1
Q136UT       2       ELAPSED TIME AFTER VSECSCHOL
J137 139             135(1)
Q137UP               SCHOOLNM-LAST ATTENDED SECONDARY SCHOOL NAME
/
/
/What is the name of the last high school you attended?
/
/^E22
J138 137            B22("|R")+22S(L2)+22(N"╤"+N"╥")=DON'T LEAVE FIELD BLANK
Q138UT       2       ELAPSED TIME AFTER SCHOOLNM
Q139ET
Q140ET
*!SKIP [IF "P_DROPOUT STATUS" != 2 OR "HSSTATUS" != 1/5 THEN GOTO venroll]
J141 143             78(N2).21(N1/5)
Q141UP               SDATESEC-START /END LAST SEC SCHOOL
/
/What are the dates of your most recent period of enrollment at
/^22?  In what month and year did you
/start attending ^22?
/
/INTERVIEWER:  BE SURE TO GET THE MOST RECENT PERIOD OF ENROLLMENT IF R
/HAS ATTENDED THIS HIGH SCHOOL MORE THAN ONE TIME.
/
/^E27/^E28
/
/In what month and year did you stop attending
/^22?
/
/INTERVIEWER: IF RESPONDENT IS CURRENTLY ATTENDING THIS SCHOOL ENTER 96/96.
/
/^E29/^E30
J142 141             B27(0+N"╤"+N"╥").27(G12).28(0+N"╤"+N"╥").28(L78)+28(G0).28(G
/Q83+N95).28(Q83)+27(GQ82+N95)=INVALID START DATE
J142 141             B29(0+N"╤"+N"╥").29(G12+N96).30(0+N"╤"+N"╥").30(GQ83)+30(N96
/)=INVALID STOP DATE
J142 141             B30(L86)+30(G0).30(Q83)+29(GQ82)+29(N96+N95)=INVALID STOP DA
/TE
J142 141             B28(GQ30)+28(N95)+30(G0).28(Q30)+30(G0)+27(GQ29)+27(N95)+29(
/G0)=START DATE IS AFTER FINISH DATE
*142 141             B27(95)+28(N95).27(N95)+28(95)=IF OUT OF RANGE ENTER 95 FOR
/MONTH AND YEAR
J142 141             B29(96)+30(N96).29(N96)+30(96)=IF CURRENTLY ENROLLED, ENTER
/96 FOR MONTH AND YEAR
Q142UT       2       ELAPSED TIME AFTER SDATESEC/EDATESEC
*! SKIP [IF "HSSTATUS" = 1/3 THEN GOTO yearrec]
J143 165             21(1/3)
J143 145             26(0).56(1)
Q143FB               VENROLL-VERIFY LAST GRADE ENROLLED IN
```

```
/
/
/In our last interview with you, you said that ^26
/was the last grade you were enrolled in.  Is that correct?
/^C2
/^B
C1                  YES
C2                  NO
G                   2,1
Q144UT       2      ELAPSED TIME AFTER VENROLL
J145 147            143(1)
Q145UP              LASTENROL-LAST GRADE ENROLLED IN
/
/
/What is the highest grade you have been enrolled in (even if you did
/not complete the grade)?
/^C1
/^E26
Q146UT       2      ELAPSED TIME AFTER LASTENROL
J147 148
Q147X               SUBST CURRENT/PAST PROGRAM
C1                  Is
C2                  Was
C3                  do
C4                  did
C5                  does
C6                  are
C7                  were
G                   1,3,5,6=29(96)+30(96)
G                   2,4,7=29(N96).30(N96)
Q148FB   26         HIGHGRAD-HIGHEST GRADE COMPLETED
/
/
/What is the highest grade you have completed?
/^C1
/^B
/
/
/At ^22,
/which of the following best describes the type of program you ^147(6/7) in.
/
/^B
G                   1/^26=26(G0)
G                   1/5=26(0)
Q149FB              PROGRMTP-LAST SECONDARY PROGRAM TYPE
C1                  A college prep,academic,or specialized academic program(i.e
/.Science or Math)?
C2                  Another specialized high school program?
C3                  A vocational, technical, or business and career program?
C4                  A special education program?
C5                  An alternative, Stay-in-School, or Dropout Prevention Progr
/am?
C6                  A general high school program?
Q150UT       2      ELAPSED TIME AFTER PROGRMTP
*JUMP TO GDCRTEST
Q151ET
J152 163            149(N5)+149(A)
Q152FB              ALTRTYPE-ALTERNATIVE PROGRAM TYPE
/
/
/^147(1/2) this program a...
/^C1
/^B
C1                  school-within-a-school
```

```
C2                    program for teenage parents
C3                    dropout prevention program
C4                    street academy
C5                    high school re-entry program
C6                    OTHER
Q153UT       2        ELAPSED TIME AFTER ALTRTYPE
*OTHRTYPE DELETED
*154 156              152(N6)
Q154ET
Q155ET
Q156UB       2        HRSWEKLY-HOURS PER WEEK ATTENDED ALTERNATIVE PROGRAM
/
/
/^C1
/How may hours per week ^147(3/4) you attend this program?
/
/^B
/
/
/What type of degree or certification ^147(4/5) this program offer?
/
/^B
V                     (1/39,U40/80){Nn}
Q157FB                TYPEOFER-TYPE OF DEGREE OR CERTIFICATION ALTERNATIVE PROGRAM
OFFERED
C1                    GED
C2                    State certificate
C3                    Other
Q158UT       2        ELAPSED TIME AFTER TYPEOFER
*OTHROFER DELETED
*159 161              157(N3)
Q159ET
Q160ET
Q161FMC      10       SPECINST1-SERVICES FROM PROGRAM
/
/
/~IF 29(96)+30(96)
/Have you received any of the following services from this program?
/~ELSE
/Did you receive any of the following services from this program?
/~END
/
/INTERVIEWER:  READ PROGRAM TYPES AND CODE ALL THAT APPLY.
/^C1
C1                    Special instructional programs?
C2                    Tutoring by teachers?
C3                    Tutoring by other students?
C4                    Incentives or rewards for attendance or classroom performan
/ce?
C5                    Individual or group counseling?
C6                    Career counseling?
C7                    Job placement assistance?
C8                    Health care or health care referrals?
C9                    Childcare or nurseries for your children?
C10                   NONE OF THE ABOVE
J162 161             B161(10)+161(1/9)=CAN'T HAVE NONE WITH OTHER RESPONSES
Q162UT       2        ELAPSED TIME AFTER SPECINST1
*! SKIP [IF "HSSTATUS" = 1/3 THEN GOTO yearrec]
J163 165              21(1/3)
Q163FB                GDCRTEST-WAS GED OR CERTIFICATION TEST TAKEN
/^C2
/
/Have you ever taken a GED or certification exam?
/
```

```
/^B
C1                    YES
C2                    NO
G                     2,1
Q164UT       2        ELAPSED TIME AFTER GDCRTEST
*! SKIP [IF "HSSTATUS"=4/6 THEN GOTO vpostexam]
Q165ET
J166 167
Q166X                 text subst for yearrec
C1                    high school diploma
C2                    GED
C3                    certificate
G                     1=21(N2+N3)
G                     2=21(2)
G                     3=21(3)
J167 172              21(4/6)
* SCREEN yearrec
* Instruct: "INSERT" = "high school diploma" IF "HSSTATUS" OR "P_HS STATUS" = 1,
* Instruct: 2, 3, OR 4.  "INSERT" = "GED" IF "HSSTATUS" OR "P_HS STATUS" = 5.
Q167UP                YEARREC - MONTH AND YEAR HS DIPLOMA OR GED WAS RECEIVED
/^C1
/In what month and year did you receive your ^166?
/
/^E23/^E25
J168 167              B25("╚"."╘"."╩").23("╚"."╘"."╩")=INVALID FUNCTION KEY
J168 167              B25(L87)+25(G0).25(0+N"╤"+N"╥").25(GQ83).25(Q83)+23(GQ82)=DA
/TE IS BEFORE 86 OR AFTER ^82/^83
J168 167              B23(G12).23(0+N"╤"+N"╥")=INVALID MONTH
*REMOVED DATE RECEIVED DIPLOMA
*168 167              B21(1)+(25(G91).25(91)+23(G5))=DATE INCONSISTENT WITH EARLY
/GRADUATION
*168 167              B25(G0)+27(N95)+28(N95)+(28(GQ25).25(Q28)+27(GQ23)+23(G0))=D
/ATE RECEIVED DIPLOMA IS BEFORE STARTED HIGH SCHOOL
*168 167              B25(G0)+(30(GQ25).25(Q30)+29(GQ23)+23(G0))=DATE RECEIVED DIP
/LOMA IS BEFORE LEFT HIGH SCHOOL
Q168UT       2        ELAPSED TIME AFTER yearrec
Q169ET
**************************************
*! SKIP [IF "HSSTATUS" != 2/3 THEN GOTO applysec]
J170 172              21(N2+N3)
* SCREEN gedstate
* Instruct: CHECK STATE ABBREVS.
Q170UB       2        GEDSTATE - STATE RECEIVED GED/CERTIFICATE
/^C1
/ From what state did you receive your ^166?
/
/^B
V                     ("AL,AK,AZ,AR,CA,CO,CT,DE,DC,FL,GA,HI,ID,IL,IN,IA,KS,KY,LA,
/ME,MD,MA,MI,MN,MS,MO,MT,NE,NV,NH,NJ,NM,NY,NC,ND,OH,OK,OR,PA,PR,RI,SC,SD,TN,TX,U
/T,VT,VA,WA,WV,WI,WY,CZ,GU,VI,FC")
Q171UT       2        ELAPSED TIME AFTER GEDSTATE
**************************************
*!
Q172ET                APPLYSEC - DELETED
Q173ET
**************************************
*! SKIP [IF "P_APPLY POSTSEC" (APPLYSEC) = 2/3 THEN GOTO numinst]
*CHECK ON CODES FOR NEW VERSION OF P_APPLY POSTSEC
J174 204              31(2/3)
*! SKIP [IF "P_POSTSEC ENTRANCE EXAMS" THROUGH "P_OFFERED AID POSTSEC" ARE ALL
*  MISSING OR ALL VALID]
J174 204              46(1.2)+47(Q46)+48(Q46)+49(Q46)+52(Q46)+53(Q46)+54(Q46)
*! SKIP [IF "P_POSTSEC ENTRANCE EXAMS" = MISSING THEN GOTO vnumapply]
J174 179              46(1)
```

```
*! SKIP [IF "P_POSTSEC ENTRANCE EXAMS" = 5 THEN GOTO postexam]
J174 177             46(2)+32(5)
*! SKIP [IF "P_POSTSEC ENTRANCE EXAMS" = 4 AND "P_POSTSEC ENTRANCE EXAMS"
* !  <> 1/3 THEN GOTO postexam]
J174 177             46(2)+32(4)+32(N1+N2+N3+N5)
J174 175
Q174X                TEXT SUBST
C1                   Scholastic Aptitude Test (SAT)
C2                   American College Testing exam (ACT)
C3                   Armed Services Vocational Aptitude Battery (ASVAB)
C4                   OTHER
C5                   NONE
G                    1=32(1)
G                    2=32(2)
G                    3=32(3)
G                    4=32(4)
G                    5=32(5)
*! IN CASE NEED TEXT SUBSTITUTION TO DISPLAY LIST OF EXAMS PROPERLY
*!
* SCREEN vpostexam
Q175FB               VPOSTEXAM - VERIFY POSTSECONDARY ENTRANCE EXAMS TAKEN
/^C2
/ The last time we interviewed you, you said that you had taken the
/ following postsecondary entrance exams:
/
/~IF 32(1)
/ ^174(1)
/
/~END
/~IF 32(2)
/ ^174(2)
/
/~END
/~IF 32(3)
/ ^174(3)
/
/~END
/~IF 32(4)
/ ^174(4)
/
/~END
/~IF 32(5)
/ ^174(5)
/
/~END
/
/ Is this a complete list of the exams you have taken?
/
/^B
C1                   YES
C2                   NO
G                    2,1
Q176UT       2       ELAPSED TIME AFTER VPOSTEXAM
****************************************
*!
*! SKIP [IF "VPOSTEXAM"=1 THEN GOTO vnumapply]
J177 179             175(1)
* SCREEN postexam
* ORIG_QTYPE = FIXED, MULTIPLE
Q177UP               POSTEXAM - POSTSECONDARY ENTRANCE EXAMS TAKEN
/^C1
/ Which of the following postsecondary entrance examinations have you
/ taken?
/
```

```
/ INTERVIEWER:  READ LIST AND CODE ALL THAT APPLY.
/
/^E32
J178 177            B32(1/4)+32(5)=CAN'T HAVE NONE WITH OTHER RESPONSES
J178 177            B32(N1/5)+32(N"╤"+N"╥")=ENTER A RESPONSE
J178 177            B32(N6+N"╤"+N"╥")=SELECT "EXIT SCREEN"
Q178UT       2       ELAPSED TIME AFTER POSTEXAM
*************************************
*!
*! SKIP [IF "P_NUM APPLY POSTSEC" = MISSING THEN GOTO numapply]
J179 181             47(1)
* SCREEN vnumapply
Q179FB               VNUMAPPLY - VERIFY HOW MANY POSTSECONDARY SCHOOLS APPLIED T
/^C2
/ Our records show that you have applied to ^33 postsecondary
/ institution(s)?  Is that correct?
/
/^B
C1                   YES
C2                   NO
G                    2,1
Q180UT       2       ELAPSED TIME AFTER vnumapply
*************************************
*!
*! SKIP [IF "VNUMAPPLY" = 1 THEN GOTO vnamaply]
J181 183             179(1)
* SCREEN numapply
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN FROM NELS 2ND
* FOLLOW-UP STUDENT QUESTIONNAIRE.
Q181UP               NUMAPPLY - HOW MANY POSTSECONDARY SCHOOLS APPLIED TO
/^C1
/ To how many postsecondary schools have you applied?
/
/^E33
J182 181            B33(1)+33(2/4)=NONE AND OTHER CODES
J182 181            B33(1)+31(1)+45(1)=APPLIED TO SECONDARY SCHOOLS - CAN'T CHOS
/E NONE
Q182UT       2       ELAPSED TIME AFTER numapply
*************************************
*!
*! SKIP [IF "P_NUM APPLY POSTSEC" = 1 THEN GOTO atenpost]
*! skip past both loops if applied to no schools
J183 204             33(1)
*! NUMAPPLY AND P_NUM APPLY POSTSEC ARE THE SAME
*! SKIP [IF "P_NUM APPLY POSTSEC" = 2 AND THE NUMBER OF PRELOADED
*! SCHOOLS = 2 THEN GOTO LOOP COUNTER BEFORE instapply]
*! number of schools has been changed so that number of schools is 1
*! but the number of preloaded names is 2
J183 189             33(2)+34(2)
*! SKIP [IF ("P_LOOP COUNTER" = MISSING) OR ("P_LOOP COUNTER" >=1 AND FIRST
*! ITERATION OF "P_NAME POSTSEC" = MISSING) OR (P_LOOP COUNTER = 2 AND SECOND
*! ITERATION OF "P_NAME POSTSEC" = MISSING) THEN GOTO LOOP COUNTER BEFORE
*! instapply]
J183 189             34(0).(M34(1)+35("╤"."╥"."╘")).(M34(2)+35("╤"."╥"."╘"))
*CHECK THIS LATER
* SCREEN vnamaply
*! use conditional screen
* Instruct: "INSERT" = "your first two choices for institutions to apply to were
* Instruct: IF MORE THAN ONE PRELOADED NAME OF POSTSECONDARY INSTITUTION.
* Instruct: "INSERT" = "you applied to" IF ONLY ONE PRELOADED NAME OF
* Instruct: POSTSECONDARY INSTITUTION.
Q183FB               VNAMAPLY - VERIFICATION OF INSTITUTIONS APPLIED TO
/^C2
/~IF 34(1)
```

```
/During our last interview with you, you stated that you applied to
/^35M34(1)=.  Is this still correct?
/~ELSE
/During our last interview with you, you stated that your first two choices
/for institutions were ^35M34(1)=
/and ^35M34(2)=.   Is this still correct?
/~END
/
/^B
C1                    YES
C2                    NO
G                     2,1
Q184UT       2        ELAPSED TIME AFTER VNAMAPLY
**************************************
*! SKIP[IF "VNAMAPLY" != 1 THEN GOTO LOOP COUNTER BEFORE instapply]
J185 189              183(N1)
Q185UB                VACCEPT - VERIFY INFO FOR EACH SCHOOL
/
/
/INTERVIEWER:  VERIFY AND CORRECT INFORMATION FOR EACH SCHOOL.
/              USE F3 TO CORRECT DATA.
/
/^35M34(1/2)="School name"^E38"ACCEPTED"^E39"APPLIED FOR AID"^E40"OFFERED AID"
J186 185             BM38(0+N"╤"+N"╥")+34(1/2)=DON'T LEAVE ACCEPTED COLUMN MISSIN
/G
J186 185             BM39(0+N"╤"+N"╥")+34(1/2)=DON'T LEAVE APPLIED FOR AID COLUMN
/ MISSING
J186 185             BM40(0+N"╤"+N"╥")+34(1/2)=DON'T LEAVE OFFERED AID COLUMN MIS
/SING
Q186UT       2        TIMESTAMP AFTER VSCHOOL
Q187ET
Q188ET
*! SKIP [IF "VNAMAPLY" =1 AND ((LAST ITERATION OF "P_LOOP COUNTER" = 2 AND
*! "P_NUM APLY POSTSEC" > 2) OR (LAST ITERATION OF "P_LOOP COUNTER" = 1
*!  AND "P_NUM APPLY POSTSEC" = 2)) THEN GOTO atenpost]
J189 204              183(1)+((34(2)+33(G2)).(34(1)+33(2)))
*! LOOP[1/2]
*! LOOP FOR NEW SCHOOLS APPLIED TO
Q189S                 LOOP FOR NEW INFO ON INSTITUTIONS APPLIED TO
C1                    first
C2                    second
*! LOOP COUNTER QUESTION, 1=first, 2=second
*! ??SKIP [IF "P_NUM APPLY POSTSEC" > 2 AND "VNAMAPLY" = 1 GOTO SECOND
*! ITERATION OF CURRENT LOOP COUNTER]
*! THIS LAST SKIP IS FOR PEOPLE WHO VERIFIED THEIR FIRST CHOICE, AND
*! CHANGED THE NUMBER OF SCHOOLS FROM ONE TO TWO
J190 189              189(1)+33(G2)+183(1)
* SCREEN instapply
*! use conditional screen for text
* IPEDS CODED
* Instruct: "INSERT" = "the institution you applied to" IF "NUMAPPLY" = 2 (ONE
* Instruct: INSTITUTION APPLIED TO) "INSERT" = "the institution that was your
* Instruct: first choice" IF "NUMAPPLY" = 3 OR 4 (2 - 4 OR 5 OR MORE) AND LOOP =
* Instruct: 1. "INSERT" = "the institution that was your second choice" IF
* Instruct: "NUMAPPLY" = 3 OR 4 (2 - 4 OR 5 OR MORE) AND LOOP = 2.
Q190UP                INSTNAME1 - NAME OF INSTITUTION APPLIED TO
/^C1
/
/~IF 33(2)
/ What is the name and location of the institution you applied to?
/~ELSE 33(G2)
/ What is the name and location of the institution that was your ^189 choice?
/~END
/
```

```
/ INTERVIEWER:  CODE INSTITUTION ON NEXT SCREEN.
* RETRIEVE IPEDS CITY
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES RETRIEVE IPEDS CITY
*! EXTERNAL PROGRAM QUESTIONS TO CODE IPEDS AND PASS BACK DATA
J191 198             190("╤")=:/^86:
J191 198             190("╥")=:/^87:
*191 198             190("╙")=:/^88:
*191 198             190("╘")=:/^90:
Q191UT       36      INSTNAME1-IPEDS CODE|IPEDNEWP(G:\,)
Q192UT       36  2   INSTNAME1-IPEDS SECTOR|IPEDNEWP(G:\,)
Q193UT       36  3   INSTNAME1-IPEDS INSTATE TUITION|IPEDNEWP(G:\,)
Q194UT       36  4   INSTNAME1-IPEDS OUT OF STATE TUITION|IPEDNEWP(G:\,)
Q195UT       36  5   INSTNAME1-IPEDS-STATE|IPEDNEWP(G:\,)
Q196UT       36  6   INSTNAME1-IPEDS-CITY|IPEDNEWP(G:\,)
Q197UT       36  7   INSTNAME1-IPEDS-SCHOOL NAME|IPEDNEWP(G:\,)
Q198UT       2       ELAPSED TIME AFTER INSTSTAT
**********************************
J199 204             190("╤"."╥")
* SCREEN accepted
Q199FB               ACEPINST - ACCEPTANCE AT INSTITUTIONS APPLIED TO
/^C2
/ Were you accepted at ^197?
/
/^B
/
/
/ Did you apply for financial aid at ^197?
/
/^B
C1                   YES
C2                   NO
G                    2,1
Q200FB               APPLYAID - APPLICATION FOR FINANCIAL AID
C1                   YES
C2                   NO
G                    2,1
Q201UT       2       ELAPSED TIME AFTER APPLYAID
*! SKIP [IF "ACEPINST" = 2 THEN GOTO bottom of loop]
J202 189             199(2)
Q202FB               AIDOFFER - OFFERED FINANCIAL AID
/^C2
/
/ Were you offered financial aid at ^197?
/
/^B
C1                   YES
C2                   NO
G                    2,1
**************************************
*!
* SCREEN aidoffer
Q203UT       2       ELAPSED TIME AFTER AIDOFFER
**************************************
*! SKIP [IF "P_NUM APPLY POSTSEC" = 2 AND LOOP COUNTER=1 THEN GOTO atenpost]
J189 204             33(2)+189(1)
*! SKIP AT END OF FIRST ITERATION IF ONLY ONE CHOICE
*! ENDLOOP
R189 203
Q204ET
Q205ET
**************************************
*!
* SCREEN numinst
```

```
Q206UB       1       NUMINST - NUMBER INSTITUTIONS ATTENDED SINCE JUNE 1992
/^C1
/Since June 1992, have you ever attended a university, college, or
/vocational/technical/trade school where you took courses for academic
/credit?  IF YES, "How many institutions have you attended since
/June, 1992?"
/
/INTERVIEWER:  ENTER "0" IF R HAS NOT ATTENDED ANY INSTITUTIONS SINCE JUNE
/1992.
/
/^B
V                    (0/3,U4/7){N}
Q207UT       2       TIME ELAPSED AFTER NUMINST
**************************************
*! SKIP [IF "NUMINST" = REF,DK, OR N/A THEN GOTO edexpect]
J208 340             206(0."╤"."╥")
*!
*! LOOP[1/7]
Q208S                LOOP INSTNAME2 - EDRELJOB
C1                   1
C2                   2
C3                   3
C4                   4
C5                   5
C6                   6
C7                   7
G                    1/^206=206(LE7)
G                    1/7=206(G7)
J209 210
Q209X                text subst
C1                   first
C2                   second
C3                   third
C4                   fourth
C5                   fifth
C6                   sixth
C7                   next
G                    1=208(1)
G                    2=208(2)
G                    3=208(3)
G                    4=208(4)
G                    5=208(5)
G                    6=208(6)
G                    7=208(7)
*! LOOP COUNTER,=1/6 IF NUMINST=1/6,=7 IF NUMINST >=7
*! DEFINE LOOP COUNTER SO THAT LOOP GOES THROUGH THE RIGHT NUMBER OF
*! ITERATIONS
*! SECOND ALLOCATE VAR IS A TEXT SUBSTITION
*!
* SCREEN attedinst
* RETRIEVE IPEDS NAME
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES "INSERT" = "first" IF LOOP = 1 OR "NUMINST" = 1
* Instruct: "INSERT" = "second" IF LOOP = 2 "INSERT" = "third" IF LOOP = 3
* Instruct: "INSERT" = "fourth" IF LOOP = 4 "INSERT" = "fifth" IF LOOP = 5
* Instruct: "INSERT" = "sixth" IF LOOP = 6 "INSERT" = next" IF LOOP >= 7 RETRIEV
* Instruct: IPEDS NAME
Q210UP               INSTNAME2 - NAME OF INSTITUTION ATTENDED
/^C1
/~IF 206(1)
/ What is the name and location of the institution you attended?
/~ELSE
/ What is the name and location of the ^209 institution you attended?
/~END
```

```
/
/ INTERVIEWER:  CODE INSTITUTION ON NEXT SCREEN.
J211 218             210("╤")=:/^86:
J211 218             210("│")=:/^87:
*211 218             210("╙")=:/^88:
*211 218             210("└")=:/^90:
*! SKIP [IF "INSTNAME2" = REF,DK, OR N/A THEN GOTO next iteration]
*! 7 QUESTIONS TO CALL IPEDS CODING PROGRAM AND PASS BACK DATA
Q211UT       36      INSTNAME2-IPEDS CODE|IPEDNEWP(G:\,)
Q212UT       36  2   INSTNAME2-IPEDS SECTOR|IPEDNEWP(G:\,)
Q213UT       36  3   INSTNAME2-IPEDS INSTATE TUITION|IPEDNEWP(G:\,)
Q214UT       36  4   INSTNAME2-IPEDS OUT OF STATE TUIT|IPEDNEWP(G:\,)
Q215UT       36  5   INSTNAME2-IPEDS STATE|IPEDNEWP(G:\,)
Q216UT       36  6   INSTNAME2-IPEDS CITY|IPEDNEWP(G:\,)
Q217UT       36  7   INSTNAME2-SCHOOL NAME|IPEDNEWP(G:\,)
Q218UT       2       ELAPSED TIME AFTER INSTSTAT
J219 274             210("╤"."╥")
*! SKIP [IF IPEDS SCHOOL CODE >=1 AND < 999990 AND SECTOR CODE >=0 THEN
* GOTO kindinst]
* INSERT DATA INTO TYPEINST
J219 220             212(1/9)=:/^212:
*!
* SCREEN typeinst
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES. (FOR FIELD TEST AND MAIN STUDY ONLY)ASK ONLY IF NO
Q219FB               TYPEINST - TYPE OF INSTITUTION
/^C1
/
/What type of institution is ^217?
/Is it ...
/
/^B
C1                   Public, 4-year or above?
C2                   Private nonprofit, 4-year or above?
C3                   Private for-profit, 4-year or above?
C4                   Public, 2-year?
C5                   Private nonprofit, 2-year?
C6                   Private for-profit, 2-year?
C7                   Public, less than 2-year?
C8                   Private nonprofit, less than 2-year?
C9                   Private for-profit, less than 2-year?
J220 221             212(1/9)
Q220UT       2       ELAPSED TIME AFTER TYPEINST
* SKIP [IF "TYPEINST" != 4 AND "TYPEINST" != 5 AND "TYPEINST" = VALID THEN GOTO
/typetuit]
J221 224             219(N4+N5+N"╤"+N"╥"+N"╙")
* SCREEN kindinst
Q221FB               KINDINST - KIND OF INSTITUTION
/^C2
/Are you taking academic courses that you plan to transfer to a four year
/college or university?
/
/^B
C1                   YES
C2                   NO
G                    2,1
************************************
Q222ET
Q223UT       2       ELAPSED TIME AFTER kindinst
J224 225             219(6/9).219(4/5)+221(2)=:1:
J224 225             219(A.NA)=:2:
Q224F                DUMMY VAR - VOCATIONAL SCHOOL
/DUMMY QUESTION - BACKUP (ALT-B)
C1
```

```
C2
*!  SKIP [IF "TYPEINST" != 1 AND !=4 AND !=7 THEN GOTO amttuitn]
J225 227             219(N1+N4+N7)
* SCREEN typetuit
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES
Q225FB               TYPETUIT - IN-STATE OR OUT-OF-STATE TUITION
/^C1
/ Were you charged in-state or out-of-state tuition at
/ ^217?
/
/ INTERVIEWER:  IF R WAS NOT CHARGED ANY TUITION ASK IF S/HE WAS AN IN-STATE
/ OR OUT-OF-STATE STUDENT AND CODE ACCORDINGLY.
/
/^B
C1                   IN-STATE
C2                   OUT-OF-STATE
Q226UT       2       ELAPSED TIME AFTER typetuit
****************************************
*! SKIP [IF "TYPETUIT" = 1 AND IPEDS INSTATE TUITION > 0 THEN GOTO multatnd]
J227 228             225(1)+213(G0)=:/^213:
J227 228             225(1)+213(0+N"╤"+N"╥"+N"╙"+N"-")+211(N999994+N999995)+211(
/N999996+N999997)+211(N999998+N999999)+211(N888888)+212(1/9)=:/^213:
*! SKIP [IF "TYPETUIT" = 2 AND IPEDS OUTSTATE TUITION > 0 THEN GOTO multatnd]
J227 228             225(2)+214(G0)=:/^214:
J227 228             225(2)+214(0+N"╤"+N"╥"+N"╙"+N"-")+213(G0)+211(N999994+N9999
/95)+211(N999996+N999997)+211(N999998+N999999)+211(N888888)+212(1/9)=:/^214:
*! SKIP [IF "TYPETUIT" = NOTANSWERED AND IPEDS INSTATE TUITION > 0 THEN goto
* multatnd]
J227 228             225(0)+213(G0)=:/^213:
J227 228             225(0)+213(0+N"╤"+N"╥"+N"╙"+N"-")+211(N999994+N999995)+211(
/N999996+N999997)+211(N999998+N999999)+211(N888888)+212(1/9)=:/^213:
* SCREEN amttuitn
* RETRIEVE IPEDS TUITION
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES. ASK ONLY IF NO IPEDS MATCH.
Q227UB       5       AMTTUITN - AMOUNT OF TUITION PAID AT INSTITUTION
/^C1
/ What was the total amount of tuition you were charged last year or the
/ most recent year you were enrolled at
/ ^217?
/
/^B
V                    (0/19999,99995,U20000/50000){Nnnnn}
J228 229             225(1)+213(G0)
J228 229             225(1)+213(0+N"╤"+N"╥"+N"╙"+N"-")+211(N999994+N999995)+211(
/N999996+N999997)+211(N999998+N999999)+211(N888888)+212(1/9)
J228 229             225(2)+214(G0)
J228 229             225(2)+214(0+N"╤"+N"╥"+N"╙"+N"-")+213(G0)+211(N999994+N9999
/95)+211(N999996+N999997)+211(N999998+N999999)+211(N888888)+212(1/9)
J228 229             225(0)+213(G0)
J228 229             225(0)+213(0+N"╤"+N"╥"+N"╙"+N"-")+211(N999994+N999995)+211(
/N999996+N999997)+211(N999998+N999999)+211(N888888)+212(1/9)
Q228UT       2       ELAPSED TIME AFTER amttuitn
****************************************
Q229ET               MULTATND - ATTENDED INSTITUTION MORE THAN ONE PERIOD
Q230ET               ELAPSED TIME AFTER multatnd
*! SCREEN numatnd
Q231UB       1       NUMATND - NUMBER DIFFERENT TIMES ATTENDED INSTITUTION
/^C1
/
/ Not including summer or holiday breaks, have you attended
/ ^217
/ more than one time, that is, stopped attending for a period of
```

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/ one term or more and then started attending again at a later date?
/ IF "YES", How many different times have you attended
/ ^217?
/
/ INTERVIEWER:  IF R HAS NOT ATTENDED THE INSTITUTION MORE THAN ONE TIME,
/ ENTER "1".  OTHERWISE, ENTER NUMBER OF DIFFERENT TIMES R HAS ATTENDED.
/
/^B
V                    (1/3,U4/7){N}
Q232UT       2       ELAPSED TIME AFTER numatnd
Q233S                LOOP COUNTER FOR SDINST EDINST
C1                   the first time
C2                   the second time
C'<3/7(                 the next time
G                    '<1/7(=231(GE'<1/7()
* SCREEN sdinst edinst
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES. STORE MONTH AND YEAR AS TWO SEPARATE VARIABLES.
Q234UB       2       SDINST - MONTH STARTED ATTENDING INSTITUTION
/^C1
/~IF 231(1)
/ When did you start attending
/ ^217?
/~ELSE
/ When did you start attending
/ ^217 ^233?
/~END
/
/ ^B/^B
/
/
/~IF 231(1)
/ When did you stop attending
/ ^217?
/~ELSE
/ When did you stop attending
/ ^217 ^233?
/~END
/
/ INTERVIEWER:  ENTER "96/96" IF RESPONDENT IS CURRENTLY ATTENDING THIS
/ INSTITUTION.
/
/ ^B/^B
V                    (1/12){Nn}
Q235UB       2       SDINST - YEAR STARTED ATTENDING INSTITUTION
V                    (91/^83,U88/90){NN}
*RANGE CHANGED FROM 86 TO 88
Q236UB       2       EDINST - MONTH STOPPED ATTENDING INSTITUTION
V                    (1/12,96){Nn}
Q237UB       2       EDINST - YEAR STOPPED ATTENDING INSTITUTION
V                    (93/^83,96,U90/92){NN}
J238 234            B235(Q83)+234(GQ82)=START YEAR IS AFTER ^82/^83
J238 234            B235(GQ237)+237(G0).235(Q237)+237(G0)+234(GQ236)+236(G0)=STA
/RT DATE IS AFTER FINISH DATE
J238 234            B236(96)+237(N96).236(1/12)+237(GQ83).237(Q83)+236(GQ82)=INV
/ALID END DATE
J238 234            B233(G1)+(235(LQ240)+235(G0).235(Q240)+234(LQ239)+234(G0))=S
/TART DATE IS BEFORE LAST SPELL'S END DATE
*DELETE PER JEANNETTE
*238 234            B21(6/8)+(235(L92)+235(G0).235(92)+234(L6)+234(G0))=START DA
/TE BEFORE JUNE 1992
*DELETE PER PAUL
*238 234            B21(1/3)+235(G0)+(235(LQ25).235(Q25)+234(LQ23))=START DATE B
/EFORE RECEIVED HIGH SCHOOL DIPLOMA
```

```
J238 234            B233(NQ231)+236(96)+237(96)=R SAID ^231 SPELLS - 96/96 AND L
/ESS THAN ^231 SPELLS
Q238UT       2       TIME ELAPSED AFTER sdinst edinst
J239 240             236(96)=:/^82:
J239 240             236(N96)=:/^236:
Q239U        2       INSERTED END MONTH
/
/HIT ALT-B
J240 241             236(96)=:/^83:
J240 241             236(N96)=:/^237:
Q240U        2       INSERTED END YEAR
/
/HIT ALT-B
Q241UT       14      MOS. IN SCHOOL|(240-235)*12X+239-234
Q242UT       14      TOTAL NUMBER OF MONTHS AT SCHOOL|241[B1/20]
Q243FB               ENRLSTAT - ENROLLMENT STATUS LAST MONTH ATTENDED INSTITUTIO
/^C1
/ While attending ^217,
/ during this period, were you enrolled . . .
/
/^B
/
/~IF 236(96)+237(96)
/What is your actual or intended major field of study at
/^217?
/~ELSE
/ During your last month of attendance, what was your actual or intended
/ major field of study at ^217?
/~END
/
/ INTERVIEWER:  CODE MAJOR FIELD OF STUDY ON THE NEXT SCREEN
/
/
/
/
/
/
/^B
C1                   Full-time
C2                   Half-time but less than full-time, or,
C3                   Less than half-time
**************************************
Q244UB       1       FIELDSTU - FIELD OF STUDY AT INSTITUTION
J245 248             244("╤")=:/^86:
J245 248             244("╥")=:/^87:
*245 248             244("╙")=:/^88:
*245 248             244("└")=:/^90:
Q245UT       36      FIELDSTU-MAJOR CODE|MAJNEWP(G:\,)
Q246UT       36  2   FIELDSTU-VERBATIM|MAJNEWP(G:\,)
Q247UT       36  3   FIELDSTU-SEARCH|MAJNEWP(G:\,)
Q248UT       2       ELAPSED TIME AFTER FIELDSTU
*!
*! SKIP [IF VOCATION = 2 THEN GOTO typdegct daterecv]
J249 251             224(2)
* SCREEN hrswekly
* Instruct: IF "EDINST" = 96/96 THEN "INSERT" = "About how many
* Instruct: hours per week are" IF "EDINST" != 96/96 THEN "INSERT" = "During the
* Instruct: last month you attended "INSTNAME2", about how many hours a week
* Instruct: were"
Q249UB       2       HRSWEKLY0 - HOURS CLASSES SCHEDULED WEEKLY
/^C1
/
/~IF 236(96)+237(96)
/ About how many hours per week are your classes scheduled to meet?
```

```
/~ELSE
/During the last month you attended
/^217, about how many
/hours a week were your classes scheduled to meet?
/~END
/
/^B
V                    (1/39,U40/80){Nn}
Q250UT       2       ELAPSED TIME AFTER HRSWEKLY0
*************************************
*!
*!
* SCREEN typdegct
Q251FB               TYPDEGCT - TYPE OF DEGREE/CERTIFICATE STUDYING FOR
/^C1
/~IF 236(96)+237(96)
/What type of degree or certificate are you studying for at
/^217?
/~ELSE
/What type of degree or certificate were you studying for at
/^217?
/~END
/
/^B
/
/
/Have you completed the requirements for that degree/certificate?  IF YES,
/When did you receive your degree/certificate?
/
/INTERVIEWER:  IF R HAS NOT COMPLETED REQUIREMENTS ENTER "00/00".
/
/^B/^B
C1                    NONE
C2                    CERTIFICATE
C3                    ASSOCIATE'S DEGREE
C4                    BACHELOR'S DEGREE
C5                    OTHER
G                     1,2,3,5=219(4/9)
G                     1/5=219(N4+N5+N6+N7+N8+N9)
Q252UB       2        DATERECV - MONTH DEGREE/CERTIFICATE WAS RECEIVED
V                     (0/12){Nn}
Q253UB       2        DATERECV - YEAR DEGREE/CERTIFICATE  WAS RECEIVED
V                     (0,86/^83){NN}
J254 252             B253(G0)+M233(1)+235(GQ253)=DEGREE RECEIVED BEFORE ATTENDED
/INSTITUTION
J254 252             B253(G0)+252(G0)+M233(1)+235(Q253)+234(GQ252)=DEGREE RECEIVE
/D BEFORE ATTENDED INSTITUTION
*254 253             B253(Q83)+252(GQ82).253(92)+252(LQ82)=DATE LATER THAN CURREN
/T DATE OR BEFORE JUNE 1992
J254 252             B253(Q83)+252(GQ82)=DATE LATER THAN CURRENT DATE
*! SKIP [IF "TYPEINST" = 4/9 AND "TYPDEGCT" = 4 THEN GOTO typdegct daterecv]
J254 251             B251(4)+219(4/9)=BACHELOR'S DEGREE INCONSISTENT WITH INSTITU
/TION
J254 252             B253(G0)+252(0+N"╤"+N"╥"+N"╙").252(G0)+253(0+N"╤"+N"╥"+N"╙")
/=ZERO IS ONLY VALID IF USED FOR BOTH MONTH AND YEAR
J254 251             B251(1)+252(G0)+253(G0)=CAN'T RECEIVE A DEGREE IF NOT STUDYI
/NG FOR ONE
Q254UT       14       CALCQ|(253*12X)+252-(240*12X)-239-2X
J255 252             B253(G0)+252(G0)+240(G0)+239(G0)+254(GE1)=DATE MORE THAN TWO
/ MONTHS AFTER STOPPED SCHOOL
*SKIP [IF DATERECV !=MISSING OR 00/00 AND TYPDEGDT=2 AND (EDINST-SDINST)<1
*THEN GOTO typdegct daterecv]
J255 251             B252(G0)+253(G0)+251(2)+242(0)+234(Q236)+235(Q237)=NEED TO B
/E ENROLLED AT LEAST ONE MONTH TO COMPLETE CERTIFICATE
```

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*SKIP [IF DATERECV !=MISSING OR 00/00 AND TYPDEGDT=3 AND (EDINST-SDINST)<18
*THEN GOTO typdegct daterecv]
J255 251            B252(G0)+253(G0)+251(3)+242(G0)+242(L18)=SHOULD BE ENROLLED
/AT LEAST 18 MONTHS TO COMPLETE ASSOCIATES
*SKIP [IF DATERECV !=MISSING OR 00/00 AND TYPDEGDT=4 AND (EDINST-SDINST)<36
*THEN GOTO typdegct daterecv]
J255 251            B252(G0)+253(G0)+251(4)+242(G0)+242(L36)=SHOULD BE ENROLLED
/AT LEAST 36 MONTHS TO COMPLETE BACHELORS
Q255UT       2       ELAPSED TIME AFTER DATERECV
****************************************
J256 257             227(G0)+227(N99995)=:/^0=227*3X:
J256 257             227(0)=:30000:
J256 257             227(99995)=:150003:
Q256U        6       MIN FOR AMTAIDYR SOFT CHECK
Q257UT       14      MAX WITHOUT BEEP|256-1X
Q258ET
Q259ET
Q260ET
Q261ET
*! SKIP [IF "DATERECV" = 00/00 OR REF,DK,NA THEN GOTO typfaid]
J262 264             252(0+N"╨")+253(0+N"╨")
*! SKIP [IF ("TYPDEGCT" != 2) AND ("TYPEDECT" != 3) THEN GOTO typfaid]
J262 264             251(N2+N3)+251(A)
* SCREEN jobchng
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES.
Q262FB               JOBCHNG - DEGREE/CERTIFICATE RESULT IN JOB CHANGE OR PROMOT
/^C2
/ Did receiving your degree/certificate result in a job change or
/ promotion?
/
/^B
C1                   YES
C2                   NO
G                    2,1
Q263UT       2       ELAPSED TIME AFTER JOBCHNG
****************************************
*!
* SCREEN typfaid
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES.
* ORIG_QTYPE = FIXED, MULTIPLE
Q264FMC      5       TYPFAID - TYPES OF STUDENT FINANCIAL AID RECEIVED
/^C1
/ What types of student financial aid did you receive while attending
/ ^217?  Did you receive...
/
/ INTERVIEWER:  CODE ALL THAT APPLY.
C1                   Grants/scholarships/fellowships
C2                   Loans
C3                   College work-study
C4                   OTHER
C5                   NONE
J265 264            B264(5)+264(1/4)=CAN'T CODE NONE WITH OTHER RESPONSES
Q265UT       2       ELAPSED TIME AFTER TYPFAID
****************************************
*!
*! SKIP [IF ("TYPFAID" = 5) OR ("TYPFAID"=MISSING) THEN GOTO parborw jobs]
Q266ET
Q267ET
J268 270             264(5."╤"."╥")
* SCREEN amtaidyr
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES. IF "EDINST" = 96/96 THEN "INSERT" = "receive" IF
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* Instruct: "EDINST" != 96/96 THEN "INSERT" = "received"
Q268UB       6       AMTAIDYR - TOTAL AMOUNT FINANCIAL AID RECEIVE YEARLY
/^C1
/
/~IF 236(96)+237(96)
/ During your most recent period of enrollment
/ at ^217, what is the total amount
/ of financial aid you receive yearly?
/~ELSE
/ During your most recent period of enrollment
/ at ^217,  what was the total amount
/ of financial aid you received yearly?
/~END
/
/^B
V                    (0,100/^257,U^256/999995){Nnnnnn}
*RANGE CHANGE
*269 268            B0(LQ268)+227(G0)+268(N99995)=(227*3X)=AID IS MORE THAN 3 TI
/MES THE TUITION
Q269UT       2       ELAPSED TIME AFTER AMTAIDYR
*************************************
*!
* SCREEN parnborw jobs
* QUESTION WORDING TAKEN IN REVISED FORM FROM HS&B SECOND FOLLOW-UP
* 1980 SOPHOMORE COHORT QUESTIONNAIRE Q.31.
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES.
Q270FB               CAMPJOB - PAYING JOB ON CAMPUS WHILE ENROLLED
/^C2
/
/ Did you ever have a paying job on campus while enrolled at
/ ^217?
/
/^B
/
/
/ While enrolled at ^217, did you ever
/ have a job related to your education, such as an apprenticeship,
/ internship, or co-op?
/
/^B
/
/
/ Did your parents take out loans or borrow money to finance your
/ postsecondary schooling at ^217?
/
/^B
C1                   YES
C2                   NO
G                    2,1
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES.
Q271FB               EDRELJOB - JOB RELATED TO EDUCATION WHILE ENROLLED
C1                   YES
C2                   NO
G                    2,1
* Instruct: LOOP "INSTNAME2" THROUGH "EDRELJOB" "NUMINST" (NUMBER OF INSTITUTION
* Instruct: ATTENDED) TIMES.
Q272FB               PARNBORW - PARENTAL BORROWING TO FINANCE POSTSEC EDUCATION
C1                   YES
C2                   NO
G                    2,1
Q273UT       2       ELAPSED TIME AFTER EDRELJOB
*************************************
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```
J274 275             208(1).208(G1)+241(GEQ275)=:/^208:
J274 275             208(G1)+241(LQ275)=:/^274:
Q274U        1       INDEX OF MAX SO FAR
J275 276             274(Q208)=:/^241:
J275 276             274(NQ208)=:/^275:
Q275U        3       MAX MOS. IN SCHOOL
J276 277             274(Q208)=:/^217:
J276 277             274(NQ208)=:/^276:
Q276U        80      SCHOOL NAME - MAX MOS.
J277 208             274(Q208)+224(1)=:1:
J277 208             274(Q208)+224(2)=:2:
J277 208             208(1)+224(NA)=:1:
J277 208             274(NQ208)=:/^277:
Q277F                VOCATIONAL SCHOOL FOR SCHOOL WITH MAX MONTHS
C1                   1
C2                   2
*! 5 QUESTIONS TO DETERMINE SCHOOL ATTENDED THE LONGEST
*! 1 QUESTION TO FIND KINDINST FOR SCHOOL ATTENDED THE LONGEST
*! ENDLOOP
R208 277
R233 241
Q278ET
J279 280             M208(G0)+264(2)=:1:
J279 280             208(G0)=:2:
Q279F                DUMMY QUESTION FOR TYPFAID !=2 SKIP
C1
C2
*! SKIP [IF ("TYPFAID" != 2) THEN GOTO courses1]
J280 282             279(2)
* SCREEN totlborw
* Instruct: IF "NUMINST" = 1 THEN "INSERT" = "What" IF "NUMINST" > 1 THEN
* Instruct: "INSERT" = "Thinking about all of the postsecondary institutions you
* Instruct: have attended, what"
Q280UB       5       TOTLBORW - TOTAL AMOUNT R BORROWED FOR POSTSEC EDUCATION
/^C1
/
/~IF 206(1)
/What is the_TOTAL_amount you have borrowed for your postsecondary
/education?
/~ELSE
/ Thinking about all of the postsecondary institutions you have attended,
/ what is the_TOTAL_amount you have borrowed for your postsecondary
/ education?
/~END
/
/^B
V                    (1/19999,99995,U20000/50000){Nnnnn}
****************************************
Q281UT       2       ELAPSED TIME AFTER totlborw
Q282ET
Q283ET
Q284ET
Q285ET
Q286ET
****************************************
*!
*! SKIP [IF ("VOCATION" OF SCHOOL ATTENDED LONGEST = 1) THEN GOTO aspects1]
J287 319             277(1)
* SCREEN courses1
Q287FB               RENGLISH - COURSES IN REMEDIAL ENGLISH
/^C2
/ During the last two years, have you had one or more courses in . . .
/
/ INTERVIEWER: IF NECESSARY, PROBE: "These questions refer only to
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/ courses you have taken since leaving high school."
/
/ Remedial English. . . . . .^B
/ Remedial Math. . . . . ^B
/ Non-remedial Math. . . . . ^B
/ Physics . . . . . .^B
/ Chemistry. . . . . ^B
/ Biology. . . . . ^B
/ Foreign Languages. . . . . ^B
C1                  YES
C2                  NO
G                   2,1
Q288FB              RMATH - COURSES IN REMEDIAL MATH
C1                  YES
C2                  NO
G                   2,1
Q289FB              REGMATH - COURSES IN REGULAR MATHEMATICS
C1                  YES
C2                  NO
G                   2,1
Q290FB              PHYSICS - COURSES IN PHYSICS
C1                  YES
C2                  NO
G                   2,1
Q291FB              CHEMSTRY - COURSES IN CHEMISTRY
C1                  YES
C2                  NO
G                   2,1
Q292FB              BIOLOGY - COURSES IN BIOLOGY
C1                  YES
C2                  NO
G                   2,1
Q293FB              FRGNLANG - COURSES IN FOREIGN LANGUAGE
C1                  YES
C2                  NO
G                   2,1
Q294UT       2      ELAPSED TIME AFTER FRGNLANG
*************************************
Q295ET
Q296ET
Q297ET
Q298ET
*!
* SCREEN acservices1
* QUESTION WORDING AND RESPONSE CODES TAKEN IN REVISED FORM FROM HS&B
* SECOND FOLLOW-UP 1980 SOPHOMORE QUESTIONNAIRE Q.24A.
Q299UB       1      TUTOR - FORMAL TUTORING BY FACULTY AND STUDENTS
/During the past two years, how much of the following services have
/you received?  For each type of service, please tell me if the service was
/not available, was available but you did not receive it, or you did
/receive the service.
/
/INTERVIEWER:  IF R DID NOT RECEIVE A SERVICE, PROBE TO FIND OUT IF THE
/SERVICE WAS NOT AVAILABLE, OR IF IT WAS AVAILABLE BUT R DID NOT RECEIVE IT.
/
/INTERVIEWER:  USE CODING SCALE DESCRIBED BELOW.
/1 = NOT AVAILABLE  2 = AVAILABLE BUT DID NOT RECEIVE  3 = RECEIVED
/
/Formal tutoring (including tutoring by faculty or students)?           ^B
/
/Counseling (on personal, academic, financial or job or career choices)? ^B
/
/Special instruction (in areas such as Remedial English, Remedial
/Mathematics, reading improvement, improving writing skills, how to take
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/tests or how to study more efficiently)?                                ^B
V                    (1/3){N}
Q300UB       1       COUNSEL - PERSONAL ACADEMIC FINANCIAL CAREER COUNSELLING
V                    (1/3){N}
Q301UB       1       SPECINST2 - SPEC INSTRU ENG MATH READ WRITING TESTS STUDYING
V                    (1/3){N}
Q302ET               FINDJOBS - DELETED
Q303UT       2       ELAPSED TIME AFTER FINDJOBS
**************************************
Q304ET
Q305ET
*!
* SCREEN activ1
* QUESTION WORDING TAKEN IN REVISED FORM FROM BPS94 (?) DATA ELEMENT
* B6.
* Instruct: "INSERT" = "NAME OF INSTITUTION ATTENDED LONGEST"
Q306ET               TALKFACL - DELETED
Q307ET               MEETADVR - DELETED
Q308ET               INFRADVR - DELETED
Q309ET               STDYGRUP - DELETED
Q310ET
Q311ET               STNTPRGM - DELETED
Q312ET               GOFRNDS - DELETED
Q313ET               SCHLCLBS - DELETED
Q314ET               CARLECTS - DELETED
Q315ET
**************************************
Q316ET
Q317ET
Q318ET
Q319ET               TECHABLY - DELETED
Q320ET               INTLGRTH - DELETED
Q321ET               COSTATTN - DELETED
Q322ET               CRSOFERS - DELETED
Q323ET
**************************************
*! SKIP [IF "VOCATION" OF SCHOOL ATTENDED LONGEST =1 THEN GOTO othname1]
J324 340             277(1)
* SCREEN aspects2
Q324ET               SOCLIFE - DELETED
Q325ET               SCHLPRES - DELETED
Q326ET               SRTRPROG - DELETED
Q327ET
**************************************
*!
* SCREEN extracur1
* Instruct: "INSERT" = "NAME OF INSTITUTION ATTENDED LONGEST"
Q328FB               VARATH - HOW OFTEN DO VARSITY INTERCOLLEGIATE ATHLETICS
/The next set of questions are about various extracurricular
/activities at ^276.  Please tell me
/if you have ever participated in any of these activities while attending
/^276.  ^C2
/
/Varsity intercollegiate athletics? . . . . . .^B
/Other intercollegiate athletics?. . . . . ^B
/Intramural athletics? . . . . . ^B
/Performing arts (such as, music groups, theater, etc.)? ^B
/College newspaper or radio station? . . . . . ^B
/Student government or political groups? . . . . . ^B
/Social clubs, fraternities/sororities? . . . . . .^B
/Volunteer services to fellow students? . . . . . .^B
/Volunteer services to community groups? . . . . . ^B
C1                   YES
C2                   NO
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G                   2,1
Q329FB              OTHERATH - HOW OFTEN DO OTHER INTERCOLLEGIATE ATHLETICS
C1                  YES
C2                  NO
G                   2,1
Q330FB              INTRATH - HOW OFTEN DO INTRAMURAL ATHLETICS
C1                  YES
C2                  NO
G                   2,1
Q331FB              PERFARTS - HOW OFTEN DO PERFORMING ARTS
C1                  YES
C2                  NO
G                   2,1
Q332FB              NEWSRADI - HOW OFTEN DO COLLEGE NEWSPAPER OR RADIO STATION
C1                  YES
C2                  NO
G                   2,1
Q333FB              STDTGOV - HOW OFTEN DO STUDENT GOVERNMENT OR POLITICAL GROU
C1                  YES
C2                  NO
G                   2,1
Q334FB              SOCLCLUB - HOW OFTEN DO SOCIAL CLUBS, FRATERNITIES/SORORITI
C1                  YES
C2                  NO
G                   2,1
Q335FB              VOLUSTDT - HOW OFTEN DO VOLUNTEER SERVICES TO FELLOW STUDEN
C1                  YES
C2                  NO
G                   2,1
Q336FB              VOLUCMTY - HOW OFTEN DO VOLUNTEER SERVICES TO COMMUNITY GRO
C1                  YES
C2                  NO
G                   2,1
Q337UT       2      ELAPSED TIME AFTER VOLUCMTY
Q338ET
Q339ET
*************************************
*!
* SCREEN edexpect
Q340FB              EDEXPECT - HIGHEST LEVEL OF EDUCATION EXPECT TO COMPLETE
/^C1
/ What is the highest level of education you ever expect to
/ complete?
/
/ INTERVIEWER:  IF NECESSARY, PROBE BY READING RESPONSE CATEGORIES.
/
/^B
C1                  SOME HIGH SCHOOL
C2                  FINISH HS OR EARN HS EQUIVALENCY DIPLOMA OR CERTIFICATE
C3                  VOC/TRADE/BUS SCHOOL AFTER HIGH SCHOOL - LESS THAN 2 YEARS
C4                  VOC/TRADE/BUS SCHOOL AFTER HIGH SCHOOL - 2 OR MORE YEARS
C5                  COLLEGE PROGRAM - LESS THAN 2 YEARS
C6                  COLLEGE PROGRAM - 2 OR MORE YEARS - ASSOCIATE'S DEGREE
C7                  COLLEGE PROGRAM - FINISH COLLEGE - BACHELOR'S DEGREE
C8                  COLLEGE PROGRAM - MASTER'S DEGREE OR EQUIVALENT
C9                  COLLEGE PROGRAM - PH.D. OR EQUIVALENT
C10                 COLLEGE PROGRAM - M.D., L.L.B., J.D., D.D.S. OR EQUIVALENT
J341 340           B340(1)+21(1/3)=GRADUATED HIGH SCHOOL ALREADY
J341 340           B340(1/2)+206(G0)=ATTENDED POST SECONDARY SCHOOL ALREADY
Q341UT       2      ELAPSED TIME AFTER EDEXPECT
*************************************
Q342S               LOOP COUNTER
C'<1/30(
*! SKIP [IF LOOPCOUNTER > 1 THEN GOTO labrpart3]
```

```
J343 345             342(G1)
* SCREEN labrpart1
* QUESTION WORDING AND RESPONSE CODES TAKEN IN REVISED FORM FROM HS&B
* 4TH FOLLOW-UP CATI INSTRUMENT.
Q343FB               LABRPART1 - LABOR FORCE PARTICIPATION JUNE, 1992 TO TODAY
/ The next section of our interview concerns your employment history from
/ June 1992 to today.  Now, please think back to June of 1992.
/ At that time, were you employed, unemployed and receiving unemployment
/ compensation, unemployed and NOT receiving unemployment compensation,
/ or were you out of the labor force (that is, not working, not looking
/ for work AND not receiving unemployment compensation)?
/
/ INTERVIEWER:  IF R WAS UNEMPLOYED PROBE WHETHER OR NOT S/HE RECEIVED
/ UNEMPLOYMENT COMPENSATION. ^C1
/ INTERVIEWER:  IF R SEEMS UNSURE AS TO WHAT "OUT OF THE LABOR FORCE" MEANS,
/ PROBE BY REPEATING ITS DEFINITION.  "Out of the labor force means that
/ you were not working, not looking for work AND not receiving unemployment
/ compensation."
/
/^B
C1                   EMPLOYED (WORKING ANY PART OF THE MONTH)
C2                   UNEMPLOYED AND RECEIVING UNEMPLOYMENT COMPENSATION
C3                   UNEMPLOYED AND NOT RECEIVING UNEMPLOYMENT COMPENSATION
C4                   OUT OF THE LABOR FORCE
Q344UT       2       ELAPSED TIME AFTER labrpart1
**************************************
*! SKIP [IF LOOP COUNTER =1 THEN GOTO labrpart2]
J345 346             342(1)+343(G0)=:/^0=343:
J345 346             342(1)+343("╤")=:/^86:
J345 346             342(1)+343("┬")=:/^87:
*345 346             342(1)+343("╙")=:/^88:
*345 346             342(1)+343("└")=:/^90:
*!
* SCREEN labrpart3
* QUESTION WORDING AND RESPONSE CODES TAKEN IN REVISED FORM FROM HS&B
* 4TH FOLLOW-UP CATI INSTRUMENT.
* Instruct: "INSERT" = 1 MONTH PAST "LABRPART2" FOR EXAMPLE, IF "LABRPART2" =
* Instruct: 03/92, "INSERT" = APRIL, 1992. LOOP "LABRPART2" THRU "LABRPART3"
* Instruct: UNTIL "LABRPART2" = 96/96.  IF "LABRPART2" = 96/96 THEN GOTO
* Instruct: "NUMJOBS".
Q345FB               LABRPART3 - DATE LABOR FORCE STATUS CHANGED
/^C1
/ Then starting in ^355 ^356, were you employed, unemployed and receiving
/ unemployment compensation, unemployed and NOT receiving unemployment
/ compensation or out of the labor force (that is, not working and
/ not looking for work)?
/
/ INTERVIEWER:  IF R WAS UNEMPLOYED PROBE WHETHER OR NOT S/HE RECEIVED
/ UNEMPLOYMENT COMPENSATION.
/
/^B
C1                   EMPLOYED (WORKING ANY PART OF THE MONTH)
C2                   UNEMPLOYED AND RECEIVING UNEMPLOYMENT COMPENSATION
C3                   UNEMPLOYED AND NOT RECEIVING UNEMPLOYMENT COMPENSATION
C4                   OUT OF THE LABOR FORCE
J346 347             342(1)
Q346UT       2       ELAPSED TIME AFTER labrpart3
**************************************
J347 348             342(G1)=:/^0=349:
J347 348             342(1)=:6:
Q347U        2       MONTH STOPPED-LAST ITERATION
J348 349             342(G1)=:/^0=350:
J348 349             342(1)=:92:
Q348U        2       YEAR STOPPED -LAST ITERATION
```

```
*! GEOFF'S PROG
*! SKIP [IF LABRPART1 = REF,DK,N/A THEN GOTO numjobs]
*! SKIP [IF LABRPART3 = REF,DK,N/A THEN GOTO numjobs]
J349 359             343("╤"."╥"."╙").345("╤"."╥"."╙")
*!
* SCREEN labrpart2
* QUESTION WORDING AND RESPONSE CODES TAKEN IN REVISED FORM FROM HS&B
* 4TH FOLLOW-UP CATI INSTRUMENT.
* Instruct: LOOP "LABRPART2" THRU "LABRPART3" UNTIL "LABRPART2" = 96/96.  IF
* Instruct: "LABRPART2" = 96/96 THEN GOTO "NUMJOBS".
Q349UB       2       LABRPART2 - DATE LABOR FORCE STATUS CHANGED-MONTH
/^C1
/ When did you stop being ^345?
/
/ INTERVIEWER:  IF R DOES NOT KNOW MONTH, PROBE FOR SEASON.
/               ENTER 96/96 IF CURRENT.
/
/^B/^B
V                    (1/12,96){Nn}
Q350UB       2       LABRPART2 - DATE LABOR FORCE STATUS CHANGED-YEAR
V                    (92/^83,96){NN}
J351 350            B349("╤"."╥"."╙"."╘")+350(N"╤"+N"╥"+N"╙"+N"╘")=IF REF, DK OR
/ MISSING MONTH, PROBE FOR SEASON
*351 350            B350("╤"."╥"."╙"."╘")+349(N"╤"+N"╥"+N"╙"+N"╘")=IF REF, DK OR
/ MISSING YEAR, MONTH SHOULD BE THE SAME
J351 350            B350("╤"."╥"."╙"."╘")=PROBE FOR DATE, ENTRY MUST BE NUMERIC
J351 350            B350(LQ348)+350(G0).350(Q348)+349(LEQ347)+349(G0)=DATE MUST
/BE MORE RECENT THAN PREVIOUSLY ENTERED DATE
J351 350            B350(Q83)+349(GQ82).350(GQ83)+350(N96)+350(G0)=DATE AFTER CU
/RRENT DATE
J351 350            B350(96)+349(N96).349(96)+350(N96)=IF CURRENT STATUS, ENTER
/96 FOR BOTH MONTH AND YEAR
Q351UT       2       ELAPSED TIME AFTER labrpart2
****************************************
J352 353            342(1)+345(1)=:1:
J352 353            345(1)+356(1992)=:1:
J352 353            (349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘").345("╤"."╥"."╙".
/"╘"))+352(1)=:1:
J352 353            (349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘").345("╤"."╥"."╙".
/"╘"))+352(N1)+348(G92)=:2:
J352 353            (349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘").345("╤"."╥"."╙".
/"╘"))+352(N1)
J352 353            342(1)+345(2/4)=:2:
J352 353            342(G1)=:/^0=352:
Q352F               EMPLOYED IN 92
/DUMMY Q - HIT ALT-B
C1
C2
J353 354            345(1)+356(1993)=:1:
*NEW SKIP - NOT IN FT
J353 354            342(1)+345(1)+350(93/94)=:1:
****
J353 354            345(1)+356(1992)+350(93/96)=:1:
J353 354            342(1)+345(1)+350(96)
J353 354            (349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘").345("╤"."╥"."╙".
/"╘"))+353(1)=:1:
J353 354            (349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘").345("╤"."╥"."╙".
/"╘"))+353(N1)+348(G93)=:2:
J353 354            (349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘").345("╤"."╥"."╙".
/"╘"))+353(N1)
J353 354            342(G1)=:/^0=353:
J353 354            342(1)=:2:
Q353F               EMPLOYED IN 93
/DUMMY Q - HIT ALT-B
```

```
C1
C2
J354 355             345(1)+(350(96).356(1994))=:1:
J354 355             345(1)+356(1992/1993)+350(94)=:1:
*NEW SKIP - NOT IN FT
J354 355             345(1)+350(94)=:1:
*
J354 355             (349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘").345("╤"."╥"."╙".
/"╘"))+354(1)=:1:
J354 355             (349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘").345("╤"."╥"."╙".
/"╘"))+354(N1)
J354 355             342(1)=:2:
J354 355             342(G1)=:/^0=354:
Q354F                EMPLOYED IN 94
/DUMMY Q - HIT ALT-B
C1
C2
**************************************
*!
*! SKIP [IF "LABRPART2" = 96/96 OR REF,DK THEN GOTO loop counter before numjobs]
J355 359             349(96)+350(96).349("╤"."╥"."╙"."╘")+350("╤"."╥"."╙"."╘")
*! STRING SUBSTITUTION
J355 356
Q355X                STOP MONTH PLUS 1
C1                   January
C2                   February
C3                   March
C4                   April
C5                   May
C6                   June
C7                   July
C8                   August
C9                   September
C10                  October
C11                  November
C12                  December
G                    '<2/12(=349('<1/11()
G                    1=349(12)
J356 342             349(L12)=:/^0=350+1900X=:
J356 342             349(12)=:/^0=350+1901X=:
Q356U        4       STOP YEAR - 4 DIGITS -ONE MONTH LATER
*! MONTH
*! YEAR
R342 356
*!
Q357ET               An allocated Q...
Q358ET               An allocated Q...
*! MORE SPELLS VERBATIM AND TIME STAMP?
J359 360             M233(G0)+237(92)+236(G5)=:1:
J359 360             M233(G0)+237(G92)+235(G0)+235(L92)=:1:
J359 360             M233(G0)+237(G92)+235(G0)+235(92)+234(G5)=:1:
J359 360             1(G0)=:2:
Q359F                ATTENDED SCHOOL IN 92
C1
C2
J360 361             M233(G0)+237(93)=:1:
J360 361             M233(G0)+237(G93)+235(G0)+235(LE93)=:1:
J360 361             1(G0)=:2:
Q360F                ATTENDED SCHOOL IN 93
C1
C2
J361 362             M233(G0)+237(94)=:1:
J361 362             M233(G0)+237(G94)+235(G0)+235(LE94)=:1:
J361 362             1(G0)=:2:
```

```
Q361F                ATTENDED SCHOOL IN 94
C1
C2
Q362ET
***PART 3 - MOD 3
*! SKIP [IF NOT EMPLOYED IN 92 AND 93 AND 94 THEN GOTO hlthprob jobexpect]
J363 452             352(2)+353(2)+354(2)
Q363S                A loop Q...
C1                   June 1992 through December 1992
C2                   January 1993 through December 1993
C3                   January 1994 through today
*!
* SCREEN numjobs
*! SKIP [IF LOOPCOUNTER = 1 AND NOT EMPLOYED IN 92 OR LOOPCOUNTER = 2
*! AND NOT EMPLOYED IN 93 OR LOOPCOUNTER=3 AND NOT EMPLOYED IN 94 THEN GOT
*! NEXT ITERATION]
J364 404             363(1)+352(2).363(2)+353(2).363(3)+354(2)
***INSERT HERE
Q364UB       2       NUMJOBS - NUMBER OF JOBS
/^C1
/ How many jobs did you have during the time period of
/ ^363?
/
/^B
V                    (0/24,95){Nn}
J365 364            B364(0+N"╨"+N"╤"+N"╥"+N"╙"+N"╘")+352(1)+M342(1)+349(96)+350(
/96)=CONTINOUSLY EMPLOYED SINCE 6/92-HAD AT LEAST ONE JOB
J365 364             B363(1)+364(0+N"╤"+N"╥"+N"╙"+N"╘")+M342(1)+343(1)=EMPLOYED I
/N 6/92-HAD AT LEAST ONE JOB IN 1992
J365 364             B363(3)+364(0+N"╤"+N"╥"+N"╙"+N"╘")+M349(96)+345(1)=CURRENTLY
/ EMPLOYED-HAS AT LEAST ONE JOB IN 1994
J365 364             B363(2)+364(0+N"╤"+N"╥"+N"╙"+N"╘")+M342(1)+343(1)+349(G1)+35
/0(93)=EMPLOYED IN 1993-HAD AT LEAST ONE JOB
J365 364             B363(2)+364(0+N"╤"+N"╥"+N"╙"+N"╘")+M342(1)+343(1)+350(94)=EM
/PLOYED IN 1993-HAD AT LEAST ONE JOB
J365 364             B363(3)+364(0+N"╤"+N"╥"+N"╙"+N"╘")+M342(1)+343(1)+349(G1)+35
/0(94)=EMPLOYED IN 1994-HAD AT LEAST ONE JOB
Q365UT       2       ELAPSED TIME AFTER numjobs
J366 404             364(0+N"╨")
*! SKIP [IF "NUMJOBS" = 0 THEN GOTO BOTTOM OF LOOP]
J366 370             363(1)+359(2).363(2)+360(2).363(3)+361(2)
*! SKIP [IF NOT STUDENT IN 92 AND LOOPCOUNTER =1 OR NOT STUDENT IN 93 AND LOOP
*  COUNTER =2 OR NOT STUDENT IN 94 AND LOOP COUNTER=3 THEN GOTO text subst q]
Q366FB               PRIMSTDT - PRIMARILY STUDENT IN REF PERIOD
/^C1
/Do you consider yourself to have been primarily a student or primarily
/employed during that time period?
/
/INTERVIEWER:  IF R STATES THAT S/HE IS BOTH A STUDENT AND EMPLOYED, ASK
/WHAT IS MOST IMPORTANT TO THE R, HIS/HER SCHOOLING OR JOB.
/
/^B
C1                   STUDENT
C2                   EMPLOYED
Q367UT       2       ELAPSED TIME AFTER primstdt
*! SKIP [IF CURRENTLY EMPLOYED GOTO numjobs]
J368 370             363(1/2).363(3)+366(N1)
Q368FB               RELSCHOL - CURRENT JOB RELATED TO SCHOOLING
/^C2
/Is your current job related to your schooling?
/
/^B
C1                   YES
C2                   NO
```

```
G                   2,1
Q369UT       2      ELAPSED TIME AFTER relschol
**************************************
Q370ET
Q371ET
J372 373
Q372X               TEXT SUBST FOR TYPEMPLY, HRSWORK, LIKEWORK, TWOJOBS
C1                  were
C2                  are
C3                  did
C4                  do
C5                  you have liked
C6                  you (have) like(d)
C7                  have
C8                  job
C9                  ^364 jobs
C10                 have you ever worked
C11                 did you ever work
C12                 held
C13                 held longest
G                   1,3,5,11=363(1.2).363(3)+345(2.3.4."╤"."╥"."╙"."└")
G                   2,4,6,7,10=363(3)+345(1)
G                   8,12=364(1)
G                   9,13=364(N1)
*! TEXT SUBST FOR TYPEMPLY were/are, HRSWORK did/do,
*! LIKEWORK you have liked/you like, TWOJOBS (did)/have
J373 394            366(1)
*! SKIP [IF "PRIMSTDT" = 1 THEN GOTO hrswork]
J373 375            363(1).M363(Q404)+364(0)
J373 375            M363(Q404)+366(1)
*! SKIP [IF "LOOPCOUNTER"=1 OR ("NUMJOBS" = 0 OR SKIP/MISSING OR PRIMSTDT=1)
*! IN THE PREVIOUS ITERATION THEN GOTO namemploy]
Q373FB              SAMENAME - LONGEST HELD JOB SAME AS LAST REF PERIOD
/
/
/~IF 364(G1)+363(2)
/Is ^375 the company you worked for longest
/during the period of ^363?
/~END
/~IF 364(1)
/Is ^375 the company you worked for
/during the period of ^363?
/~END
/~IF 364(G1)+363(3)
/Is ^375 the company you worked for most
/recently (currently) during the period of ^363?
/~END
/
/
/^B
/
/
C1                  YES
C2                  NO
G                   2,1
Q374UT       2      ELAPSED TIME AFTER samebus
*! SKIP [IF "SAMENAME"=1 OR REFUSED OR DONTKNOW THEN GOTO samejob]
J375 376            373(1)=:/^375:
* SCREEN namemploy
Q375U        80     NAMEMPL - EMPLOYER NAME FOR JOB HELD LONGEST
/^C1
/
/~IF 364(G1)+363(1)
/ Think now about the job you held the longest during the period of
```

```
/ ^363.  What was the name of that employer?
/~END
/~IF 364(1)+363(1)
/ What was the name of that employer?
/~END
/~IF 364(G1)+363(2)
/ Think now about the job you held the longest between January 1993 and
/ December 1993.   What was the name of that employer?
/~END
/~IF 364(1)+363(2)+373(0+N"╤"+N"╥"+N"╙"+N"└")
/ What was the name of that employer?
/~END
/~IF 364(1)+363(2)+373(2)
/ What was the name of the employer you worked for during the period from
/ ^363?
/~END
/~IF 363(3)+364(G1)
/ Think now about your current job (or the one you held most recently).
/ What is the name of that employer?
/~END
/~IF 363(3)+364(1)+373(0+N"╤"+N"╥"+N"╙"+N"└")
/ What is the name of that employer?
/~END
/~IF 363(3)+364(1)+373(2)
/ What is the name of your current (or most recent) employer?
/~END
/
V                    M
J376 375            B375("|N")+375(N"╤"+N"╥").375(" ")+375S(L2)+375(N"╤"+N"╥")=N
/OT A VALID RESPONSE
J376 376            373(1)
Q376UT       2      ELAPSED TIME AFTER namemploy
************************************
*! SKIP [IF "LOOPCOUNTER"=1 THEN GOTO typemply]
J377 379            363(1).373(1).M363(Q404)+364(0)
J377 379            M363(Q404)+366(1)
Q377FB              SAMEBUS - NEW BUSINESS OR INDUSTRY
/
/
/Is ^375 the same business or industry as
/^375M363(Q404)=?
/
/^B
C1                  YES
C2                  NO
G                   2,1
* SCREEN typemply
Q378UT       2      ELAPSED TIME AFTER samebus
*! SKIP [IF "SAMEBUS"=1 THEN GOTO samejob]
J379 380            379(G0)+(377(1).373(1))=:/^0=379:
J379 380            379("╤")=:/^86:
J379 380            379("╥")=:/^87:
*379 380            379("╙")=:/^88:
*379 380            379("└")=:/^90:
Q379FB              TYPEMPLY - TYPE OF EMPLOYEE/EMPLOYER
/^C1
/ On your job at ^375, ^372(1/2) you a(n)...?
/
/ ^B
/
/ What type of business or industry is ^375?
/
/ INTERVIEWER:  CODE INDUSTRY ON NEXT SCREEN.  IF NECESSARY PROBE, "What do
/ they make or do?"
```

```
/
/
/
/
/
/ ^B
C1                  Employee of a private company,
C2                  Government employee (federal, state or local),
C3                  Self-employed in your own business,
C4                  Working without pay on a family business or farm, or
C5                  Working without pay in a volunteer job?
J380 381            377(1).373(1)=:/^380:
Q380UB       1      BUSINDST - TYPE OF BUSINESS OR INDUSTRY OF LONGEST HELD JOB
J381 382            377(1).373(1)=:/^381:
J381 384            380("╤")=:/^86:
J381 384            380("╥")=:/^87:
*381 384            380("╙")=:/^88:
*381 384            380("└")=:/^90:
Q381UT       36     BUSINDST-INDUST CODE|INDNEWP(G:\,)
J382 383            377(1).373(1)=:/^382:
Q382UT       36  2  BUSINDST-INDUST VERBATIM|INDNEWP(G:\,)
J383 384            377(1).373(1)=:/^383:
Q383UT       36  3  BUSINDST-INDUST FINAL SEARCH|INDNEWP(G:\,)
J384 385            377(1).373(1)
Q384UT       2      ELAPSED TIME AFTER typemply
**************************************
*! INDUSTRY CODING PROGRAM
*! SKIP [IF "BUSINDST" CODE != 15 THEN GOTO samejob]
*! SKIP OVER BRANCH IF OCCUPATION CODING PROGRAM IS NOT MILITARY
J385 386            385(G0)+381(15)+(377(1).373(1))=:/^0=385:
J385 386            385("╤")+381(15)+(377(1).373(1))=:/^86:
J385 386            385("╥")+381(15)+(377(1)+373(1))=:/^87:
*385 386            385("╙")+381(15)+(377(1)+373(1))=:/^88:
*385 386            385("└")+381(15)+(377(1).373(1))=:/^90:
J385 387            381(N15)
* SCREEN branch
* Instruct: LOOP "NUMJOBS" THROUGH "TOTLEARN" THREE TIMES (FIRST LOOP APPLIES TO
* Instruct: JUNE - DECEMBER, 1991, SECOND LOOP APPLIES TO JANUARY - DECEMBER,
* Instruct: 1992 AND THIRD LOOP APPLIES TO JANUARY - {DATE OF INTERVIEW MONTH},
* Instruct: 1993).
Q385FB              BRANCH - BRANCH OF MILITARY
/^C1
/ Which branch of the military?
/
/^B
/
C1                  ARMY
C2                  NAVY
C3                  MARINES
C4                  AIR FORCE
C5                  COAST GUARD
C6                  NATIONAL GUARD
J386 387            381(15)+377(1).381(15)+373(1)
Q386UT       2      ELAPSED TIME AFTER branch
*! SKIP [IF "LOOPCOUNTER"=1 THEN GOTO jobtype]
J387 389            363(1).M363(Q404)+364(0)
J387 389            363(1).M363(Q404)+366(1)
Q387FB              SAMEJOB - SAME JOB OR OCCUPATION AS LAST REF PERIOD
/
/
/~IF 363(2)
/ Were you a(n) ^391 while working at ^375 in 1993?
/~END
/~IF 363(3)
```

```
/ Were you a(n) ^391 while working at ^375 in 1994?
/~END
/
/ ^B
C1                    YES
C2                    NO
G                     2,1
Q388UT       2        ELAPSED TIME AFTER samejob
*! SKIP [IF "SAMEJOB"=1 THEN GOTO hrswork]
J389 390              387(1)
* SCREEN jobtype
* AUTOQUEST PROGRAMMER WILL ENTER TWO "DUMMY QUESTIONS" FOR CODING
* PROGRAM - ONE FOR VERBATIM, ONE FOR CODE.
* Instruct: LOOP "NUMJOBS" THROUGH "TOTLEARN" THREE TIMES (FIRST LOOP APPLIES TO
* Instruct: JUNE - DECEMBER, 1991, SECOND LOOP APPLIES TO JANUARY - DECEMBER,
* Instruct: 1992 AND THIRD LOOP APPLIES TO JANUARY - {DATE OF INTERVIEW MONTH},
* Instruct: 1993). USE MODIFIED SIC/SOC CODING PROGRAM FOR INTERVIEWER TO CODE
* Instruct: VERBATIM.
Q389UP                JOBTYPE - JOB OR OCCUPATION AT LONGEST HELD JOB
/
/ Please describe your job or occupation at ^375
/~IF 387(N1)+387(A)+373(1)
/ during the period ^363
/~END
/ (for example, cook, truck driver, cashier, salesman, nurse, school teacher,
/ etc.).
/
/ INTERVIEWER:  CODE OCCUPATION ON NEXT SCREEN.  IF NECESSARY, PROBE,
/ "What is (was) your job title?".
J390 393              389("┬")=:/^86:
J390 393              389("│")=:/^87:
*390 393              389("╙")=:/^88:
*390 393              389("└")=:/^90:
J390 391              387(1)=:/^390:
Q390UT       36       JOBTYPE-OCCUPATION CODE|OCCNEWP(G:\,)
J391 392              387(1)=:/^391:
Q391UT       36  2    JOBTYPE-OCCUPATION VERBATIM|OCCNEWP(G:\,)
J392 393              387(1)=:/^392:
Q392UT       36  3    JOBTYPE-OCCUPATION SEARCH|OCCNEWP(G:\,)
J393 394              387(1)
Q393UT       2        ELAPSED TIME AFTER jobtype
**************************************
*!
* SCREEN hrswork
* Instruct: LOOP "NUMJOBS" THROUGH "TOTLEARN" THREE TIMES (FIRST LOOP APPLIES TO
* Instruct: JUNE - DECEMBER, 1991, SECOND LOOP APPLIES TO JANUARY - DECEMBER,
* Instruct: 1992 AND THIRD LOOP APPLIES TO JANUARY - {DATE OF INTERVIEW MONTH},
* Instruct: 1993). "INSERT" = "did" DURING FIRST TWO LOOPS. "INSERT" = "do"
* Instruct: DURING THIRD LOOP IF "LABRPART" INDICATES R IS CURRENTLY WORKING,
* Instruct: ELSE, "INSERT" ="did".
Q394UB       3        HRSWORK - AVERAGE HOURS WORKED PER WEEK
/^C1
/~IF 366(N1)
/ On average, how many hours per week ^372(3/4) you work on your job at
/ ^375 during the period of ^363?
/~END
/~IF 366(1)+363(1/2)
/ On average, how many hours per week did you work at the job you
/ ^372(12/13) during the period ^363?
/~END
/~IF 366(1)+363(3)
/ On average, how many hours per week ^372(3/4) you work at your current
/ (most recent) job?
/~END
```

```
/
/^B
V                   (5/60,U1/4,61/168){Nnn}
*RANGE CHANGED FROM 1/168
Q395UT       2      ELAPSED TIME AFTER hrswork
****************************************
*!
*! SKIP [IF "HRSWORK" >= 35 OR REF,DK,N/A THEN GOTO twojobs]
J396 398            394(GE35).394("╤"."╥"."╙"."╘")
*! SKIP [IF PRIMSTDT" =1 THEN GOTO twojobs]
J396 398            366(1)
* SCREEN likework
* Instruct: LOOP "NUMJOBS" THROUGH "TOTLEARN" THREE TIMES (FIRST LOOP APPLIES TO
* Instruct: JUNE - DECEMBER, 1991, SECOND LOOP APPLIES TO JANUARY - DECEMBER,
* Instruct: 1992 AND THIRD LOOP APPLIES TO JANUARY - {DATE OF INTERVIEW MONTH},
* Instruct: 1993). "INSERT" = "you have liked" DURING FIRST TWO LOOPS. "INSERT"
/=
* Instruct: "you like" DURING THIRD LOOP IF "LABRPART" INDICATES R IS CURRENTLY
* Instruct: WORKING, ELSE, "INSERT" = "you have liked".
Q396FB              LIKEWORK - HOURS PER WEEK DESIRED TO WORK
/^C2
/ Would ^372(5/6) to work more hours per week at
/ ^375 during this reference period?
/
/^B
C1                  YES
C2                  NO
G                   2,1
Q397UT       2      ELAPSED TIME AFTER likework
****************************************
*!
*! SKIP [IF "NUMJOBS" = 1 THEN GOTO totlearn]
J398 400            364(1)
* SCREEN twojobs
* Instruct: LOOP "NUMJOBS" THROUGH "TOTLEARN" THREE TIMES (FIRST LOOP APPLIES TO
* Instruct: JUNE - DECEMBER, 1991, SECOND LOOP APPLIES TO JANUARY - DECEMBER,
* Instruct: 1992 AND THIRD LOOP APPLIES TO JANUARY - {DATE OF INTERVIEW MONTH},
* Instruct: 1993). "INSERT" = "June, 1991 and December, 1991, did" DURING FIRST
* Instruct: LOOP. "INSERT" = "January, 1992 and December, 1992, did" DURING
* Instruct: SECOND LOOP. "INSERT" = "January, 1993 and {DATE OF INTERVIEW MONTH
* Instruct: AND YEAR}, have" DURING THIRD LOOP.
Q398FB              TWOJOBS - EVER WORKED TWO OR MORE JOBS AT SAME TIME
/^C2
/~IF 363(1)
/ Between June 1992 and December 1992, ^372(10/11) two or
/ more jobs at the same time?
/~END
/~IF 363(2)
/ Between January 1993 and December 1993, ^372(10/11) two or
/ more jobs at the same time?
/~END
/~IF 363(3)
/ Between January 1994 and today, ^372(10/11) two or
/ more jobs at the same time?
/~END
/
/^B
*^C2
/
/ Between ^363, ^372(10/11) two or
/ more jobs at the same time?
/
/^B
C1                  YES
```

```
C2                  NO
G                   2,1
Q399UT       2      ELAPSED TIME AFTER twojobs
*************************************
*!
* SCREEN totlearn
* Instruct: LOOP "NUMJOBS" THROUGH "TOTLEARN" THREE TIMES (FIRST LOOP APPLIES TO
* Instruct: JUNE - DECEMBER, 1991, SECOND LOOP APPLIES TO JANUARY - DECEMBER,
* Instruct: 1992 AND THIRD LOOP APPLIES TO JANUARY - {DATE OF INTERVIEW MONTH},
* Instruct: 1993). "INSERT" = "June, 1991 and December, 1991" DURING FIRST LOOP.
* Instruct: "INSERT" = "January, 1992 and December, 1992" DURING SECOND LOOP.
* Instruct: "INSERT" = "January, 1993 and {DATE OF INTERVIEW MONTH AND YEAR}"
* Instruct: DURING THIRD LOOP.
J400 402            363(3)
Q400UB       6      TOTLEARN - TOTAL EARNINGS FROM ALL JOBS DURING REF PERIOD
/^C1
/ What were your total earnings from the ^372(8/9) you had during the
/ period from ^363?
/
/ INTERVIEWER: ENTER "0" IF NONE.
/
/^B
V                   (101/59999,999995,U0/100,60000/200000){Nnnnnn}
J401 400           B400("╨"."╨"."╘")=INVALID RESPONSE
Q401UT       2      ELAPSED TIME AFTER totlearn
J402 404            363(1/2).363(3)+364(0.NA)
Q402UB       5      MNTHEARN - MONTHLY EARNINGS JAN 94 TO TODAY
/
/~IF 366(N1)+345(N1)
/ What were your total monthly earnings from your job at
/ ^375 during the period
/ between January 1994 and today?
/~END
/~IF 366(N1)+345(1)
/ What are your total monthly earnings from your job at
/ ^375 during the period
/ between January 1994 and today?
/~END
/~IF 366(1)+345(N1)
/ What were your total monthly earnings from your current (most recent)
/ job?
/~END
/~IF 366(1)+345(1)
/ What are your total monthly earnings from your current (most recent) job?
/~END
/
/ ^B
V                   (0/4999,U5000/10000){Nnnnn}
Q403UT       2      ELAPSED TIME AFTER mnthearn
J404 363            363(G0)=:/^0=363:
Q404F    363        DUMMY Q-BACKUP (ALT-B)
/HIT ALT-B
R363 404
*************************************
*! SKIP [IF SECOND ITERATION OF "NUMJOBS" = 0 OR "PRIMSTDT" = 1 THEN GOTO
*! hlthprob jobexpect]
J405 452            M363(2)+364(0)
J405 452            M363(2)+366(1)
Q405FB              FRMLTRAN - FORMAL EDUCATION OR TRAINING FROM JOB.
/^C2
/ Did you receive any formal training or education
/ from your job at ^375M363(2)=
/ during the period January 1993 through December 1993?
/
```

```
/^B
/
/
/ Did you participate in an apprenticeship at
/ ^375M363(2)=?
/
/^B
C1                    YES
C2                    NO
G                     2,1
Q406FB                PARTAPPT - PARTICIPATE IN AN APPRENTICESHIP
C1                    YES
C2                    NO
G                     2,1
Q407UT       2        ELAPSED TIME AFTER frmltran partappt
****************************************
*!
*! SKIP [IF "PARTAPPT" != 1 THEN GOTO empbnft1]
J408 411              406(N1)
* SCREEN forinfap unaprent
Q408FB                FORINFAP - FORMAL OR INFORMAL APPRENTICESHIP
/^C1
/ Was that a formal or informal apprenticeship?
/
/^B
/
/
/ Was this apprenticeship union-sponsored?
/^C2
/^B
C1                    FORMAL
C2                    INFORMAL
Q409FB                UNAPRENT - APPRENTICESHIP UNION SPONSORED
C1                    YES
C2                    NO
G                     2,1
Q410UT       2        ELAPSED TIME AFTER forinfap unaprent
****************************************
J411 412
Q411X                 TEXT SUBST FOR EMPLEAV
C1                    Maternity
C2                    Paternity
G                     1=6(1)
G                     2=6(2)
*! TEXT SUBST FOR EMPBLEAV Maternity/Paternity
* SCREEN empbnft1
Q412FB                EMPBMED - EMPLOYER PROVIDED MEDICAL BENEFITS
/While working at ^375M363(2)=,
/did your employer make available to you any of the following benefits: ^C2
/
/Medical, surgical, or hospital insurance that covers injuries or
/major illness off the job?     ^B
/
/Dental benefits?               ^B
/
/Life insurance that would cover your death for reasons not
/connected with your job?       ^B
/
/Sick days with pay?            ^B
/
/Paid vacation?                 ^B
/
/Paid maternity or paternity leave that will allow you to go back
/to your old job or one that pays the same as your old job?
```

```
/                                ^B
C1                   YES
C2                   NO
G                    2,1
Q413FB               EMPBDENT - EMPLOYER PROVIDED DENTAL BENEFITS
C1                   YES
C2                   NO
G                    2,1
Q414FB               EMPBLIFE - EMPLOYER PROVIDED LIFE INSURANCE BENEFITS
C1                   YES
C2                   NO
G                    2,1
Q415FB               EMPBSICK - EMPLOYER PROVIDED SICK DAYS WITH PAY
C1                   YES
C2                   NO
G                    2,1
Q416FB               EMPBVAC - EMPLOYER PROVIDED PAID VACATION
C1                   YES
C2                   NO
G                    2,1
* Instruct: "INSERT" = "Maternity" if "RSEX" OR "P_SEX" = FEMALE. "INSERT" =
* Instruct: "Paternity" if "RSEX" OR "P_SEX" = MALE.
Q417FB               EMPBLEAV - EMPLOYER PROVIDED MATERNITY/PATERNITY LEAVE-PAID
C1                   YES
C2                   NO
G                    2,1
Q418UT       2       ELAPSED TIME AFTER EMPBLEAV
*! screen empbnft2
Q419FB               UNPDLEAV - EMPLOYER PROVIDED MATERNITY/PATERNITY LEAVE-UNPAID
/WHILE WORKING AT ^375M363(2)=, DID YOUR EMPLOYER
/MAKE AVAILABLE TO YOU ANY OF THE FOLLOWING BENEFITS: ^C2
/
/Unpaid maternity or paternity leave that will allow you to go back to your
/old job or one that pays the same as your old job?  ^B
/
/A pension plan?                                    ^B
/
/Childcare assistance?                              ^B
/
/Unpaid leave to care for a parent, spouse, or child with a serious health
/condition, that will allow you to go back to your old job or one that has
/the equivalent pay and benefits as your old job?    ^B
/
/Unpaid leave for your own serious health condition? ^B
/
/Intermittent or reduced leave for a serious health condition of yours, a
/parent, a spouse or child, or for the birth, adoption or foster placement
/of a child?                                        ^B
C1                   YES
C2                   NO
G                    2,1
Q420FB               EMPBPENS - EMPLOYER PROVIDED PENSION PLAN
C1                   YES
C2                   NO
G                    2,1
Q421FB               EMPBCHLD - EMPLOYER PROVIDED PENSION PLAN
C1                   YES
C2                   NO
G                    2,1
Q422FB               UNPADOTH - EMPLOYER PROVIDED UNPAID LEAVE TO CARE FOR OTHERS
C1                   YES
C2                   NO
G                    2,1
Q423FB               UNPADOWN - EMP PROV UNPAID LEAVE OWN SERIOUS COND
```

```
C1                    YES
C2                    NO
G                     2,1
Q424FB                REDUCELV - EMP PROV INTERMITTENT OR REDUCED LEAVE
C1                    YES
C2                    NO
G                     2,1
Q425UT       2        ELAPSED TIME AFTER empbnft2
Q426ET
* SCREEN emprvtrn
Q427FB                EMPRVTRN - EMPLOYER PROVIDED TRAINING IN LAST YEAR
/^C2
/ Since January 1993, have you received employer-provided
/ training benefits, such as attending an education program, from your
/ job at ^375M363(2)=?
/
/^B
C1                    YES
C2                    NO
G                     2,1
Q428UT       2        ELAPSED TIME AFTER emprvtrn
**************************************
*!
*! SKIP [IF "EMPRVTRN" != 1 THEN GOTO text subst Q before jobsatisfy1]
J429 443              427(N1)
* SCREEN emptrain
* Instruct: "NAMEMPL" REFERS TO EMPLOYER NAME DURING THIRD REFERENCE PERIOD
* Instruct: (JANUARY - {INTERVIEW MONTH}, 1993).
* ORIG_QTYPE = FIXED, MULTIPLE
Q429UB       2        TOTLTRAN - NUMBER OF EMPLOYER PROVIDED TRAININGS IN LAST YEAR
/Since January 1993, how many different trainings have you participated in?
/
/INTERVIEWER:  IF NECESSARY PROBE, "Please include only those trainings
/that were provided by ^375M363(2)=.
/
/^B
/
/Now I am going to read you a list of types of training or education
/programs.  For each one, please tell me if you have received that type of
/training since January 1993 from your job at
/^375M363(2)=.
/^C1
/INTERVIEWER:  READ LIST AND CODE ALL THAT APPLY.
/Have you received ...
/
/^B
V                     (1/19,U20/95){Nn}
Q430FMB      6        EMPTRAIN - RECEIPT OF EMPLOYER PROVIDED TRAINING.
C1                    On-site formal employer-provided training during working ho
/urs?
C2                    Informal on-the-job training?
C3                    Off-site formal employer-provided training during working h
/ours?
C4                    Tuition aid or financial assistance for attending education
/al institutions?
C5                    NONE OF THE ABOVE
C6                                                        EXIT SCREEN
J431 430             B430(5)+430(1/4)=CAN'T CODE NONE WITH OTHER RESPONSES
J431 430             B430(N1/5)+430(N"╤"+N"╥"+N"╙")=ENTER A RESPONSE
J431 430             B430(N6+N"╤"+N"╥"+N"╙")=SELECT "EXIT SCREEN"
Q431UT       2        ELAPSED TIME AFTER EMPTRAIN
*! SKIP [IF "EMPTRAIN" = 5 THEN GOTO text Q before jobsatisfy1]
J432 443              430(5)
*! SKIP [IF "EMPTRAIN" <> AT LEAST ONE OF 1,3 OR 4 THEN GOTO trainexprc]
```

```
J432 441             430(N1+N3+N4)
* SCREEN  numwkstn hrspwktr
Q432UB       2       NUMWKSTN - TOTAL WEEKS ATTENDED TRAINING/EDUCATION
/^C1
/ What was the total number of weeks you attended this training or
/ education program?
/
/ INTERVIEWER:  IF NECESSARY, PROBE "Please include ALL the training/education
/ you received since January 1993."
/
/^B
/
/
/ How many hours per week did you attend this training or education
/ program?
/
/ INTERVIEWER:  IF RESPONDENT RECEIVED MORE THAN ONE TYPE OF
/ TRAINING SINCE JANUARY 1993, ASK HOURS PER WEEK FOR THE ONE
/ THAT LASTED THE LONGEST.
/
/^B
V                    (1/19,U20/52){Nn}
Q433UB       3       HRSPWKTR - HOURS PER WEEK ATTENDED TRAINING/EDUCATION
V                    (1/49,U50/168){Nnn}
Q434UT       2       ELAPSED TIME AFTER emptrain numwkstn hrspwktr
**************************************
*!
* SCREEN whretrn
* Instruct: IF RESPONSE CODE 9 IS ENTERED, DISPLAY POP-UP WINDOW TO RECORD
* Instruct: VERBATIM.
Q435FB               WHRETRN - LOCATION WHERE TRAINING/EDUCATION WAS RECEIVED
/^C1
/ Where did you receive this training or education?
/
/ INTERVIEWER:  IF NECESSARY, PROBE BY READING RESPONSE CATEGORIES.
/
/^B
C1                   A HIGH SCHOOL
C2                   A VOCATIONAL, TRADE, BUSINESS, OR OTHER CAREER TRAINING SCH
/OOL
C3                   A JUNIOR OR COMMUNITY COLLEGE
C4                   A COLLEGE OR UNIVERSITY
C5                   AN INDEPENDENT GRADUATE OR PROFESSIONAL SCHOOL
C6                   A MILITARY SERVICE
C7                   A JOB SITE
C8                   OTHER
Q436UT       2       ELAPSED TIME AFTER whretrn
**************************************
*!
*! SKIP [IF "WHRETRN" = REF,DK,N/A THEN GOTO trainexprc]
J437 441             435("╤"."╥"."╙"."╘")
* DELETED SCREEN othwhre
Q437ET
Q438ET
**************************************
*! SKIP [IF "WHRETRN" = 1,6,7 OR 8 THEN GOTO trainexprc]
J439 441             435(1.6.7.8)
* SCREEN instrecv
Q439UB       40      INSTRECV - INSTITUTION NAME WHERE TRAINING/ED WAS RECEIVED
/^C1
/ What was the name of the institution where you received this
/ training/education?
/
/^B
```

```
V                    {A\'Aa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\
/ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.\'aa\ \-\.\'aaa\ \-\.
/\'aa\ \-\.\'aaa\ \-\.\'aa}
J440 439            B439("╜"."╙"."╘")=INVALID VALUE
Q440UT       2       ELAPSED TIME AFTER instrecv
****************************************
* SCREEN trainexprc
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN IN REVISED FORM FROM
* HS&B 2ND FOLLOW-UP SOPHOMORE COHORT QUESTIONNAIRE, Q.51.B.
* Instruct: "NAMEMPL" REFERS TO EMPLOYER NAME DURING THIRD REFERENCE PERIOD
* Instruct: (JANUARY - {INTERVIEW MONTH}, 1993).
* ORIG_QTYPE = FIXED, MULTIPLE
Q441FMC      7       TRAINEXPRC - HOW TRAINING RELATES TO JOB EXPERIENCE
/^C1
/ Now I will read you several statements regarding how the training you
/ received from ^375M363(2)=
/ relates to your experiences on the job. Tell me whether you agree or disagree
/ with each statement.
/
/ INTERVIEWER:  READ LIST AND CODE ALL CATEGORIES RESPONDENT AGREES
/ WITH.
C1                   I was able to apply most of what was learned.
C2                   The job was different from the way I was trained.
C3                   I did not use the tools or equipment I was trained to use.
C4                   I could have gotten the job without training.
C5                   Coursework I took was associated with but not helpful in pe
/rforming job.
C6                   Most of what I did on the job I learned to do in school.
C7                   NONE OF THE ABOVE
J442 441            B441(7)+441(1/6)=CAN'T CODE NONE WITH OTHER RESPONSES
Q442UT       2       ELAPSED TIME AFTER trainexprc
****************************************
J443 444
Q443X                TEXT SUBST FOR JOBSATISFY1 are/were
C1                   are
C2                   were
C3                   ARE
C4                   WERE
G                    1,3=345(1)
G                    2,4=345(2.3.4."╤"."╥"."╙"."╘")
* SCREEN jobsatisfy1
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN IN REVISED FORM FROM
* HS&B 2ND FOLLOW-UP SOPHOMORE COHORT QUESTIONNAIRE, Q.52.
* Instruct: "NAMEMPL" REFERS TO EMPLOYER NAME DURING THIRD REFERENCE PERIOD
* Instruct: (JANUARY - {INTERVIEW MONTH}, 1993). "INSERT" = "are" IF "LABRPART2"
* Instruct: INDICATES R IS CURRENTLY WORKING, ELSE, "INSERT" = "were".
Q444UB       1       PAYFRNGE - SATISFACTION WITH JOB'S PAY AND FRINGE BENEFITS
/How satisfied were you with the following aspects of your job at
/^375M363(2)= during the period
/of January 1993 through December 1993?  Would you say you were
/very satisfied, somewhat satisfied, or dissatisfied with . . .
/
/INTERVIEWER:  USE SCALE DESCRIBED BELOW
/  1 = VERY SATISFIED  2 = SOMEWHAT SATISFIED  3 = DISSATISFIED
/
/the job's pay and fringe benefits?                   ^B
/
/its importance and challenge?                       ^B
/
/its working conditions?                             ^B
/
/the opportunity for promotion and advancement?      ^B
/
/the opportunity to use past training and education?  ^B
```

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/
/its security and permanence?                          ^B
/
/the opportunity to further your education?            ^B
V                    (1/3){N}
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN IN REVISED FORM FROM
* HS&B 2ND FOLLOW-UP SOPHOMORE COHORT QUESTIONNAIRE, Q.52.
Q445UB       1       IMPRTCHAL - SATISFACTION WITH JOB'S IMPORTANCE AND CHALLENGE
V                    (1/3){N}
Q446UB       1       WRKCNDT - SATISFACTION WITH JOB'S WORKING CONDITIONS
V                    (1/3){N}
Q447UB       1       OPROMOT - SATISFACTION WITH OPPORTUNITY FOR PROMOTION/ADVANCEMENT
V                    (1/3){N}
Q448UB       1       OUSTRAIN - SATISFACTION OPPORTUNITY TO USE PAST TRAINING/
EDUCATION
V                    (1/3){N}
Q449UB       1       JOBSECTY - SATISFACTION WITH JOB SECURITY AND PERMANENCE
V                    (1/3){N}
Q450UB       1       FURTHED - SATISFACTION OPPORTUNITY TO FURTHER EDUCATION
V                    (1/3){N}
Q451UT       2       ELAPSED TIME AFTER jobsatisfy2
*************************************
* SCREEN hlthprob jobexpect
* AUTOQUEST PROGRAMMER WILL ENTER TWO "DUMMY QUESTIONS" FOR CODING
* PROGRAM - ONE FOR VERBATIM, ONE FOR CODE. QUESTION WORDING TAKEN IN
* REVISED FORM FROM HS&B SECOND FOLLOW-UP SOPHOMORE QUESTIONNAIRE,
* Q.54.
* Instruct: USE MODIFIED SIC/SOC CODING PROGRAM FOR INTERVIEWER TO CODE VERBATIM
/.
Q452FB               HLTHPROB - HEALTH PROBLEMS LIMITING TYPE JOB OR AMOUNT WORK
/ I have a couple of questions for you about your future job expectations.
/^C2
/ Are you limited in the kind of job or amount of work you can do because
/ of any impairment or health problem?
/
/^B
/
/
/ Do you plan on working overseas in the future?
/
/^B
/
/
/ What job or occupation do you_expect or plan to have_when you are
/ 30 years old?
/
/ INTERVIEWER:  CODE VERBATIM ON THE NEXT SCREEN.  IF REFUSED OR DON'T KNOW,
/ USE F7 OR F8 ON THIS SCREEN.
/
/^B
C1                   YES
C2                   NO
G                    2,1
Q453FB               OVERSEAS - PLAN TO WORK OVERSEAS
C1                   YES
C2                   NO
G                    2,1
Q454UB       1       JOBEXPCT - JOB EXPECT/PLAN HAVING AT AGE 30
J455 458             454("╤")=:/^86:
J455 458             454("│")=:/^87:
*455 458             454("╙")=:/^88:
*455 458             454("└")=:/^90:
Q455UT       36      JOBEXPCT-OCCUP CODE|OCCNEWP(G:\,)
Q456UT       36  2   JOBEXPCT-OCCUP VERBATIM|OCCNEWP(G:\,)
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Q457UT       36  3   JOBEXPCT-OCCUP SEARCH|OCCNEWP(G:\,)
*! OCCUPATION PROGRAM
Q458UT       2       ELAPSED TIME AFTER jobexpect
**************************************
Q459UB       6       RINCOME - RESPONDENT'S TOTAL 1993 INCOME
/^C1
/ What was_YOUR_total income from all sources, before taxes, in
/ 1993?  This figure should include salaries, wages, pensions, dividends,
/ interest, unemployment compensation, grants, financial aid, scholarships,
/ government assistance (AFDC), and all other income.
/
/ INTERVIEWER: ENTER "0" IF NO INCOME
/
/^B
/
/
/ What do you expect your total annual income to be when you are 30 years
/ old?
/
/ INTERVIEWER:  ENTER "0" IF RESPONDENT EXPECTS TO HAVE NO INCOME.
/
/^B
V                    (101/49999,999995,U0/100,50000/200000){Nnnnnn}
*RANGE RESTRICTED
Q460UB       7       EXPTINCM - R'S EXPECTED INCOME AT 30
V                    (0/1000000,9999995){Nnnnnnn}
**************************************
J461 459            B459("╨"."╙"."╘")=INVALID TOTAL INCOME
J461 460            B460("╨"."╙"."╘")=INVALID EXPECTED INCOME
Q461UT       2       ELAPSED TIME AFTER rincome
*! SKIP [IF MARSTAT = 1 OR 3 OR 4 AND HHPRTNER = 0 THEN GOTO debts]
J462 464             99(1.3.4)+M61(1)+62(0)
*! SKIP [IF MARSTAT = REF, DK, NA THEN GOTO debts]
J462 464             99("╤"."╥"."╙"."╘")
* SCREEN hhincome
Q462UB       6       HHINCOME - TOTAL 1992 HOUSEHOLD INCOME
/^C1
/ What was you and your ^107(1/2) total JOINT INCOME from all sources, before
/ taxes, in 1993?  Again, this figure should include salaries, wages, pensions,
/ dividends, interest, unemployment compensation, grants, financial aid,
/ scholarships, government assistance (AFDC), and all other income.
/
/ INTERVIEWER: ENTER "0" IF NO INCOME.
/
/^B
V                    (101/99999,999995,U0/100,100000/400000){Nnnnnn}
*                    (101/99998,999995,U0/100,99999/400000){Nnnnnn}
*RANGE RESTRICTED
J463 462            B462("╨"."╙"."╘")=INVALID VALUE
J463 462            B462(N"╤"+N"╥"+N"╙")+459(L999995)+462(LQ459)=HH INCOME IS LE
/SS THAN R'S INCOME
Q463UT       2       ELAPSED TIME AFTER hhincome
*!
* SCREEN debts
Q464UB       4       MORTGAGE - MONTHLY MORTGAGE/RENT
/ What are your current monthly payments for the following? ^C2
/
/ Home mortgage or rent for your primary residence?
/ INTERVIEWER:  CODE "0" IF NONE.
/
/^B
/
/ Automobile loans?
/ INTERVIEWER:  CODE "0" IF NONE.
```

```
/
/^B
/
/ Other debts?
/ INTERVIEWER:  CODE "0" IF NONE.
/
/^B
/
/ Do you contribute to anyone else's support, such as grandparents, aunts,
/ or other relatives, regardless of whether or not they currently live with
/ you?
/
/ ^B
V                   (0/1999,9995,U2000/3000){Nnnn}
*RANGE CHANGED
Q465UB       4      AUTOLOAN - MONTHLY AUTO LOANS
V                   (0/499,9995,U500/1000){Nnnn}
*RANGE CHANGED
Q466UB       4      OTHRDEBT - OTHER MONTHLY DEBTS
V                   (0/699,9995,U700/4000){Nnnn}
*RANGE CHANGED
Q467FB              CNTRBUTE - CONTRIBUTE TO ANYONE ELSE'S SUPPORT
C1                  YES
C2                  NO
G                   2,1
*!
Q468UT       2      ELAPSED TIME AFTER cntrbute
*************************************
*!
*! SKIP [IF "CNTRBUTE" = 2 (NO) OR REF,DK,NA THEN GOTO tvwatch]
J469 471            467(2."╤"."╥"."╙"."╘")
* SCREEN amtsuprt
* QUESTION WORDING TAKEN FROM HS&B 4TH FOLLOW-UP SAQ, Q.57.
Q469UB       5      AMTSUPRT - ANNUAL SUPPORT OF OTHER PERSON(S)
/^C1
/ How much would you estimate you spend annually for this (these)
/ person's support?
/
/^B
V                   (1/4999,99995,U5000/20000){Nnnnn}
J470 469           B469(GQ462)+469(N99995)+(462(G0).462(A+0+N"╤"+N"╥"+N"╙"+N"╘"
/))=AMOUNT CANNOT BE MORE THAN HOUSEHOLD INCOME
J470 469           B469(GQ459)+469(N99995)+462(0)+(459(G0).459(0+N"╤"+N"╥"+N"╙"
/+N"╘"))=AMOUNT CANNOT BE MORE THAN TOTAL INCOME
Q470UT       2      ELAPSED TIME AFTER amtsuprt
*************************************
* SCREEN ernlicrt
Q471FB              ERNLICRT - LICENSES EARNED SINCE HIGH SCHOOL
/^C2
/ Since the time you left high school, have you earned any type of
/ license (such as, broadcasting, hairdresser, real estate, etc.)?
/
/^B
C1                  YES
C2                  NO
G                   2,1
Q472UT       2      ELAPSED TIME AFTER ernlicrt
*************************************
*!
*! SKIP [IF "ENRLICRT" = 2 OR REF,DK OR N/A THEN GOTO rincome]
J473 480            471(2."╤"."╥"."╙"."╘")
* SCREEN numlicrt
Q473UB       2      NUMLICRT - NUMBER OF LICENSES EARNED SINCE HIGH SCHOOL
/^C1
```

```
/ How many licenses have you earned since leaving high school?
/
/^B
V                   (1/4,95,U5/20){Nn}
Q474UT       2      ELAPSED TIME AFTER numlicrt
**************************************
*!
*! SKIP [IF "NUMLICRT" != VALID THEN GOTO rincome]
J475 480            473(0)
Q475S               A loop Q...
C1                  first
C2                  next
C3                  next
C4                  next
C5                  next
*! LOOP MARKERS 1=first,2=second...
* SCREEN kindlicrt
* USE UNCODED VERBATIM FORMAT DURING PRETEST AND FIELD TEST TO
* DETERMINE CODED RESPONSE CATEGORIES FOR MAIN STUDY.
* Instruct: LOOP "KINDLCRT" THROUGH "DATEREC" RESPONSE TO "NUMLICRT" TIMES.
* Instruct: "INSERT" = "did you earn" if "NUMLICRT" = 1. "INSERT" = "did you ear
/n
* Instruct: first" IF "NUMLICRT" > 1 AND THIS IS FIRST TIME THROUGH LOOP.
* Instruct: "INSERT" = "did you earn next" IF "NUMLICRT" > 1 AND THIS IS NOT
* Instruct: FIRST TIME THROUGH LOOP.
Q476UB       80     KINDLCRT - TYPE OF LICENSE
/^C1
/~IF 473(1)
/ What type of license did you earn?
/~ELSE
/ What type of license did you earn ^475?
/~END
/
/^B
/
/
/ When did you receive this license?
/
/^B/^B
V                   M
* Instruct: LOOP "KINDLCRT" THROUGH "DATEREC" RESPONSE TO "NUMLICRT" TIMES.
Q477UB       2      DATEREC - DATE RECEIVED LICENSE-MONTH
V                   (1/12){Nn}
Q478UB       2      DATEREC - DATE RECEIVED LICENSE-YEAR
V                   (87/^83){NN}
J479 476           B476("|N")+476(N"╤"+N"╥").476(" ")+476S(L2)+476(N"╤"+N"╥")=N
/OT A VALID RESPONSE
J479 477           B478(Q83)+477(GQ82)=DATE IS AFTER CURRENT DATE
J479 477           B478(G0)+25(GQ478).25(Q478)+23(GQ477)+478(G0)+23(G0)=DATE IS
/ BEFORE GRADUATION FROM HIGH SCHOOL
J479 477           B478(G0)+477(G0)+(480(GQ478).478(Q480)+479(GQ477))=DATE IS B
/EFORE PREVIOUSLY ENTERED DATE
J479 480            477(G0)=:/^477:
J479 480            477(0)
Q479U               INSERT DATERECM
J480 481            478(G0)=:/^478:
J480 481            478(0)
Q480U               INSERT DATERECY
Q481UT       2      ELAPSED TIME AFTER kindlicrt
*! SKIP [IF "NUMLICRT" = LOOP COUNTER THEN GOTO aeversex]
J475 482            475(Q473)
R475 481
Q482ET
Q483ET
```

```
* SCREEN tvwatch
Q484FB               TVWATCH - NUMBERS HOURS WATCH TV WEEKDAYS
/^C1
/ During weekdays, that is, Monday through Friday, about how many hours
/ per day do you watch TV?
/
/ INTERVIEWER:  IF NECESSARY, PROBE BY READING RESPONSE CATEGORIES.
/
/^B
C1                   DON'T WATCH TV DURING WEEKDAYS
C2                   LESS THAN 1 HOUR
C3                   1 HOUR OR MORE, LESS THAN 2
C4                   2 HOURS OR MORE, LESS THAN 3
C5                   3 HOURS OR MORE, LESS THAN 4
C6                   4 HOURS OR MORE, LESS THAN 5
C7                   5 HOURS OR MORE, LESS THAN 6
C8                   6 HOURS OR MORE, LESS THAN 7
C9                   7 HOURS OR MORE, LESS THAN 8
C10                  8 HOURS OR MORE
Q485UT       2       ELAPSED TIME AFTER liveprnts tvwatch
**************************************
*!
* SCREEN leisure1
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN IN REVISED FORM FROM
* NELS 2ND FOLLOW-UP STUDENT QUESTIONNAIRE, Q. 33.
Q486FB               HOBBIES - TIME SPENT WORKING ON HOBBIES,ARTS, OR CRAFTS
/Now I'm going to ask you about various leisure activities.  For each
/activity I mention, please tell me if, during an average week, you
/participate in that activity one or more times per week. ^C2
/
/working on hobbies, arts, or crafts on your own? . . . .^B
/participating in religious activities? . . . . . .^B
/talking or doing things with your mother or father? . . ^B
/participating in sports (not sponsored by your school)? ^B
/reading for pleasure? . . . . . ^B
/
/I am now going to read you several statements.  Please tell me how
/important each is to your life:  very important, somewhat important, or not
/important.  INTERVIEWER: USE SCALE DESCRIBED BELOW:
/
/1 = VERY IMPORTANT  2 = SOMEWHAT IMPORTANT  3 = NOT IMPORTANT
/
/Being successful in your line of work? . . . . . ^B
/Having lots of money? . . . . . .^B
/Having strong friendships? . . . . . ^B
/Being able to find steady work? . . . . . .^B
/Being able to give your children better opportunities than you've had? ^B
C1                   YES
C2                   NO
G                    2,1
Q487FB               RELIGION - TIME SPENT PARTICIPATING IN RELIGIOUS ACTIVITIES
C1                   YES
C2                   NO
G                    2,1
Q488FB               TALKPARNTS - TIME SPENT TALKING OF DOING THINGS WITH YOUR MOTHER
OR FATHER
C1                   YES
C2                   NO
G                    2,1
Q489FB               PARSPORTS - TIME SPENT PARTICIPATING IN SPORTS (NOT SPONSORED BY
SCHOOL
C1                   YES
C2                   NO
G                    2,1
```

```
Q490FB               READING - TIME SPENT READING FOR PLEASURE
C1                   YES
C2                   NO
G                    2,1
Q491UB       1       SUCSLWRK - IMPORTANCE OF SUCCESS IN WORK
V                    (1/3){N}
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN IN REVISED FORM FROM
* HS&B 2ND FOLLOW-UP SOPHOMORE COHORT QUESTIONNAIRE, Q. 71 AND NELS 2ND
* FOLLOW-UP STUDENT QUESTIONNAIRE, Q.40.
Q492UB       1       LOTSMONY - IMPORTANCE OF HAVING LOTS MONEY
V                    (1/3){N}
Q493UB       1       STRGFRND - IMPORTANCE OF STRONG FRIENDSHIPS
V                    (1/3){N}
Q494UB       1       STDYWORK - IMPORTANCE OF ABLE FIND STEADY WORK
V                    (1/3){N}
Q495UB       1       CHLDOPTY - IMPORTANCE OF BETTER OPPORTUNITIES FOR CHILDREN
V                    (1/3){N}
Q496UT       2       ELAPSED TIME AFTER leisure important1
Q497ET
Q498ET
Q499ET
Q500ET
Q501ET
Q502ET
Q503ET
Q504ET
Q505ET
Q506ET
Q507ET
*!
* SCREEN volunteer
* ORIG_QTYPE = FIXED, MULTIPLE
Q508FMC      9       VOLUNTEER - VOLUNTEER WORK IN PAST 12 MONTHS
/Our next few questions are about unpaid volunteer or community service work.
/Please tell me which organizations (if any) you have worked with during the
/past 12 months.  Examples of such organizations include youth organizations
/like Little League, political clubs or organizations, organized volunteer
/work, such as in a hospital, etc.
/INTERVIEWER:  CODE ALL THAT APPLY. ^C1
C1                   YOUTH ORGANIZATIONS-I.E., LITTLE LEAGUE COACH, SCOUT LEADER
/, ETC.?
C2                   A UNION, FARM, TRADE OR PROFESSIONAL ASSOCIATION?
C3                   POLITICAL CLUBS OR ORGANIZATIONS?
C4                   A CHURCH OR CHURCH-RELATED ACTIVITIES (NOT INCLUDING WORSHI
/P SERVICES)?
C5                   ORGANIZED VOLUNTEER WORK--SUCH AS IN A HOSPITAL?
C6                   SPORTS TEAMS OR SPORTS CLUBS?
C7                   EDUCATIONAL ORGANIZATIONS--SUCH AS AN ACADEMIC GROUP?
C8                   OTHER
C9                   NONE
J509 508            B508(9)+508(1/8)=CAN'T CODE NONE WITH OTHER RESPONSES
Q509UT       2       ELAPSED TIME AFTER volunteer
**************************************
*!
*! SKIP [IF "VOLUNTEER" = 9 (NONE) THEN GOTO voting]
J510 516             508(9."╤"."╥"."╙"."╘")
* DELETED SCREEN othrvlnt
Q510ET
Q511ET
*!
**************************************
*!
*! SKIP [IF 1 CATEGORY CODED IN "VOLUNTEER"
*!      THEN GOTO whyvolt1]
```

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J512 514             0(L2)=508U(1/8)=
* SCREEN frqvlntr
Q512FB               FRQVLNTR - VOLUNTEER ORG PARTICIPATE MOST FREQUENTLY
/^C1
/ Which one do (did) you participate in most frequently?
/
/ INTERVIEWER:  IF NECESSARY, PROBE BY READING LIST OF VOLUNTEER ORGANIZATIONS.
/
/^B
C1                   YOUTH ORGANIZATIONS-(LITTLE LEAGUE COACH, SCOUT LEADER, ETC
/.)
C2                   A UNION, FARM, TRADE OR PROFESSIONAL ASSOCIATION
C3                   POLITICAL CLUBS OR ORGANIZATIONS
C4                   A CHURCH OR CHURCH-RELATED ACTIVITIES
C5                   ORGANIZED VOLUNTEER WORK--SUCH AS IN A HOSPITAL
C6                   SPORTS TEAMS OR SPORTS CLUBS
C7                   EDUCATIONAL ORGANIZATIONS--SUCH AS AN ACADEMIC GROUP
C8                   OTHER
G                    '<1/8(=508('<1/8()
Q513UT       2       ELAPSED TIME AFTER frqvlntr
*************************************
*!
* SCREEN hrsvlntr
Q514UB       2       HRSVLNTR - HRS PER WEEK R DID VOLUNTEER WORK
/^C1
/ During the past 12 months, how many hours per week did you do
/ volunteer work?
/
/^B
V                    (1/45,95,U46/60){Nn}
*RANGE CHANGE
Q515UT       2       ELAPSED TIME AFTER hrsvlntr
J516 517
Q516X                TEXT SUBST QUESTION FOR RACEWORK
C1                   present
C2                   most recent
C3                   are
C4                   were
G                    1,3=345(1)
G                    2,4=345(2.3.4."╤"."╥"."╙"."╘")
Q517ET
Q518ET
Q519ET
Q520ET
Q521ET
*!
* SCREEN voting
Q522FB               REGVOTE - REGISTERED TO VOTE
/^C2
/ Are you currently registered to vote?
/
/^B
/
/
/ During the past 12 months, have you voted in a local, state, or
/ national election?
/
/^B
/
/
/ Did you vote in the 1992 Presidential election?
/
/^B
C1                   YES
```

```
C2                    NO
G                     2,1
Q523FB                NATELEC - PAST 12 MONTHS VOTE LOCAL/STATE NATIONAL ELECTION
C1                    YES
C2                    NO
G                     2,1
Q524FB                VOTEPRES - VOTE IN 1992 PRESIDENTIAL ELECTION
C1                    YES
C2                    NO
G                     2,1
Q525UT        2       ELAPSED TIME AFTER voting
**************************************
*!
* SCREEN strsevnts
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN IN REVISED FORM FROM
* NELS 2ND FOLLOW-UP STUDENT QUESTIONNAIRE, Q.96.
* ORIG_QTYPE = FIXED, MULTIPLE
Q526FB                STRSEVNT1 - R/FAMILY ARRESTED OR INCARCERATED
/Lots of things happen to individuals or to their families that may ^C2
/affect young people's lives.  I will now read you a list of such things.
/For each item I read, please tell me if that event has happened to you
/or a family member.  These questions are voluntary and you may refuse to
/answer any or all of them.
/
/You or a close friend were arrested or incarcerated?      ^B
/
/
/You or a family member became seriously ill or disabled?  ^B
/
/
/You or a family member were a victim of a serious crime?  ^B
/
/
/There was a death in your family?                         ^B
C1                    YES
C2                    NO
G                     2,1
Q527FB                ILLDISBL - R/FAMILY SERIOUSLY ILL
C1                    YES
C2                    NO
G                     2,1
Q528FB                CRIME - R/FAMILY VICTIM OF CRIME
C1                    YES
C2                    NO
G                     2,1
Q529FB                DEATH - DEATH IN FAMILY
C1                    YES
C2                    NO
G                     2,1
Q530UT        2       TIME ELAPSED AFTER strsevnt1
*!
*!
* SCREEN 1stsex
* QUESTION WORDING TAKEN FROM NATIONAL SURVEY OF FAMILY GROWTH (NSFG
* B-27).
Q531UB        2       FIRSTSEX - MONTH OF FIRST SEX
/ Now I would like to ask you about your sexual activity.  Let me remind you
/ that all the information you provide is kept strictly confidential.
/
/ Have you ever had sexual intercourse?
/ IF NO, CODE "00/00".
/ IF YES, "When did you have sexual intercourse for the first time?  In what
/ month and year was that?"
/ INTERVIEWER:  IF R DOES NOT REMEMBER, PROBE, "How old were you at the
```

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/ time?"  ASK FOR SEASON IF R DOES NOT REMEMBER THE MONTH.  PROBE FOR A BEST
/ ESTIMATE IF R DOES NOT REMEMBER YEAR.
/
/ ^B/^B
V                    (0/12){Nn}
Q532UB       2       FIRSTSEX - YEAR OF FIRST SEX
V                    (0,88/^83,95,U84/87){NN}
*RANGE CHANGED FROM 80/CURRENT
*533 531             B531(95)+532(N95).531(N95)+532(95)=INVALID DATE
J533 531             B532(Q83)+531(G0)+531(GQ82)=DATE AFTER CURRENT DATE
J533 531             B531(0+N"╤"+N"╥")+(532(G0).532("╤"."╥"))=IF NO, ENTER 0 IN B
/OTH FIELDS
J533 531             B532(0+N"╤"+N"╥")+(531(G0).531("╤"."╥"))=IF NO, ENTER 0 IN B
/OTH FIELDS
Q533UT       2       ELAPSED TIME AFTER 1stsex
* QUESTION WORDING TAKEN FROM NATIONAL SURVEY OF FAMILY GROWTH (NSFG
* C-1A).
*! SKIP [IF "1STSEX" = 00/00 THEN GOTO rdobssn]
*! SKIP [IF "1STSEX" = REF OR N/A THEN GOTO rdobssn]
J534 542             531(0+N"╥"+N"╘"+N"╨")+532(0+N"╥"+N"╘"+N"╨")
Q534FB               USEBIRCN - BIRTH CONTROL 1ST SEX INTERCOURSE
/^C2
/ Thinking back to the first time you had sexual intercourse, did you and your
/ partner use any method of birth control to prevent pregnancy or sexually
/ transmitted disease?
/
/ ^B
C1                   YES
C2                   NO
G                    2,1
Q535UT       2       ELAPSED TIME AFTER 1stsex
**************************************
*!
*! SKIP [IF "MARSTAT" = 2 THEN GOTO rincome]
J536 542             99(2)
* SCREEN freqsex
* QUESTION WORDING TAKEN FROM NATIONAL SURVEY OF FAMILY GROWTH (NSFG
* B-11).
Q536FB               FREQSEX - FREQUENCY OF SEX IN LAST MONTH
/^C1
/ In the last month, how often did you have intercourse?
/
/ INTERVIEWER: IF R IS UNABLE TO RESPOND, PROBE, "Would you say, three or more
/ times, two times, once, or not at all?"
/
/^B
C1                   THREE OR MORE TIMES
C2                   TWO TIMES
C3                   ONCE
C4                   NOT AT ALL
G                    4,3,2,1
* QUESTION WORDING TAKEN FROM NATIONAL SURVEY OF FAMILY GROWTH (NSFG
* 9-15).
Q537UT       2       ELAPSED TIME AFTER freqsex
**************************************
*!
* SCREEN  bcmethod1
*!
* QUESTION WORDING TAKEN FROM NATIONAL SURVEY OF FAMILY GROWTH (NSFG
* C-3 - Version 2).
Q538FMC      7       BCMETHOD1 - TYPE BIRTH CONTROL USED LAST TIME HAD SEX -CODED
/^C1
/ The last time you had intercourse, did you and your partner use any method
/ of birth control to prevent pregnancy or sexually transmitted disease?
```

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/ IF "NO", CODE "NONE".
/ IF "YES",  "What method was that?"
/
/ INTERVIEWER:  CODE ALL THAT APPLY.
C1                    NONE
C2                    PILL
C3                    CONDOM
C4                    STERILIZATION
C5                    WITHDRAWAL
C6                    DIAPHRAGM
C7                    SOME OTHER METHOD
J539 538             B538(1)+538(2/7)=CAN'T CODE NONE WITH OTHER RESPONSES
* QUESTION WORDING TAKEN FROM NATIONAL SURVEY OF FAMILY GROWTH (NSFG
* C-3 - Version 2).  LIST TAKEN FROM LIST OF METHODS TO BE CODED IN
* NSFG, CYCLE V)
Q539UT       2       ELAPSED TIME AFTER bcmethod1
* SKIP [IF "BCMETHOD1" != 7 THEN GOTO rdobssn]
J540 542             538(N7)
Q540UB       80      BCMETHOD2 - TYPE BIRTH CONTROL USED LAST TIME HAD SEX -VERBATIM
/
/INTERVIEWER:  CODE "OTHER METHOD" HERE.
/
/^B
J541 540            B540(" ")+540S(L2)=DON'T LEAVE VERBATIM BLANK
J541 540            B540("╨"."╙"."╘")=NOT A VALID FUNCTION KEY
Q541UT       2       ELAPSED TIME AFTER bcmethod2
****************************************
* SCREEN rdobssn
* Instruct: MONTH, DAY AND YEAR SHOULD BE STORED AS THREE SEPARATE VARIABLES.
Q542UB               RDOB - RESPONDENT DOB
/^C1
/OK, I have just a few more questions for you.
/
/INTERVIEWER:  VERIFY AND/OR CORRECT RESPONDENT'S DATE OF BIRTH AND SOCIAL
/SECURITY NUMBER.
/
/DATE OF BIRTH:  ^E5/^E6/^E7  (MM/DD/YY)
/
/SOCIAL SECURITY NUMBER:  ^E10-^E11-^E12
J543 542            B5(2)+6(G29).5(9.4.6.11)+6(GE31)=INVALID DATE
J543 542            B5(G12).5(0+N"╤"+N"╥").6(0+N"╤"+N"╥").7(0+N"╤"+N"╥").6(G31)=
/INVALID DATE
J543 542            B7(G0)+7(L70).7(G79)=YEAR IS NOT BETWEEN 70 AND 79
*FIELD TEST CHECKS
J543 542            B10(N"╤"+N"╥")+10S(L3)+10(" ").11(N"╤"+N"╥")+11S(L2)+11(" ")
/.12(N"╤"+N"╥")+12S(L4)+12(" ")=INVALID RESPONSE
J543 542            B10("|N")+10(0+N"╤"+N"╥")+11("|N")+11(0+N"╤"+N"╥")+12("|N")+
/12(0+N"╤"+N"╥")=SOCIAL SECURITY NUMBER CANNOT BE EQUAL TO ZERO
J543 542            B10(G0)+10S(L3).11(G0)+11S(L2).12(G0)+12S(L4)=ENTER ALL 9 DI
/GITS
*EXTRA
J543 542            B10("|N")+10(0+N"000"+N"╤"+N"╥").11("|N")+11(0+N"00"+N"╤"+N"
/╥").12("|N")+12(0+N"0000"+N"╤"+N"╥")=SOCIAL SECURITY NUMBER SHOULD NOT INCLUDE
/BLANKS
J543 542            B10("╥")+(11(N"╥").12(N"╥")).11("╥")+(10(N"╥").12(N"╥")).12(
/"╥")+(10(N"╥").11(N"╥"))=IF DON'T KNOW SSN, USE F8 ON ALL 3 PARTS OF SSN
J543 542            B10("╤")+(11(N"╤").12(N"╤")).11("╤")+(10(N"╤").12(N"╤")).12(
/"╤")+(10(N"╤").11(N"╤"))=IF REFUSED SSN, USE F7 ON ALL 3 PARTS OF SSN
*543 542            B10("╘")+(11(N"╘").12(N"╘")).11("╘")+(10(N"╘").12(N"╘")).12(
/"╘")+(10(N"╘").11(N"╘"))=IF MISSING SSN, USE F9 ON ALL 3 PARTS OF SSN
Q543UT       2       ELAPSED TIME AFTER rdob
****************************************
*!
****************************************
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*!
*! SKIP [IF "P_SEX" = VALID THEN GOTO race]
J544 546             16(2)
* SCREEN sex
Q544UP               RSEX - RESPONDENT'S SEX
/^C1
/ INTERVIEWER:  CODE RESPONDENT'S SEX.  VERIFY IF YOU ARE UNSURE.
/
/^E8
Q545UT       2       ELAPSED TIME AFTER sex
**************************************
*!
*! SKIP [IF "P_RACE" = VALID THEN GOTO raddress1]
J546 548             17(2)
* SCREEN race
* RESPONSE CATEGORIES TAKEN FROM NELS SECOND FOLLOW-UP.
Q546UP               RACE - RESPONDENT RACE
/^C1
/ What is your racial or ethnic background?
/
/ INTERVIEWER:  IF NECESSARY, PROBE BY READING RESPONSE CATEGORIES.
/
/^E9
Q547UT       2       ELAPSED TIME AFTER race
**************************************
*!
*! SKIP [IF "RACE" = 2 THEN GOTO racehisp]
*! DELETED- SKIP [IF "RACE" = 1 THEN GOTO raceapi]
*! SKIP [IF "RACE" != 1 OR 2  THEN GOTO raddress1]
*PER PAUL AND JEANNETTE - ASK RACEHISP AND RACEAPI OF ALL
J548 552             9(2)
*548 550             9(1)
J548 554             9(N1+N2)
*DELETED - SKIP OVER OTHRRACE IF PRELOADED WITH OTHER
*548 554             17(2)
Q548ET
*^C1
/ INTERVIEWER:  TYPE RESPONDENT'S DEFINITION OF HER/HIS RACE.
/
/^B
*549 548            B548("|N")+548(N"╤"+N"╥"+N"╚"+N"╘").548(" ")+548S(L2)+548(N"
/╤"+N"╥"+N"╚"+N"╘")=NOT A VALID RESPONSE
*! backward skip
*!DELETED  SKIP [IF "OTHRRACE" = NUMERIC OR "OTHRRACE"=MISSING AND NOT REFUSED
*! AND NOT DON'T KNOW THEN GOTO othrrace]
Q549ET
**************************************
*!
*! DELETED SKIP [IF "RACE" = 6 THEN GOTO racialcomp]
*550 554             9(6)
* SCREEN raceapi
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN FROM NELS 2ND
* FOLLOW-UP PARENT QUESTIONNAIRE.
Q550FB               RACEAPI - RESPONDENT RACE, API
/^C1
/ Which of the following best describes your background?
/
/ INTERVIEWER: READ RESPONSE CATEGORIES.
/
/^B
C1                   Chinese
C2                   Filipino
C3                   Japanese
C4                   Korean
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C5                    Southeast Asian, such as Vietnamese, Laotian, Cambodian/Kam
/puchean, Thai, etc
C6                    Pacific Islander, such as Samoan, Guamanian, etc.
C7                    South Asian, such as Asian Indian, Pakistani, etc.
C8                    Other Asian
Q551UT       2        ELAPSED TIME AFTER raceapi
**************************************
*! SKIP [IF "RACE" = 1 THEN GOTO racialcomp]
J552 554              9(1)
* SCREEN racehisp
* QUESTION WORDING AND RESPONSE CATEGORIES TAKEN FROM NELS 2ND
* FOLLOW-UP PARENT QUESTIONNAIRE.
Q552FB                RACEHISP - RESPONDENT RACE, HISPANIC
/^C1
/ Which of the following best describes your background?
/
/ INTERVIEWER: READ RESPONSE CATEGORIES.
/
/^B
C1                    Mexican, Mexican-American, Chicano
C2                    Cuban
C3                    Puerto Rican
C4                    Dominican
C5                    Ecuadorian
C6                    Salvadorian
C7                    Colombian
C8                    Other Hispanic
Q553UT       2        TIME ELAPSED AFTER RACEHISP
* screen racialcomp
Q554UB       3        RACEGREW - PERC RACE NEIGHBORHOOD GREW UP IN
/
/ The next questions ask about the racial and ethnic composition of places
/ where you have spent time.
/
/ What percentage of the people in the neighborhood where you grew up
/ were of the same race and ethnicity as you?
/
/ ^B%
/
/
/ What percentage of the people in your present neighborhood are
/ of the same race and ethnicity as you?
/
/ ^B%
/
/
/ What percentage of the people in your ^516(1/2) workplace ^516(3/4)
/ of the same race and ethnicity as you?
/
/ ^B%
V                     (0/100){Nnn}
Q555UB       3        RACEPRES - PREC RACE IN CURRENT NEIGHBORHOOD
V                     (0/100){Nnn}
Q556UB       3        RACEWORK - PERC RACE AT (LAST) JOB
V                     (0/100){Nnn}
Q557UT       2        ELAPSED TIME AFTER RACEWORK
```

Appendix B

Interviewer Training--Trainer's Agenda

NELS:88/94 Main Study
Interviewer Training--Trainer's Agenda

Pre-training: Read Interviewer Manual 1.0 hours
Day One--Monday, February 7, 1994

	Training Module	**Length**	**Time**
A.	Introduction/Overview	0.25 hours	10:00 - 10:15
B.	Confidentiality Procedures	0.25 hours	10:15 - 10:30
C.	Conversational Interviewing	0.50 hours	10:30 - 11:00
Q.	On-line Coding Systems Overview	0.25 hours	11:00 - 11:15
D.	Occupation/Industry Coding	1.50 hours	11:15 - 12:45
	Break	0.50 hours	12:45 - 01:15
E.	IPEDS Coding	1.00 hours	01:15 - 02:15
L.	Locating	0.50 hours	02:15 - 02:45
M.	Mock #1: Easy Round Robin (w/o CATI)	2.00 hours	02:45 - 04:45
	Total Training Time	6.75 hours	
Homework Exercise: Exercise H		0.50 hours	

Day Two--Tuesday, February 8, 1994

	Practice SIC/SOC, IPEDS	1.00 hours	10:00 - 11:00
H.	Day One Homework Review	0.25 hours	11:00 - 11:15
I.	TNMS Part 1	0.75 hours	11:15 - 12:00
G.	Gaining Cooperation	1.00 hours	12:00 - 01:00
	Break	0.50 hours	01:00 - 01:30
G.	Gaining Cooperation Continued	0.50 hours	01:30 - 02:00
F.	CCM Coding	0.50 hours	02:00 - 02:30
N.	Mock #2: More Difficult Round Robin (w/CATI)	1.75 hours	02:30 - 04:15
	Total Training Time	6.25 hours	
Homework Exercise: Exercise K		0.50 hours	

NELS:88/94 Main Study
Interviewer's Training--Trainer's Agenda

Day Three--Wednesday, February 9, 1994

	Training Module	Length	Time
	Practice CCM, SIC/SOC, IPEDS	1.00 hours	10:00 - 11:00
K.	Day 2 Homework Review	0.25 hours	11:00 - 11:15
J.	Quality Control	0.25 hours	11:15 - 11:30
I.	TNMS Part 2	1.50 hours	11:30 - 01:00
	Break	0.50 hours	01:00 - 01:30
O.	Mock #3: CATI Dyad	1.50 hours	01:30 - 03:00
O.	Mock #4: CATI Dyad	1.50 hours	03:00 - 04:30
	Total Training Time	6.50 hours	

Appendix C

Locator Training--Trainer's Agenda

NELS:88/94
Locator Training--Trainer's Agenda

Monday, February 7, 1994

	Training Module	Length	Time
A.	Introduction/Overview	0.25 hours	3:30 - 3:45
B.	Confidentiality Procedures	0.25 hours	3:45 - 4:00
C.	Locating Overview	0.25 hours	4:00 - 4:15
D.	Locating Resources	0.50 hours	4:15 - 4:45
E.	Contacting	1.00 hours	4:45 - 5:45
	Break	0.50 hours	5:45 - 6:15
F.	CMS Overview	0.25 hours	6:15 - 6:30
G.	CMS Locating Software	3.00 hours	6:30 - 9:00
G.	CMS Practice	0.50 hours	9:00 - 9:30
	Total Training Time	5.50 hours	

Pre-Training: Read Locator Manual 1.00 hour
Homework: Review CMS Tutorial 1.00 hour

Tuesday, February 8, 1994

J.	Gaining Cooperation	1.50 hours	3:30 - 5:00
K.	What If Scenarios	1.50 hours	5:00 - 6:00
	Break	0.50 hour	7:00 - 7:30
L.	What If Scenarios (Cont.)	2.00 hours	7:30 - 9:00
	Total Training Time	5.50 hours	