
NATIONAL CENTER FOR EDUCATION STATISTICS

User's Manual

September 1994

NATIONAL EDUCATION LONGITUDINAL STUDY OF 1988

SECOND FOLLOW-UP: STUDENT COMPONENT
DATA FILE USER'S MANUAL

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"The purpose of the Center shall be to collect, and analyze, and disseminate statistics and other data related to education in the United States and in other nations."--Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

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Foreword

This manual has been produced to familiarize data users with the procedures followed for data collection and processing of the second follow-up student component of the National Education Longitudinal Study of 1988 (NELS:88). A corollary objective is to provide the necessary documentation for use of the data file.

Use of the data set does not require the analyst to be a sophisticated statistician or computer programmer. Most social scientists and policy analysts should find the data set organized and equipped in a manner that facilitates straightforward production of statistical summaries and analyses. This manual provides extensive documentation of the content of the data file and how to use it. **Chapter VII and Appendix I, in particular, contain essential information that allows the user to immediately proceed with minimal startup cost. A careful reading of Chapter VII and Appendix I will help users to avoid common mistakes that result in costly computer job failures or incorrect results.**

The rest of the manual provides a wide range of information on the design and conduct of the National Education Longitudinal Study of 1988 (NELS:88). Chapter I begins with an overview and history of NCES's National Education Longitudinal Studies program and the various studies that it comprises. Chapter II contains a general description of the data collection instruments used in the NELS:88 second follow-up.

The sample design and weighting procedures used in the second follow-up study are documented in Chapter III, as well as standard errors and design effects, non-sampling measurement errors, and problematic variables.

Data collection procedures, schedules, and results are presented in Chapter IV. Chapter V describes data control and preparation activities such as monitoring receipt of questionnaires, editing, and data retrieval. Chapter VI describes data processing activities including machine editing and construction of the cleaned data tape. Finally, Chapter VII describes the organization and contents of the data file and provides important suggestions for using it.

The appendices contain a list of other NCES NELS:88 publications; guidelines for Statistical Analysis System (SAS) users; the second follow-up student questionnaire; the record layout for the student questionnaire; specifications for the composite variables; the content areas of the second follow-up components; a glossary of project terms; a discussion of conducting cross-cohort trend analyses of students; and a codebook for the student questionnaire data.

In addition to the study described in this manual, a number of supplemental NELS:88 components are also described in Appendix A.

Earlier NCES longitudinal studies that may be of interest to NELS:88 users are described in Appendix B including the following: the High School and Beyond (HS&B) base year files; merged HS&B first, second, third, and fourth follow-up files; related HS&B files; and assorted files related to the National Longitudinal Study of the High School Class of 1972 (NLS-72).

A Note on Data Use and Confidentiality

The NELS:88 second follow-up data files are released in accordance with the provisions of the General Education Provisions Act (GEPA) [20-USC 122e 1] and the Carl D. Perkins Vocational Education Act. The GEPA assures privacy by ensuring that respondents will never be individually identified.

The National Center for Education Statistics (NCES) is responsible under the Privacy Act and Public Law 100-297 for protecting the confidentiality of individually identifiable respondents, and is releasing this data set to be used for statistical purposes only. Record matching or deductive disclosure by any user is prohibited.

To ensure that the confidentiality provisions contained in PL 100-297 and the Privacy Act have been fully implemented, procedures commonly applied for disclosure avoidance in other Government-sponsored surveys were used in preparing the data file associated with this manual. These include suppressing, abridging, and recoding identifiable variables. Every effort has been made to provide the maximum research information that is consistent with reasonable confidentiality protection. Deleted, abridged, and/or recoded variables appear with an explanatory footnote in the codebook attached to each user's manual.

Acknowledgements

A study such as this is built first and foremost upon the students, dropouts, teachers, school administrators, and parents who have so generously provided its basic data. We are grateful for their cooperation. We also thank the considerable numbers of school personnel who have assisted in the implementation of NELS:88.

We wish to acknowledge the role of a number of other individuals in the realization of the aims of this study. Donald Rock and Judith Pollack of Educational Testing Service served as task leaders for cognitive test development. Miriam Clarke provided counsel on management issues in the main study. Leslie Scott contributed significantly to the conceptualization and development of file specifications and composite variables for the components of the study.

We are also grateful to the members of NCES staff in the Longitudinal and Household Studies Branch who worked closely with us on this project. Jeffrey Owings, chief of the Longitudinal and Household Studies Branch; Peggy Quinn, project officer for the second follow-up; as well as other branch staff--Ralph Lee, Shi-Chang Wu, and Jerry West--who contributed to various aspects of this study. Bob Burton of the Statistical Standards and Methodology Division supplied statistical advice and review.

Three individuals in other agencies have worked particularly hard and effectively to help realize and extend the potential of NELS:88. Larry Suter of the National Science Foundation, Dick Berry (formerly of the National Science Foundation), and Carmen Simich-Dudgeon (formerly of the Office of Bilingual Education and Minority Languages Affairs (OBEMLA) of the U.S. Department of Education). We are grateful for their efforts.

In addition, we would like to express our appreciation to the members of what began in the base year as our National Advisory Panel, and became in 1989 the NELS:88 Technical Review Panel. The panelists--Jerald G. Bachman, Gordon Ensign, Lyle V. Jones, Nancy Karweit, Richard J. Murnane, Patricia Shell, Marshall S. Smith, and John Stiglmeier--provided wise counsel on many difficult issues of design, instrumentation and implementation. As consultants to the second follow-up, Aaron Pallas, Joan Talbert, Leigh Burstein, Anthony Bryk, and Senta Raizen also contributed importantly to the design and ultimate success of the study.

Steven J. Ingels was overall NELS:88 second follow-up project director. Lisa Thalji was associate project director responsible for securing school cooperation and locating NELS:88 cohort members. Katy Dowd was associate project director responsible for the student component during data collection. Laura Reed and Virginia Bartot were the data processing managers, and Martin R. Frankel was the task leader for sampling and statistics.

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Appendices

Appendix A: NELS:88 Sources of Contextual Data: Parent, Teacher, School Administrator, Transcript, and Course Offerings Components

- Appendix B:** NELS:88-Related Data Files Available from the National Center for Education Statistics
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- Appendix G:** Public Use Record Layout for NELS:88 Second Follow-Up Data Tape
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- Appendix L:** Critical Items, Abbreviated Questionnaire Items, and Refusal Conversion Items from the Second Follow-Up Student and Dropout Questionnaires and New Student Supplement
- Appendix M:** NELS:88 Second Follow-Up Content Areas: Student, Dropout and School Components
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- Appendix O:** Glossary of NELS:88 Terms
- Appendix P:** Selected Measures of NELS:88 Base Year Data Quality
- Appendix Q:** NELS:88 Third Follow-Up (1994) Questionnaire

II. Data Collection Instruments

This chapter provides a brief description of the student and dropout survey instruments and cognitive tests used in the second follow-up. All other instruments--the parent, school administrator, teacher, and new student supplement questionnaires--are described in Appendix A. Because of their similarity to the second follow-up documents, the content areas of the base year and first follow-up questionnaires will not be described in this manual. Appendix A, however, does give a comparative overview of the content areas in the base year and first follow-up questionnaires. Any differences in or additions to thematic areas in the second follow-up survey instruments are illustrated in Appendix A. Since longitudinal data users may benefit from being able to take into account the data that is being collected in 1994, a copy of the third follow-up questionnaire is included in Appendix Q.

2.1 Instrument Development

The data collection instruments for the NELS:88 second follow-up were similar in content and form to those utilized in the prior waves. The second follow-up instruments consisted of a student questionnaire and cognitive tests, dropout, parent, teacher, and school administrator questionnaires. The new student supplement, added in the first follow-up to elicit demographic information from newly freshened students, was again administered in the second follow-up.

Instrument development was guided by the research objectives of NELS:88. Questionnaires were designed to meet the longitudinal goals of the study; items were chosen based on their utility in predicting or explaining future outcomes as measured in the second follow-up or later survey waves. All of the questionnaires employed in the base year, first follow-up, and second follow-up surveys were framed to provide continuity and consistency with earlier NCES education longitudinal studies, as well as to address new areas of policy concern and to reflect recent directions in theory. Where appropriate, NELS:88 drew test and questionnaire content from NLS-72, HS&B, and other NCES studies, such as the National Assessment of Educational Progress (NAEP) and the Schools and Staffing Study (SASS), to ensure a common standard of measurement that would permit comparisons with other important data sources, and maximize the utility of NELS:88 data. For example, NELS:88 mathematics tests were designed so that NELS:88 and NAEP test scores can be equated, and so that HS&B and NELS:88 mathematics test results can be equated as well. Appendix E contains an outline of the items which overlap between the NELS:88 base year, first follow-up, and second follow-up questionnaires, HS&B senior cohort student questionnaires, and NLS-72 senior cohort student questionnaire.

A field test of the NELS:88 second follow-up, conducted in 1990 and 1991, examined survey instruments and procedures, and played a key role in instrument development. The second follow-up field test included six survey components: the student, dropout, parent, and school administrator surveys, the cognitive test battery, and the transcript component. Upon completion of field test data collection, the information gathered was used to inform planning for the main study. Analysis of field test data was also used to improve the measurement properties of test and questionnaire items, as well as to identify instrument items which needed to be modified or deleted for reasons of instrument length or item format. A detailed description of the second follow-up field test can be found in the *Field Test Report: National Education Longitudinal Study of 1988 Second Follow-Up*.¹⁷

2.2 Survey Instruments and Content Coverage

2.2.1 Student Questionnaire and Cognitive Tests

Sample members who attended school during the spring term of the 1991-92 school year were administered a student questionnaire, either at an in-school or off-campus survey session. Sample members who were administered a student questionnaire also included 1) those identified as dropouts at some earlier time, but who returned to and remained in school during the spring term of 1992, and 2) those alternative completers who had already passed the General Educational Development test (GED) or had obtained some other equivalency certification. The self-administered questionnaire, which took approximately one hour to complete, collected information on a wide range of topics, including students' background, language use, home environment, perceptions of self, occupational or postsecondary educational plans, jobs and household chores, school experiences and activities, work, and social activities. Information collected by the second follow-up student questionnaire supplies a baseline for the study of the NELS:88 cohort's transition to postsecondary education or entry into the labor market. The second follow-up student and dropout questionnaires were available in both English and Spanish.¹⁸

¹⁷ Dowd, K. et al.; v. 1; 1991; Chicago: NORC. ERIC ED 335-418.

¹⁸ Eight dropouts and 41 students completed the Spanish-language questionnaire in the NELS:88 second follow-up. Because of the small number of questionnaires completed in Spanish, a separate flag was not created for these cases. The percentage of questionnaires completed in Spanish--around 0.2 percent--is similar to the percentage of HS&B seniors who opted to complete Spanish-language questionnaires in 1980/1982.

In addition to the student questionnaire, students completed a series of cognitive tests, also administered at in-school or off-campus survey sessions. The combined tests, covering four subject areas, included 116 items to be completed in 85 minutes. The cognitive tests are described briefly below:

- Reading Comprehension (21 questions, 21 minutes)

This subtest contained five short reading passages or pairs of passages, with three to five questions about the content of each. Questions encompassed understanding the meaning of words in context, identifying figures of speech, interpreting the author's perspective, and evaluating the passage as a whole.

- Mathematics (40 questions, 30 minutes)

Test items included word problems, graphs, equations, quantitative comparisons, and geometric figures. Some questions could be answered by simple application of skills or knowledge, others required the student to demonstrate a more advanced level of comprehension and/or problem solving.

- Science (25 questions, 20 minutes)

The science test contained questions drawn from the fields of life science, earth science, and physical science/chemistry. Emphasis was placed on understanding of underlying concepts rather than retention of isolated facts.

- History/Citizenship/Geography (30 questions, 14 minutes)

American history questions addressed important issues and events in political and economic history from colonial times through the recent past. Citizenship items included questions on the workings of the federal government and the rights and obligations of citizens. The geography questions touched on patterns of settlement and food production shared by other societies as well as our own.

NORC's subcontractor, the Educational Testing Service (ETS), developed the cognitive test battery for the second follow-up. Six forms of the cognitive test battery were produced in the second follow-up, each comprising a different combination of mathematics and reading difficulty levels. Each sample member's test form was determined by his or her scores on the base year and/or first follow-up mathematics and reading tests; freshened students and first follow-up nonrespondents received the intermediate version of the second follow-up cognitive test battery (Version III). The purpose of the multilevel design of the second follow-up cognitive test battery was to guard against ceiling and floor effects which may occur when testing must span four years of schooling. This adaptive approach tailors the difficulty of the reading and

mathematics tests to the ability of the respondent, thereby leading, given limitations in testing time, to a more accurate measurement than a single level design. Figure 2-1 illustrates the distribution of test versions to second follow-up sample members and defines the test combinations used in the second follow-up.

Psychometric properties of the cognitive tests are discussed in the forthcoming *NELS:88 Second Follow-Up Psychometric Report*, the forthcoming *NELS:88 First Follow-Up Final Technical Report*, and the *Psychometric Report for the NELS:88 Base Year Test Battery*, all obtainable from NCES.

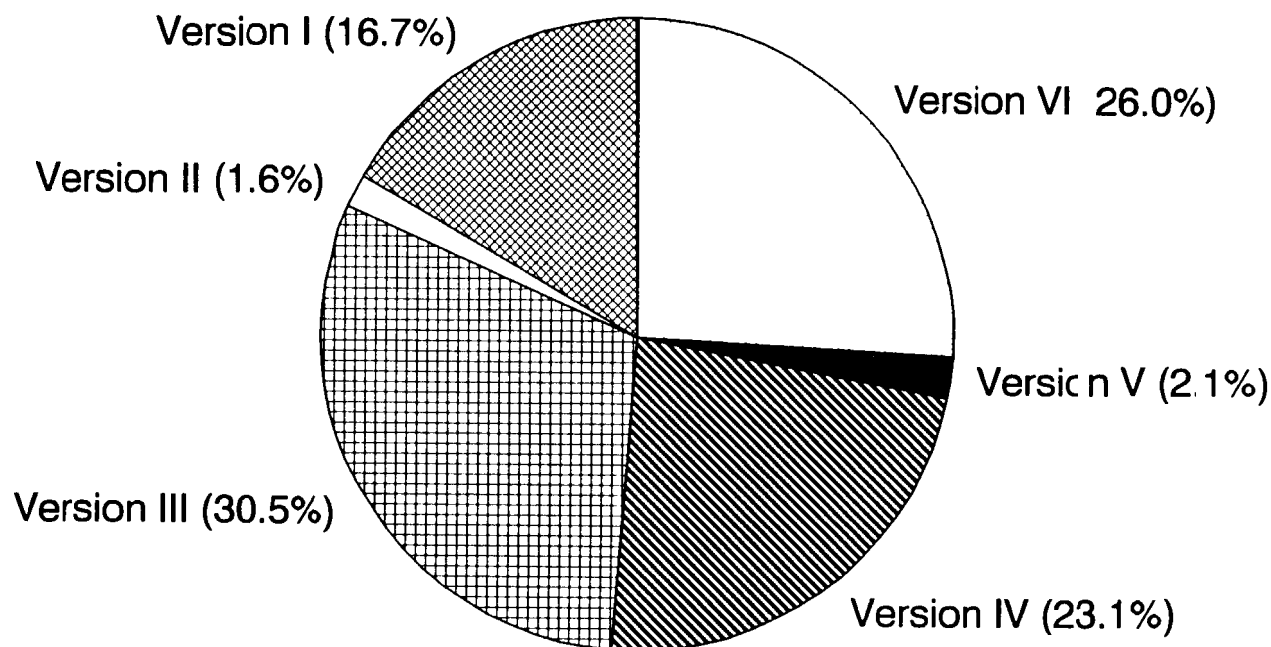
2.2.2 Dropout Questionnaire

During the data collection period from January through October 1992, a dropout questionnaire was administered to sample members who, based on data gathered through administration of a status screener, were not in an academic program leading to a high school diploma and had not received a GED by the spring of 1992. The dropout questionnaire collected data about the last school attended by the sample member and the school's climate, reasons for leaving school, and actions school personnel, parents, and friends took when the respondent stopped going to school. Respondents also reported on their likelihood of returning to and graduating from high school, and described their current activities, employment history, and future plans. The hour-long, self-administered questionnaire was normally completed with a NORC interviewer present, at either a group or single survey session. However, in some cases the dropout questionnaire was administered as a telephone interview. See section 2.2.5 for more details about telephone questionnaire administration in the second follow-up.

In addition to the English and Spanish-language dropout questionnaire, an 85-minute cognitive test battery was also administered to dropouts when possible. Because of the difficulty in collecting test data from dropouts, and because data from many dropouts was collected in telephone interviews which preclude testing, the NELS:88 second follow-up achieved a comparatively low (41.7 percent, weighted) cognitive test completion rate for dropouts. For the ethnic breakdown of those sample members who completed a cognitive test battery, see table 4.3.7-1 in Chapter IV of this manual.

The dropout questionnaire was designed to facilitate comparisons with the NELS:88 second follow-up student questionnaire, as well as the HS&B 1982 dropout questionnaire and the NELS:88 first follow-up dropout questionnaire. This item overlap with the student questionnaire permits users to contrast factors such as school environment, family life, aspirations, and self-perceptions of students with the responses of dropouts. The overlap of 1982 and 1992 dropout items facilitates comparison of contemporary dropouts with those of a decade before. All sample members appear on the student data file regardless of their spring

Figure 2-1: Distribution of second follow-up test forms for sample members who completed a questionnaire (N = 14,226)



The second follow-up test forms differed from each other only in combination of reading and mathematics difficulty levels. Only one form existed for the subject areas of science and social studies (history/government). The six test combinations are listed below, by increasing level of difficulty.

Version I:	Easy mathematics and reading tests
Version II:	Easy mathematics test and difficult reading test
Version III:	Middle mathematics test and easy reading test
Version IV:	Middle mathematics test and difficult reading test
Version V:	Difficult mathematics test and easy reading test
Version VI:	Difficult mathematics and reading tests

1992 enrollment status. Basic classification variables and test data appear for both students and dropouts, though dropout questionnaire data appear separately on the dropout component data file. To facilitate the use of school contextual data with dropout data, on the restricted use CD-ROM delivery of the second follow-up data, a link is provided on the first and second follow-up dropout files between a dropout and the first or second follow-up school the dropout last attended.

2.2.3 New Student Supplement

First-time NELS:88 participants--due to freshening, previous ineligibility, or non-participation--completed the new student supplement questionnaire, which was available in English and Spanish. New student supplement data were also obtained for a number of first follow-up freshened students who had completed a student questionnaire but had not completed a new student supplement in 1990. The self-administered supplement took approximately 15 minutes to complete, and contained questions that gathered basic demographic information (such as birthdate, sex, family socioeconomic status, and race/ethnicity) about students and their families which was gathered by the base year questionnaire, but not repeated in the student questionnaire for later rounds.

2.2.4 Early Graduate Supplement

NELS:88 participants who graduated from high school or obtained equivalency certification (e.g., a GED) prior to survey day in the spring of 1992 completed the second follow-up early graduate supplement to the student questionnaire. The intent of this supplement was to document the reasons for and the circumstances of early graduation, the adjustments required to finish early, and respondents' activities compared with those of other school survey members. The items for the second follow-up early graduate supplement were modeled on those used in the HS&B sophomore cohort early graduate supplement administered in the HS&B first follow-up in 1982. Although the five major components of NELS:88 appear on a CD-ROM in the ECB format, the early graduate supplement data appears on a separate CD-ROM release that is not in the ECB format.

2.2.5 Adapting Questionnaires for Telephone Administration

Two abbreviated versions of the second follow-up student and dropout questionnaires were administered during the final weeks of data collection. Adaptation of the student and dropout questionnaires for telephone administration made it necessary to drop from the self-administered questionnaire a small number of questions which did not lend themselves to being read aloud. A second abbreviated version of student and dropout questionnaires was developed as a refusal conversion tool and was administered to sample members who explicitly refused to complete the full length instrument. The refusal conversion variant of the original

instruments consisted mainly of locator information and key items. The mode of administration for the abbreviated instruments was primarily telephone interview; a small percentage of abbreviated questionnaires were completed by personal interview. Adaptation of the student and dropout questionnaires for telephone administration was guided by the need to preserve each question's original meaning while wording each question so that it made sense when read aloud. Appendix L lists 1) the items excluded from the student questionnaire used for telephone administration, 2) the items excluded from the dropout questionnaire used for telephone administration, 3) the items included on the student questionnaire for refusal conversion, and 4) the items included on the dropout questionnaire used for refusal conversion.