
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

U.S. Department of Education
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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.

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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.

The authors also wish to acknowledge those who contributed to the production of this manual. Kenneth A. Rasinski performed the confidentiality disclosure analysis for the NELS:88 Second Follow-Up. Additionally, Doug Barge, Michael Ma, Gloria Rauens, Supriti Sehra, Shio-Ling Tsai-Ma, and Hsiuling Young provided a great deal of their time and expertise to produce the statistics reported throughout the manual. Our appreciation is also extended to Karen Sutherlin and Cynthia Mathews for their patience and thoroughness in the production of the manuscript. Finally, we would like to thank the National Opinion Research Center field and telephone center interviewers and supervisors who with such energy and determination collected the NELS:88 data.

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Appendix A

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

I. Introduction

In addition to surveying students, NELS:88 collected data from students' school administrators, teachers, and parents. In the NELS:88 second follow-up, transcripts were collected for sample members as described below. Data about course offerings were collected from school effectiveness study schools only. These components of NELS:88 provide researchers with contextual sources with which to integrate and analyze the primary student data. The course offerings and transcript data sets also support stand-alone, cross-sectional analyses. The school administrator, teacher, and parent data sets, however, do not.

Information about instrument development and data collection procedures for the contextual components is contained in this appendix. More detailed information about the base year, first follow-up, and second follow-up school, teacher, parent, and student transcript components may be found in the appropriate data user's manuals for each data file. Information regarding the course offerings component is contained in the *School Effectiveness Study Data File User's Manual*.

II. Data Collection Instruments

2.1 School Administrator Questionnaire

The primary purpose of the school administrator questionnaire was to gather general descriptive information about the educational setting and environment associated with the individual students who were selected for participation in NELS:88. This school information describes the overall academic climate in terms of enrollments and educational offerings, as well as specific school practices and policies. The information obtained through the school administrator questionnaire provides supplemental data to that provided by the student questionnaire so that student outcomes can be considered in terms of the educational setting. The NELS:88 base year survey provided a national probability sample of eighth-grade schools and a stand-alone school data set. **Because the first and second follow-up school samples do not constitute a national probability sample of schools, the first follow-up and second follow-up school administrator data should be used only to supplement student-level analyses.**

In the base year, a self-administered, forty-minute school administrator questionnaire was completed by the school principal, headmaster, or other knowledgeable school administrator designated by the principal. The questionnaire was designed to collect information about school, student, and teacher characteristics; school policies and practices; the school's grading and testing structure; school programs and facilities; parent involvement in the school; and school climate.

The first follow-up school administrator questionnaire covered many of the same topics as in the base year; however, administration time for first follow-up instrument was doubled, to approximately sixty minutes. The questionnaire was completed by the school principal, headmaster, or other school official designated by the principal of sampled schools. New schools brought into NELS:88 by virtue of student mobility (i.e., sample members who transferred to a non-NELS:88 school after the first day of the 1989-1990 school year) were not eligible for the school administrator or teacher surveys.

An abbreviated version of the first follow-up school administrator questionnaire was designed to be administered to school administrators who had not completed a questionnaire before June 1990. These school administrators were surveyed over the telephone during a second data collection period of the first follow-up between January 1991 and June 1991.

The second follow-up school administrator questionnaire covered many of the same topics as the base year and first follow-up school administrator questionnaires. Questions about **students'** preparation for **postsecondary** education and employment were new to the second follow-up school administrator questionnaire. The administration time for the **questionnaire** was forty-five minutes and four of the five sections of the **questionnaire** were completed by the school principal, **headmaster**, or other knowledgeable **official** designated by the school principal to complete the **questionnaire**. The **final** section of the **questionnaire** about school governance and climate was completed **only** by the school **principal**.

An abbreviated version of the school administrator questionnaire was also administered during the second **follow-up**. Appendix J of the *NELS:88 Second Follow-Up: School Administrator Data File User's Manual* contains a list of the items contained in the abbreviated version of the school administrator questionnaire.

2.2 Teacher Questionnaire

The **NELS:88** teacher component was designed to provide teacher information that can be used to analyze the behaviors and outcomes of the student **sample**, including the effects of teaching on longitudinal student **outcomes**. The **design of this component does not provide a stand-alone analysis sample of teachers, but instead permits specific teacher characteristics and practices to be directly related to the learning context and educational outcomes of sampled students**. The teacher questionnaire is the critical instrument for investigating the student's specific learning environment.

In both the base year and first **follow-up**, a forty five-minute self-administered **questionnaire** was completed by selected teachers responsible for instructing **sampled** students in two of the four cognitive test **subjects: mathematics, science, English, and history**. In the base year, first **follow-up**, and second **follow-up**, teachers were asked to respond to the questionnaire items in relation to a specific list of **sampled** students enrolled in their **classes**. In the first **follow-up**, the teachers of each **sample** member were chosen when possible from the **same** two cognitive test areas that were chosen for that student in the base year. In some **cases, however**, students who were not enrolled in classes in the same subject areas as the base year were evaluated by teachers in another one of the four **subjects**. In the second follow-up teacher **component**, a thirty-minute questionnaire was collected for only one of the two cognitive test **subjects, mathematics and science**, if the student was enrolled in a class in one of the **subjects**.

The teacher questionnaire attempts to illuminate questions of the **quality, equality**, and diversity of educational opportunity by obtaining information in the **following** four content areas:

- Teacher's assessment of the student's school-related behavior and academic **performance**, educational and career goals (e.g., likelihood student will go to **college**, student **motivation, effort, absenteeism**, and class **participation**). Respondents completed **this** section **with** respect to the **sample** members they instructed for a **particular** subject **matter**.
- Information about the class the teacher taught to the sample member (e.g., track **assignments**, instructional **methods**, homework **assignments**, and curricular **contents**). In this section of the **instrument**, classroom topic coverage ("**Opportunity to Learn**") items have **been** articulated with the cognitive **tests**.

Student-level

- number of absences per year or term;
- rank in class* and class size*;
- date student left school*;
- reason student left school* (graduated, transferred, etc.);
- cumulative GPA; and,
- standardized test scores for the PSAT, SAT, ACT, College Board Achievement, and Advanced Placement tests.

Course-level (for courses taken in grades 9 (or 10) through 12)

- course title,* department, and number;
- year,* grade level,* and term course* taken;
- number of credits earned;* and,
- grade awarded.*

* Asterisks denote a critical item.

2.5 Course Offerings Survey in School Effectiveness Study Schools

The course offerings survey was designed to collect valuable information about high school programs and the educational experiences of high school students. When used with transcript data, course offerings data facilitate the investigation of coursetaking patterns by student characteristics and the relationship of these patterns to student outcomes. **Because only School Effectiveness Study schools were eligible for the course offerings survey, the data set also supports stand-alone analyses of coursetaking patterns and enrollment rates in urban and suburban schools in large MSAs.**

A course catalog with descriptions for all courses offered during the 1991-92 school year was the preferred format for course offerings data. A small number of schools were able to provide only master teaching schedules, student handbooks with course lists, or course registration forms.

III. Data Collection

3.1 Base Year Data Collection

In the base year, data were collected from 22,651 parents, 5,193 teachers, and 1,035 school administrators in 1,052 schools. Data collection was accomplished through self-administered instruments that were mailed to respondents' households or sampled schools.

3.1.1 Base Year School Administrator Survey

For the school survey, the school principal or headmaster was asked to complete a self-administered questionnaire. Like the base year teacher survey, questionnaires for school administrators who did not initially return their completed questionnaire were collected through telephone follow-up.

- Information about the school social climate and organizational culture (e.g., teacher **autonomy**, participation in determining school **policy**, and relationships with the **principal**).
- Information about the teacher's background and activities (e.g., academic **training**, subject areas of **instruction**, and years of teaching experience).

2.3 Parent Questionnaire

The parent questionnaire was designed to collect information from parents about factors that influence educational attainment and **participation**. The objective of the parent **questionnaire** was to provide data that could be used primarily in the analysis of student behaviors and **outcomes**, and only secondarily as a data set by itself. The questions focused on family background and socioeconomic characteristics, and on the character of the home educational support **system**. In **addition**, the parent instrument collected data related to parental behaviors and circumstances with which the student may not be **familiar**, such as parental education and **occupation**, and contained more sensitive questions about **income**, **postsecondary** educational costs and financial aid **decisions**, and religious **affiliation**. English and Spanish language versions of the questionnaire were made available to parents in both the base year and second follow-up.

In the base **year**, a self-administered thirty-minute questionnaire was completed by one of the student's parents on about the same date that the student questionnaire and eighth-grade tests were **administered**. Parents of sample members were not surveyed in the first **follow-up**, and in the second follow-up a self-administered forty-minute questionnaire was mailed to **parents**. One focus of the second follow-up questionnaire is **postsecondary** educational costs and financial aid **decisions**. Because this information was not available to most parents until the spring of 1992, the parent questionnaire was mailed to parents in May 1992, after most student data collection was **complete**. The instructions in the questionnaire and accompanying letter directed the most knowledgeable parent or **guardian**, defined as the parent who knows the most about the student's (or **dropout's**) educational activities and related behaviors, to complete the **questionnaire**. In accordance with this **definition**, the respondent was self-selected.

2.4 Transcript Component

The sample for the Transcript Survey includes **all** sample members attending selected **NELS:88** schools at the time of school **selection**, and **all dropouts**, alternative **completers**, and early graduates. The collection of transcripts for the eligible **NELS:88** sample members facilitates two important research efforts:

- the validation of certain data--including high school **coursetaking**, course **grades**, and attendance data--provided by students in their responses to First and Second Follow-Up questionnaires; and,
- the investigation of **coursetaking** patterns by student **characteristics**, and the relationship of such patterns to **students' postsecondary** activities and **achievement**.

The following data elements were abstracted from transcripts:

3.1.2 Base Year Teacher Survey

A self-administered teacher questionnaire was distributed to selected eighth-grade teachers of the sampled students. After the initial return of self-administered teacher questionnaires, questionnaires for the nonresponding teachers were collected through telephone follow-up.

Teachers were selected in two of four subject areas: **mathematics, science, English, and history**. Each school was **randomly assigned** to one of the following combinations of curriculum areas: **mathematics and English**; **mathematics and history**; **science and English**; and **science and history**.

In each NELS:88 school, data were collected from each sampled student's current teacher(s) in the two designated subject areas. This selection procedure was designed to ensure representation of mathematics or science curriculum and English or history in all schools. Combinations of English and history as well as science and mathematics were excluded by the **design**. The design also achieved balanced representation of the four curriculum area combinations across the school variables of control (public, Catholic, and other private); level (elementary, middle, junior-senior high school); geographical stratum; and school size.

3.1.3 Base Year Parent Survey

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

Parents who failed to return a completed self-administered questionnaire were surveyed over the telephone or in face-to-face interviews. Following telephone prompting of nonrespondents, an interviewer would attempt to administer the interview over the telephone. If the interviewer was unable to complete the interview over the telephone, the interviewer made a personal visit to the respondent to conduct a face-to-face interview.

3.2 First Follow-Up Data Collection

Data collection procedures for the first follow-up school and teacher components were similar to the data collection procedures of the corresponding base year surveys. Like the base year contextual components, self-administered instruments were sent to the participating schools for distribution to the school administrator and designated teachers.

3.2.1 First Follow-Up School Administrator Survey

In the spring of 1990, the chief administrators of all schools with first follow-up sample members still in attendance were asked to complete a self-administered school administrator questionnaire. Unlike the base year school administrator survey, first follow-up school principals could designate another knowledgeable school official to complete the first six of seven sections of the questionnaire. The seventh section of the questionnaire which contained items on school climate was completed only by the school's chief administrator. This change was introduced to lower burden and increase participation, since the first follow-up school questionnaire was more than double the length of the base year instrument.

The school administrator data was collected in two data collection periods. At the close of the initial data collection period, 77 percent of eligible school administrators had completed a self-

administered **questionnaire**. In the second data collection **period**, interviewers conducted an abbreviated version of the school administrator questionnaire over the telephone with the school principals. Abbreviated versions of the questionnaire were completed for 21 percent of the **respondents**, and at the end of the second phase of data collection the school response rate was **97 percent**.

To ensure comparability of data across the two data collection **periods**, principals were **instructed**, during the follow-up **period**, to reference the 1989-1990 academic school year in their **responses**. In the event that the school principal from the spring of 1990 was no longer at the **school**, the next highest administrative official who held a position at the school during the 1989-1990 school year was asked to complete the mail survey or telephone interview.

3.2.2 First Follow-Up Teacher Survey

In the **NELS:88** first follow-up teacher **survey**, up to two teachers of each first follow-up sample member were asked to complete a self-administered teacher **questionnaire**. To maximize longitudinal comparability of teacher **data**, **NELS:88** first follow-up teachers for each student were selected in the same subject combinations as in the base **year**: **mathematics-English, mathematics-history, science-English, or science-history**. Freshened students who were not enrolled in the eighth grade in the base **year**, and **hence**, not assigned a subject combination **previously**, were assigned the subject combination of their base year "**linked**" **partner**. If a student were **only** enrolled in one of the four subject **areas**, then only one teacher report was collected for the **student**.

In some situations a teacher report was **collected** in a subject area other than the student's assigned subject **combination**. If a student were not enrolled in classes in his or her assigned subject **area**, then a teacher report was collected in another one of the four subject areas. **Additionally**, the subject area of the student's teacher report was sometimes substituted with another subject area in order to reduce the burden of the teacher survey on teachers who were asked to report on eight or more **NELS:88** **students**.

Possible student-teacher subject pairings in the base year and first follow-up were as follows:

| Base Year | First Follow-Up |
|----------------------------------|--|
| English..... Mathematics | English., Mathematics |
| History Mathematics | History Mathematics |
| Science History | Science History |
| Science English | Science English |
| | Science Mathematics |
| | English History |
| | English English ¹ |
| | History History |
| | Mathematics Mathematics |
| | Science Science |

Data collection for the first follow-up teacher survey occurred in two **phases**. During the initial data collection effort from January to July 1990, questionnaires were distributed to teachers at **NELS:88**

¹ **Same-subject pairings pertain to situations in which either a) different teachers instructed the sample member in the same subject but different courses, or b) the same teacher instructed the sample member in two different courses of the same subject matter.**

schools. Nonresponding teachers were pursued during the second data collection effort beginning in January of 1991. In the second data collection effort teacher questionnaires were mailed to 2,671 nonresponding teachers who were instructed to complete the questionnaire with respect to the first follow-up sample member(s) who was enrolled in a particular class the teacher instructed as of spring 1990. No additional follow-up procedures were undertaken during the second phase of data collection.

3.3 Second Follow-Up Data Collection

In the second follow-up, data collection procedures involved mailing a self-administered questionnaire to school principals, teachers, and parents. Two weeks after the initial mailing, a postcard reminder was mailed to respondents who had not yet returned a completed questionnaire. Two weeks after the postcard was mailed, telephone interviewers called the respondents to prompt them for the return of the completed questionnaire. Three weeks after the telephone prompt, telephone interviewers began calling any respondents who had not yet completed a questionnaire to attempt to complete the interview over the telephone.

For the course offerings and transcript surveys, data collection forms were mailed to principals and other school staff, with follow-up over the telephone and in person.

Figure A-1 shows the data collection field periods for all components of the NELS:88 Second Follow-Up study.

3.3.1 Second Follow-Up School Administrator Survey

In February 1992, school administrator questionnaires were mailed to the principal or headmaster of selected NELS:88 schools with second follow-up sample members still in attendance. Completed self-administered questionnaires and telephone interviews were collected from February through early July 1992. For any interviews conducted after the end of the 1991-1992 academic year, school principals were asked to refer to the previous academic year.

As in the first follow-up the school principal or headmaster could delegate all but one of the sections to another knowledgeable school official. The school principal only was asked to complete the fifth section of the questionnaire on school governance and school climate.

Because questionnaires from school principals were completed in two different modes of data collection, by self-administration and over the telephone, a number of steps were taken to minimize any mode effects. Telephone interviewers were trained to adapt the questions in a way which made sense when asked over the telephone. If the principal had a copy of the questionnaire, they were encouraged to read along in the questionnaire as the interviewer asked the questions over the telephone.

3.3.2 Second Follow-Up Teacher Survey

In the second follow-up teacher survey, one teacher report was collected for each student attending a NELS:88 school if the student was enrolled in a mathematics or science class. For students enrolled in both a mathematics and a science class, only one teacher report was collected. The subject area of the teacher report collected for students enrolled in both a mathematics and science class was the same subject area of the teacher surveyed for the student in the base year teacher survey. Some students who were enrolled in both a mathematics and a science class were added to the first follow-up or second

follow-up through **freshening**. For these freshened **students**, the subject area of the teacher surveyed was the base year selected subject of the student's linked partner in the freshening **procedure**.

The teacher survey was designed to articulate with the student cognitive tests and to minimize the amount of time between the collection of the student and teacher reports. Because students were surveyed at NELS:88 schools from January 1992 through the end of the 1991-1992 academic **year**, self-administered questionnaires were mailed to teachers in two mailings depending on when the students at the school were **surveyed**. Teachers at schools at which the students were surveyed before April 1, 1992, were mailed a questionnaire in early February 1992. Teachers at schools at which the students were surveyed on or after April 1, 1992, were mailed a questionnaire in early March 1992.

For most students a teacher report was collected from the fall term teacher in the selected **subject**. **However**, if the students at a school were surveyed on or after April 1, 1992, then the teacher **questionnaire** was mailed to the spring term teacher of the selected subject for the **student**. This design was based on the assumption that early in the spring **term**, the fall term teacher was the most familiar and could most fully assess the **student**.² After April 1, a teacher report was collected from the spring term teacher because at that time the spring term teacher was more likely to have had **sufficient** interaction with the student to make a full assessment of the student in the teacher **questionnaire**, and the fall term teacher might have difficulty recalling a student he or she had not instructed in several **months**. Interviewing the spring term teacher for students interviewed in school data collection sessions after April 1 also provided better articulation with the student cognitive tests than interviewing the fall term teacher in late **spring**.

Two weeks after the teacher questionnaires were **mailed**, **nonresponding** teachers were prompted for the return of the **questionnaire** with a postcard **reminder**. Two weeks **after** the postcard reminder was mailed to **teachers**, **nonresponding** teachers were prompted for the return of the questionnaire over the **telephone**. Teachers who did not respond after the postcard and telephone prompts were interviewed over the **telephone**.

To minimize mode effects between self-administration and telephone administration of the instrument, interviewers were trained to adapt the questions to make sense when read over the **telephone**. Additionally, teachers were asked to read along in the **questionnaire** during the telephone interview if they had the copy of the questionnaire **mailed** to **them**.

3.3.3 Second Follow-Up Parent Survey

In the second follow-up, a forty-minute questionnaire was mailed to the parent or guardian of NELS:88 students in May 1992. Like the base year parent **survey**, the instructions in the questionnaire and accompanying letter directed the parent or guardian who was most knowledgeable about the teenager's current situation to complete the **questionnaire**. In accordance with these **instructions**, the respondent was **self-selected**.

Whereas the base year parent survey asked parents to complete the questionnaire near the same time the student was **interviewed**, the second follow-up instrument included questions about **postsecondary** educational costs which precluded an exact temporal correspondence between the administration of the two surveys. Because many students and **parents** do not receive financial aid decisions until late in the spring of the **teenager's** twelfth-grade **year**, the parent questionnaires were mailed in May 1992, to ensure

² Of course, in most instances the fall and spring term teacher were one and the same person.

that the parents and guardians would be able to answer these questions **fully**. For **parents** who completed the interview after the end of the 1991-1992 academic **year**, the parent questionnaire **instructed** parents to refer to the spring of 1992 when answering questions about the teenager's school **life**.

The parent instrument was designed as a self-administered **questionnaire**, but many parents completed the survey over the telephone with an **interviewer**. To minimize any differences between the two modes of **administration**, interviewers were trained to adapt the questions to make sense when asked over the **telephone**. Interviewers also encouraged parents to read along in the **questionnaire** if they had their copy of the self-administered questionnaire **available**.

3.3.4 Course Offerings

Course offerings documents were collected from selected **NELS:88** schools in the fall of 1991. Additional documents were collected as necessary during transcript collection and **processing**. The majority of schools provided catalogs with descriptions of the courses offered during the 1991-92 school year. For School Effectiveness Study **schools**, the following data elements were abstracted from course offerings documents:

- **course title;**
- **course number;**
- **duration of the course (e.g., year, semester);**
- **credits awarded for successful completion of the course (standardized to Carnegie units); and,**
- **term offered.**

Courses were coded using school or district course **descriptions**, if **available**, according to the Classification System of Secondary Courses, updated for the 1990 NAEP High School Transcript Study.

3.3.5 Transcript Component

In August 1992, transcript survey materials were mailed to the principals of the **NELS:88** and non-**NELS:88** schools attended or most recently attended by sample members eligible for the **survey**. Because of the variability in transcript format across **schools**, explicit instructions for transcript preparation were **provided**. School staff were asked to retrieve from alternate sources any data elements that were not included on the school's **transcripts**. Transcript preparers were also asked to note any **in-school** survey session day transfers on survey **documents**, to facilitate the pursuit of additional records from transfer **schools**.

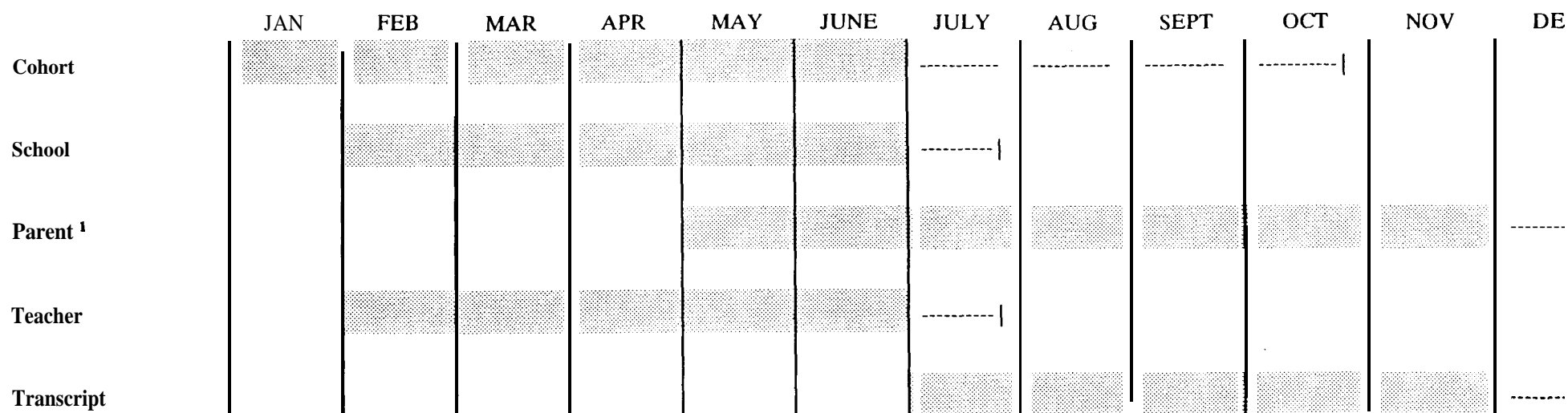
Two weeks after survey materials were **mailed**, **nonresponding** principals were prompted for the return of transcripts with a postcard **reminder**. Principals who did not return transcripts within three weeks of the postcard prompt were prompted over the **telephone**. Telephone prompting of **nonresponding** principals continued from October 1992 to February 1993. Field visits to schools requesting assistance in the preparation of transcripts were conducted in February and March.


Abstraction of **student-** and course-level data from transcripts began in October 1992 and continued through March 1993. Retrieval of missing critical **items** from school staff occurred **concurrently**. Coding of transcript courses began in November 1992, and continued through April 1993. Courses were coded using the course catalog for the school or **district**, in accordance with the

Classification System of Secondary **Courses**, updated for the 1990 NAEP High School Transcripts **Study**.
When a school or district catalog was **unavailable**, courses were coded by title **alone**.

**FIGURE A-1
NELS:88 SECOND FOLLOW-UP
DATA COLLECTION FIELD PERIODS BY COMPONENT**

1992



 = Main data collection period

----- = Low level of data collection

1. The NELS:88 Second Follow-Up parent Questionnaire included questions about postsecondary educational costs and financial aid decisions. Because this information is not available to many parents until the end of their teenager's senior year, parent data collection began in May, 1992, to ensure that parents could answer these questions fully.

Appendix B

NELS:88-Related Data Files Available
from the National Center for Education Statistics

Studies and Files Related to NELS:88

In addition to the core sample and survey described in the main text, several other supplemental components were undertaken and data files generated under the auspices of NELS:88. In the base year survey, these included: several state augmentations; a supplement of hearing-impaired students, funded by Gallaudet University; a supplement of Reformed Christian schools that are members of the Christian Schools International Organization, funded by the Barnabas Foundation; and the NELS:88 Enhancement Survey of Middle Grades Practices, funded by the Office of Research in the Office of Educational Research and Improvement (OERI), through the Johns Hopkins University Center for Research on Effective Schooling for Disadvantaged Students (CDS). The first follow-up wave of NELS:88 also included supplemental components: the state augmentations, continued from the base year; the School Effectiveness Study, supported by funds from the John D. and Catherine T. MacArthur Foundation, and by NCES; and the Base Year Ineligible study (BYI), also sponsored by NCES. The second follow-up wave of NELS:88 included continuations of the base year and first follow-up state augmentations; the school effectiveness study; the continuation of the first follow-up Base Year Ineligibles study; and the continuation of the Christian schools supplement. These auxiliary data files greatly expand and enrich the analytic uses of the study.

In the base year, the NCES-sponsored core sample of 1,052 participating schools and 24,599 participating students was increased to 1,242 participating schools and 28,397 participating students, respectively, as a result of the state augmentations and Christian schools supplements. The first follow-up School Effects Augmentation added some 6,400 students to the initial base year retained sample of 21,474 students. The second follow-up added over 1,300 SES students to replace students lost due to attrition (such as transfers and dropouts).

Data for the state augmentations and other supplements discussed below do not appear on the NCES public release files for NELS:88.

Christian Schools Supplement

A sample of Reformed Christian schools that are members of the Christian Schools International (CSI) Organization was drawn to supplement the NELS:88 base year school sample. The sample was selected from CSI schools with probability proportional to eighth-grade size. Two disproportionately large school units were double-sampled. Of the initially contacted 58 schools, 41 schools agreed to participate. (Due to the double-sampling of the two schools, the number of sampling units was 43.) Students, parents, teachers, and school administrators were surveyed. Students completed both the cognitive test battery and the questionnaire during the in-school survey sessions held in their schools. Base

year sample members and their parents were surveyed again in the second follow-up.

State Augmentations and Supplements

In an effort to enhance the statistical precision of their state samples, four states sponsored sample augmentations in the base year by adding schools and students in their states. Three of these states also sponsored instrument supplements in the form of additional questions pertaining to policy issues of interest to their states.

Three of the four states which augmented their samples in the base year continued to provide funds in the first follow-up for following and collecting data for the initial base year state augmentation samples which were retained in the first follow-up, and two states continued to sponsor instrument supplements in the first follow-up. The second follow-up continued the augmentation supplements in these two states.

Hopkins Enhancement Survey of NELS:88 Middle Grades Practices

The Survey of Middle Grades Practices enhanced the NELS:88 base year school questionnaire by collecting new information to monitor middle grades reform in the schools attended by NELS:88 eighth graders. The questionnaire for this supplemental survey was designed by the Center for Research on Effective Schooling for Disadvantaged Students (CDS) of the Johns Hopkins University and the data collection was conducted by NORC. The school principals who provided base year information in the NELS:88 school questionnaire were asked to participate in this enhancement survey between late October 1988 and February 1989. The enhancement survey augmented the information in the base year school questionnaire with additional information on school organization, guidance and advisory periods, rewards and evaluations, curriculum and instructional practices, interdisciplinary teams of teachers, transitions and articulation practices, involvement of parents, and other practices recommended for middle grades reform.

Included in the enhancement survey was an alternative version of an item on classroom organization. This item from the Hopkins Enhancement Survey data was appended to the base year school file. It should be noted that the original question on the organization of classroom instruction (see base year school codebook, BYSC18, in the *NELS:88 Base Year: School Component Data File User's Manual*) was asked during the 1987-1988 school year, while the correction item was asked during, and references, the 1988-1989 school year.

Past Studies and Data Files Related to NELS:88 Available from NCES

Data from the earlier NCES longitudinal studies--NLS-72 and HS&B--may also be of interest to users of the NELS:88 data. These data sets are of special interest for researchers interested in

cross-cohort comparisons between the sophomores of NELS:88 first follow-up (1990) and HS&B base year (1980), and, in the future, comparisons of the 1992 NELS:88 seniors and the HS&B sophomore and senior cohorts in 1982 and 1980, and NLS-72 seniors in 1972.

In addition to the core surveys for HS&B and NLS-72, described in Chapter I, records studies were undertaken, including the collection of the high school transcripts¹ of the sophomore cohort and the collection of postsecondary education transcript² and financial aid data for the seniors. Data files for these studies and other HS&B data, such as parent surveys, school surveys, teacher comments, etc., are described below. Users manuals or other forms of documentation are available from NCES for all the data files. These auxiliary data files greatly expand the analytic capabilities of the core data sets, and researchers are encouraged to become familiar with them.

HS&B Base Year Files

The **Language File** contains information on each student who, during the base year, reported some non-English language experience either during childhood or at the time of the survey. This file contains 11,303 records (sophomores and seniors combined), with 42 variables for each student.

The **Parent File** contains questionnaire responses from the parents of about 3,600 sophomores and 3,600 seniors who are on the Student File. Each record on the Parent File contains a total of 307 variables. Data on this file include parents' aspirations and plans for their children's postsecondary education. The *NELS:88 Second Follow-Up: Parent Component Data File User's Manual* contains a crosswalk between the items included in the HS&B parent surveys and the NELS:88 base year and second follow-up parent surveys.

The **Twin and Sibling File** contains base year responses from

¹ In addition to the HS&B and NELS:88 high school transcripts available from the NELS program, two other NCES high school transcript data sets are also available, from records studies of graduating seniors in NAEP schools: the 1987 and 1990 High School Transcript Studies.

² In addition to the NLS-72 and HS&B postsecondary transcripts files available within the NELS program, postsecondary transcripts are also available for 1985-86 and 1989-90 college graduates, through the NCES 1987 and 1991 Recent College Graduates Transcript Studies. Transcripts will also be collected for college graduates surveyed in 1994 as part of the NCES Baccalaureate and Beyond study.

sampled twins and triplets; data on non-sampled twins and triplets of sample members; and data from siblings in the sample. This file (2,718 records) includes all of the variables that are on the HS&B student file, plus two additional variables (family ID and SETTYPE--type of twin or sibling).

The **Sophomore Teacher File** contains responses from 14,103 teachers on 18,291 students from 616 schools. The **Senior Teacher File** contains responses from 13,683 teachers on 17,056 students from 611 schools. At each grade level, teachers had the opportunity to answer questions about HS&B-sampled students who had been in their classes. The typical student in the sample was rated by an average of four different teachers. Preliminary analyses by NCES indicate that the files contain approximately 76,000 teacher observations of sophomores and about 67,000 teacher observations of seniors.

The **Friends File** contains identification numbers of students in the HS&B sample who were named as friends of other HS&B-sampled students. Each record contains the IDs of sampled students and IDs of up to three friends. Linkages among friends can be used to investigate the sociometry of friendship structures, including reciprocity of choices among students in the sample, and to trace friendship networks.

Merged HS&B Base Year, First, Second, Third, and Fourth Follow-Up Files

The **First Follow-Up Sophomore File** contains responses from 29,737 students and includes both base year and first follow-up data. This file includes information on school, family, work experiences, educational and occupational aspirations, personal values, and test scores of sample participants. Students are also classified in terms of high school status as of 1982 (that is, dropout, same school, transfer, or early graduate).

The **First Follow-Up Senior File** contains responses from 11,995 individuals and includes both base year and first follow-up data. This file includes information from respondents concerning their high school and postsecondary experiences and their work experiences.

The **Second Follow-Up Sophomore File** has all base year, first follow-up, and second follow-up data for 14,825 members of the sophomore cohort. Data cover work experience, postsecondary schooling, earnings, periods of unemployment, and so forth, for the sophomore cohort, who by this time had been out of high school for two years.

The **Second Follow-Up Senior File** encompasses all base year, first follow-up, and second follow-up data for the 11,995 individuals who constitute this follow-up sample. Data cover work experience, postsecondary schooling, earnings, periods of

unemployment, and so forth, for the senior cohort, who by this time had been out of high school for four years.

The **Third Follow-Up Sophomore File** includes all base year, first follow-up, second follow-up, and third follow-up data for the 14,825 members of the sophomore cohort. Data cover marriage and family formation, work experience, postsecondary schooling and interest in graduate degree programs, earnings, periods of unemployment, and alcohol consumption for this cohort, who by 1986 had been out of high school for four years.

The **Third Follow-Up Senior File** includes all base year, first follow-up, second follow-up, and third follow-up data for the 11,995 individuals who constitute this follow-up sample. Data cover marriage and family formation, work experience, postsecondary schooling and interest in graduate degree programs, earnings, periods of unemployment, and alcohol consumption for the senior cohort, who by 1986 had been out of high school for six years.

The **Fourth Follow-Up Sophomore File** includes all base year, first, second, third, and fourth follow-up data for the 14,825 members of the sophomore cohort. Data cover marriage and family formation, work experience, postsecondary schooling, earnings, and periods of unemployment for this cohort, who by 1992 had been out of high school for ten years. HS&B fourth follow-up data are scheduled to be released in 1994.

Other HS&B Files

The **High School Transcript File** describes the coursetaking behavior of 15,941 sophomores of 1980 throughout their four years of high school. Data include a six-digit course number for each course taken, along with course credit, course grade, and year taken. Other items of information, such as grade point average, days absent, and standardized test scores, are also contained on the file.

The **Offerings File** contains school information, course offerings, data for 957 schools. Each course offered by a school is identified by a six-digit course number. Other information, such as credit offered by the school, is also contained on each record.

The **Updated School File** contains base year data (966 completed questionnaires) and first follow-up data (956 completed questionnaires) from the 1,015 participating schools in the HS&B sample. First follow-up data were requested only from those schools that were still in existence in the spring of 1982 and had members of the 1980 sophomore cohort currently enrolled. Each high school is represented by a single record that includes 230 data elements from the base year school questionnaire, if available, along with other information from the sampling files (e.g., stratum codes, case weights).

The **Postsecondary Education Transcript File** for the HS&B seniors contains transcript data on dates of attendance, fields of study, degrees earned, and the titles, grades, and credits of every course attempted at each school attended, coded into hierarchical files with the student as the highest level of aggregation. Although no survey forms were used, detailed procedures were developed for extracting and processing information from the postsecondary school transcripts that were collected for all members of the 1980 senior cohort who reported attending any form of postsecondary schooling in the first or second follow-up surveys. (Over 7,000 individuals reported over 11,000 instances of school attendance.)

The **Postsecondary Education Transcript File** for the HS&B sophomores includes transcript data for over 6,000 members of the 1980 sophomore cohort who reported in the follow-up survey that they had attended a postsecondary institution. The data file created for this study includes detailed information about program enrollments, periods of study, fields of study pursued, specific courses taken, and credits earned. An updated transcript file is being prepared as part of the 1992 HS&B fourth follow-up.

The **Senior Financial Aid File** contains financial aid records from postsecondary institutions respondents reported attending and federal records of the Guaranteed Student Loan Program and of the Pell Grant program.

The **Sophomore Financial Aid File** includes data on postsecondary financial aid experiences for 1980 sophomores who attended a postsecondary institution. Financial aid data were collected from federal records of the Guaranteed Student Loan and Pell Grant programs, and GSL disbursement data from guarantee agencies participating in the Guaranteed Student Loan program.

The **HS&B HEGIS and PSVD File** contains the postsecondary school codes for schools HS&B respondents reported attending in the first and second follow-ups. In addition, the file provides data on institutional characteristics, such as type of institution, highest degree offered, enrollment, admissions requirements, tuition, and so forth. This file permits analysts to link HS&B questionnaire data with institutional data for postsecondary schools attended by respondents.

NLS-72 Files

The **NLS-72 Base Year Through Fourth Follow-Up (1979) File** contains data from the base year through fourth follow-up for over 23,000 respondents. Data include school experiences and test results during the base year and subsequent activities related to work, postsecondary schooling, military service, family formation, and goals and aspirations.

The **NLS-72 Fifth Follow-Up File** consists of the results of the

fifth follow-up survey, carried out in 1986, when sample members were about thirty-two years old. Data include work experience going back to 1979, postsecondary schooling, extensive family formation history, periods of unemployment, goals and aspirations, and selected attitudes. Records in this file can be linked through student ID to those in the NLS-72 Base Year Through Fourth Follow-Up (1979).

The **NLS-72 Teacher Supplement File** contains the responses of the portion of the fifth follow-up NLS-72 sample who had obtained teacher certification and/or had teaching experience. Data include certification history, subjects taught, years of experience, attitudes toward teaching as a career, and subsequent work experiences of those who had left teaching. These data can be linked through the respondent ID to the NLS-72 Fifth Follow-Up File and to the NLS-72 Base Year Through Fourth Follow-Up File.

The **Postsecondary Education Transcript Study of the NLS-72 Sample** contains transcript data on dates of attendance, fields of study, degrees earned, and the titles, grades, and credits of every course attempted at each school attended, coded into hierarchical files with the student as the highest level of aggregation. Although no survey forms were used, detailed procedures were developed for extracting and processing information from the postsecondary school transcripts that were collected in 1984 for all members of the NLS-72 cohort who reported attending any form of postsecondary schooling in any of the first through fourth follow-up surveys. (Over 14,000 individuals reported over 24,000 instances of school attendance.)

Appendix C

National Center for Education Statistics,
Longitudinal and Household Studies Branch, NELS:88 Publications

NCES NELS:88 Publications

ANALYSIS REPORTS.

- Hafner, A., Ingels, S.J., Schneider, B., and Stevenson, D.L. ***A Profile of the American Eighth Grader***, June 1990; NCES 90-458.
- Hoachlander, E.G. ***A Profile of Schools Attended by Eighth Graders in 1988***, September 1991; NCES 91-129.
- Bradby, D. ***Language Characteristics and Academic Achievement: A Look at Asian and Hispanic Eighth Graders in NELS:88***, February 1992; NCES 92-479.
- Horn, L., and Hafner, A. ***A Profile of American Eighth-Grade Mathematics and Science Instruction***, June 1992; NCES 92-486.
- Horn, L., and West, J. ***A Profile of Parents of Eighth Graders***, July 1992; NCES 92-488.
- Kaufman, P., and Bradby, D. ***Characteristics of At-Risk Students in NELS:88***, August 1992; NCES 92-042.
- McMillen, M. ***Eighth to Tenth Grade Dropouts***, 1992; NCES 92-006.
- Owings, J., and Peng, S. ***Transitions Experienced by 1988 Eighth Graders***, 1992. NCES 92-023.
- Green, P.J. ***High School Seniors Look to the Future, 1972 and 1992***, 1993; NCES 93-473.
- McMillen, M., Hausken, E., Kaufman, P., Ingels, S., Dowd, K., Frankel, M. and Qian, J. ***Dropping Out of School: 1982 and 1992***, Issue Brief Series, 1993; NCES 93-901.
- Rasinski, K.A., Ingels, S.J., Rock, D.A., Pollack, J. ***America's High School Sophomores: A Ten Year Comparison, 1980 - 1990***, 1993; NCES 93-087.
- Green, P.J., Dugoni, B.L., Ingels, S.J., and Camburn, E. ***A Profile of the American High School Senior in 1992***, NCES, forthcoming, 1994; NCES 94-384.
- Ingels, S.J., Plank, S.B., Schneider, B., and Scott, L.A. ***A Profile of the American High School Sophomore in 1990***, NCES, forthcoming, 1994.
- Myers, D., and Heiser, N. ***Students' School Transition Patterns between Eighth and Tenth Grades Based on NELS:88***, forthcoming 1994; NCES 94-137.

Rasinski, K.A. ***The Effect of High School Vocational Education on Academic Achievement Gain and High School Persistence: Evidence from NELS:88***, 1994; Report to the Office of Research, U.S. Department of Education.

Rock, D.A., Owings, J.A., and Lee, R. ***Changes in Math Proficiency Between 8th and 10th Grades***. Statistics in Brief series, 1994, NCES 93-455.

Scott, L.A., Rock, D.A., Pollack, J.M., and Ingels, S.J. ***Two Years Later: Cognitive Gains and School Transitions of NELS:88 Eighth Graders***, NCES, forthcoming, 1994.

RELEASED E.D. TABULATIONS.

Rasinski, K.A., and West, J. ***NELS:88: Eighth Graders' Reports of Courses Taken During the 1988 Academic Year by Selected Student Characteristics***, July 1990; NCES 90-459.

Rock, D.A., Pollack, J.M., and Hafner, A. ***The Tested Achievement of the National Education Longitudinal Study of 1988 Eighth-Grade Class***, April 1991; NCES 91-460.

USER'S MANUALS/TECHNICAL REPORTS/METHODOLOGY MONOGRAPHS.

Ingels, S.J., et al. ***NELS:88 Base Year Field Test Report***. 1987. Chicago: NORC. ERIC ED 289-897.

Ingels, S.J., Abraham, S., Rasinski, K.A., Karr, R., Spencer, B.D., and Frankel, M.R. ***NELS:88 Base Year Data File User's Manuals:***

STUDENT COMPONENT: March 1990; NCES 90-464
PARENT COMPONENT: March 1990; NCES 90-466
SCHOOL COMPONENT: March 1990; NCES 90-482
TEACHER COMPONENT: March 1990; NCES 90-484

Ingels, S.J., Rasinski, K.A., Frankel, M.R., Spencer, B.D., and Buckley, P. ***NELS:88 Base Year Final Technical Report***, 1990; Chicago: NORC.

Spencer, B.D., Frankel, M.R., Ingels, S.J., Rasinski, K.A., and Tourangeau, R. ***NELS:88 Base Year Sample Design Report***, August 1990; NCES 90-463.

Dowd, K.L., et al. ***NELS:88 Second Follow-Up Field Test Report***. 1991. Chicago: NORC. ERIC ED 335-418.

Rock, D.A., and Pollack, J.M. ***Psychometric Report for the NELS:88 Base Year Test Battery***, April 1991; NCES 91-468.

Kaufman, P., Rasinski, K.A., Lee, R., and West, J. ***Quality of Responses of Eighth-Grade Students to the NELS:88 Base Year Questionnaire***, September 1991; NCES 91-487.

Ingels, S.J., Scott, L.A., Lindmark, J.T., Frankel, M.R., and Myers, S.L. **NELS:88 First Follow-Up Data File User's Manuals:**

STUDENT COMPONENT: April 1992; NCES 92-030
SCHOOL COMPONENT: May 1992; NCES 92-084
DROPOUT COMPONENT: November 1992; NCES 92-083
TEACHER COMPONENT: November 1992; NCES 92-085

Pieper, D., and Scott, L.A. **User's Guide to the NELS:88 Base Year/First Follow-Up Electronic Codebook**, March 1993; Chicago: NORC.

Ingels, S.J., Scott, L.A., Rock, D.A., Pollack, J.M., Rasinski, K.A. **NELS:88 First Follow-Up Final Technical Report**, forthcoming 1994; Washington, D.C.: NCES.

Ingels, S.J., Dowd, K.L., Baldridge, J.D., Stipe, J.L., Bartot, V.H., Frankel, M.R. **NELS:88 Second Follow-Up: Student Component Data File User's Manual**, 1994; NCES 93-374.

Ingels, S.J., Dowd, K.L., Stipe, J.L., Baldridge, J.D., Bartot, V.H., Frankel, M.R. **NELS:88 Second Follow-Up: Dropout Component Data File User's Manual**, 1994; NCES 93-375.

Ingels, S.J., Thalji, L., Pulliam, P., Bartot, V.H., Frankel, M.R. **NELS:88 Second Follow-Up: Parent Component Data File User's Manual**, 1994; NCES 94-378.

Ingels, S.J., Thalji, L., Pulliam, P., Bartot, V.H., Frankel, M.R. **NELS:88 Second Follow-Up: Teacher Component Data File User's Manual**, 1994; NCES 94-379.

Ingels, S.J., Thalji, L., Pulliam, P., Bartot, V.H., Frankel, M.R. **NELS:88 Second Follow-Up: School Component Data File User's Manual**, 1994; NCES 94-376.

Ingels, S.J., Dowd, K.L., Taylor, J.R., Bartot, V.H., Frankel, M.R. **NELS:88 Second Follow-Up: Transcript Component Data File User's Manual**, 1994; NCES 94-377.

Ingels, S.J., and Dowd, K.L. **Conducting Trend Analyses: HS&B and NELS:88 Sophomore Cohort Dropouts**, forthcoming 1994; Washington, D.C.: NCES.

Ingels, S.J., and Baldridge, J.B. **Conducting Trend Analyses: NLS-72, HS&B, and NELS:88 Seniors**, forthcoming 1994; Washington, D.C.: NCES.

Ingels, S.J., Taylor, J.R. **Conducting Cross-Cohort Comparisons Using HS&B, NAEP, and NELS:88 Academic Transcript Data**, forthcoming 1994; Washington, D.C.: NCES.

Ingels, S.J., and Dowd, K.L. *NELS:88 Second Follow-Up Questionnaire Content Areas and Research Issues*, forthcoming, 1994, Washington, D.C.: NCES 94-497.

UPCOMING NELS:88 REPORTS AND TECHNICAL DOCUMENTATION.

Technical Report: NELS:88 Second Follow-Up Psychometric Report
Technical Report: NELS:88 Second Follow-Up Final Technical Report
Technical Report: NELS:88 Second Follow-Up Sample Design Report
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Statistical Analysis Report: America's High School Seniors: A Twenty Year Comparison, 1972-1992
Technical Report: NELS:88 Second Follow-Up School Effectiveness Study Data File User's Manual
Statistical Analysis Report: Science and Mathematics Teaching and Learning

Appendix D

Conducting Trend Analyses of NLS-72, HS&B,

and NELS:88 Seniors:

Analytical Implications of Design

Differences Between the Studies



Conducting Trend Analyses of NLS-72, HS&B, and NELS:88 Seniors: Analytical Implications of Design Differences Between the Studies

This appendix discusses the kinds of comparisons that can be made between NELS:88, HS&B, and NLS-72, and the time points at which these comparisons can be made. This appendix also points to issues of similarity and difference in sample design and test and questionnaire content. NELS:88 has been specifically designed to facilitate comparisons with NLS-72 and HS&B. At the “student” level, three kinds of comparative analyses are possible (described below and summarized in Table 1).

1) Cohorts can be compared on an *intergenerational or cross-cohort time-lag basis*. Both cross-sectional and longitudinal time-lag comparisons are possible. For example, (1-A) cross-sectionally, NELS:88 1992 results (when restricted to sample members who are seniors) can be regarded as the third in a series of repeated cross-sections of twelfth graders. That is to say, the status of NELS:88 second follow-up seniors in 1992 can be compared to HS&B base year seniors in 1980, and to NLS-72 seniors in 1972. Longitudinally (1-B), change for NELS: 881990 sophomores two years later (that is, in 1992, when the cohort included both students and dropouts) can be compared to changes measured in 1982 from a 1980 HS&B sophomore baseline.

2) *Fixed time comparisons are also possible*, in which groups within each study are compared to each other at different ages though at the same point in time. Thus NLS-72, HS&B senior cohort and HS&B sophomore cohort sample members could all be compared in 1986, some 14, 8, and 6 years after each respective cohort completed high school. (For example, employment rates in 1986 of 22, 24, and 32-year old high school graduates can be contrasted.) The only available fixed time comparison using NELS:88 data, however, involves contrasting HS&B fourth follow-up and NELS:88 second follow-up 1992 results. One might, for example, compare the 1992 educational expectations of the two cohorts to explore how 17-18 year olds differ from 27-28 year olds in this respect. Or one might utilize the 1992 life values responses (questions concerning the importance to the respondent of being successful in work, having lots of money, having strong friendships, and so on) to compare HS&B Fourth Follow-Up sophomore cohort members with NELS:88 Second Follow-Up survey participants.

3) Finally, *longitudinal comparative analysis* of the cohorts can be performed by modeling the history of the age/grade cohorts.

NELS:88 trend comparisons need not, however, be strictly limited to NLS-72 and HS&B. Comparisons are also possible using transcript data collected for high school seniors, not only for HS&B 1982 graduates and NELS: 881992 graduates, but also for 1987 and 1990 graduates in NAEP schools.¹ Other national probability samples as well may provide comparison points.²

¹ Care has been exercised in designing and implementing the academic transcript study in NELS:88 to maximize the comparability of NELS:88 transcript data with the high school transcript data for 1987 and 1990 graduating seniors. While an independent high school transcript study was not conducted in NLS-72, course taking summary information was collected from school records for the 1972 seniors.

² For example, major national studies of high school seniors, employing test and survey measures, were conducted in 1960 (Project Talent) and 1965 (the Equality of Educational Opportunity Survey) (see Schrader and Hilton in Hilton [ed.] 1992 for a discussion of comparability issues); also, the high school graduating classes of 1975-93 have been surveyed (and followed up as young adults) by Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth, a key source of trend data on, in particular, drug use and associated factors. (The study added 8th- and 10th-grade cohorts in 1991.) Items that are strictly comparable across such data sets are, however, uncommon.

Table 1: Types of possible NELS:88 trend comparisons to NLS-72 and HS&B

I. Cross-Sectional Comparisons

A. Cross-Cohort Time-Lag Comparisons

1. 1980/1990: 1980 sophomores versus 1990 Sophomores³
2. 1982/1992: 1980 Sophomores Two Years Later versus 1990 Sophomores Two Years Later
3. 1979/80-82 Continuous High School Careers of 1980 Sophomores versus 1989/90-1992 Continuous High School Careers of 1990 Sophomores: Transcript Comparison
4. 1972/1980/1992: 1972, 1980 and 1992 Seniors⁴
5. 1972/1982/1992: High School Seniors; Adjustment for nonrepresentativeness of 1982 senior sample⁵
6. 1974/1982(1984)/1994: High School Seniors Two Years Later
7. 1984/1994: High School Sophomores Four Years Later
8. 1986/1998: High School Seniors Six Years Later

B. NELS:88 Fixed-Time Comparison to HS&B:

HS&B 1992 (fourth follow-up, ten years out of high school) versus NELS:88 1992 (second follow-up, modal grade = high school senior)

II. Longitudinal Comparisons

Longitudinal comparative analysis of the four cohorts can be **performed** by modeling the history of the age/grade cohorts. (Also, comparison I-A[2] above, involving use of change data in a time-lag comparison, may be viewed as having a longitudinal dimension.)

³ Must exclude all NELS:88 students who are non-sophomores and all non-students (dropouts).

⁴ Must exclude all NELS:88 second follow-up dropouts (including alternative completers), early graduates, and students who were not spring term 1992 twelfth graders.

⁵ NELS:88 conditions as above (seniors only); HS&B must exclude dropouts and non-seniors and statistically adjust for non-representativeness of senior sample.

Possible Time Points for Comparative Analyses.

Institution-Level Comparisons. Comparisons are not limited to cohorts of **individuals**; not just the student samples, but also the baseline school samples of NELS:88, HS&B, and NLS-72 are nationally **representative**, and considerable data have been collected about school-level characteristics. **However**, the only natural comparison points are of NLS-72 (1972) and HS&B (1980) high schools, since the NELS:88 base year school sample was limited to eighth grades.⁶

Table 2: Nationally-representative school samples in NELS program database

| | Representative School Sample | Non-Representative School Sample |
|---------|---------------------------------|-------------------------------------|
| NLS-72 | 1972 | |
| HS&B-Sr | 1980 | |
| HS&B-So | 1980 | 1982 ⁷ |
| NELS:88 | 1988 | 1990, 1992 |

Individual-Level Comparisons. In Table 3, natural comparison points are **highlighted**. **However**, with technical **adjustments**, comparability **can** oftentimes be achieved even when age/grade/stage parallelism has not been strictly **maintained**.⁸ In **addition**, survey rounds that coincide with a **grade-representative** sample are noted by **an asterisk**. Thus, HS&B (sophomore cohort) in 1980 and NELS:88 in 1990 are nationally-representative **samples** of **sophomores**; NLS-72 in 1972, HS&B (senior cohort) in 1980, and NELS:88 in 1992 comprise nationally representative samples of **seniors**. The NELS:88 sample was freshened to make it representative of the nation's sophomores (1990) and seniors (1992). Sample freshening was not conducted in HS&B and the sophomore cohort **does not** constitute a valid probability **sample** of the nation's 1982 seniors. **Nevertheless**, 1982 HS&B sophomore cohort and 1992 NELS:88

⁶ However, the 1988 NELS:88 school sample might be compared to other data sets, such as the ongoing series of NCES Schools and Staffing Surveys.

⁷ A probability subsample of the 1982 HS&B schools was resurveyed in the 1984 Administrator and Teacher Survey. In an institution-level longitudinal follow-up, these schools were re-surveyed in 1992, as part of the National Longitudinal Study of Schools (NLSS). Unlike HS&B in 1982 and 1984, NLSS freshened the HS&B school sample to make it nationally representative of public and private secondary schools in the United States in 1992.

⁸ See, for example, the account by T.L. Hilton and J.M. Pollack on estimating postsecondary enrollment change over time using NLS-72 fourth follow-up (conducted over 7 years after graduation) and HS&B third follow-up (conducted just less than six years after high school graduation) data. in Hilton (ed.) 1992.

Table 3: Comparison points

| National Education Longitudinal Studies Program | | | | |
|--|--------------|--|--------------|--------------------------------------|
| <u>Students</u> | | | | |
| | NLS-72 | HS&B-So | HS&B-Sr | NELS:88 |
| G8 | | | | 1988* |
| G10 | | 1980* | | 1990* |
| G12 | 1972* | 1982 | 1980* | 1992* |
| G12 + 1 | 1973 | | | |
| G12 + 2 | 1974 | 1984 | 1982 | 1994 |
| G12 + 4 | 1976 | 1986 | 1984 | |
| G12 + 6 | | | 1986 | 1998 |
| G12 + 7 | 1979 | | | |
| G12 + 10 | | 1992 | | |
| G12 + 14 | 1986 | | | |
| <u>Dropouts</u> | | | | |
| G10 - G12 follow-up | | 1982 1984 (1986, 1992) | | 1992 1994 (1998) |
| <u>Early Graduates</u> | | | | |
| | | 1982 | | 1992 |
| <u>Parents of seniors</u> | | | | |
| | | | 1980 | 1992 |
| High School Transcript Studies | | | | |
| | HS&B | NAEP'87 | NAEP'90 | NELS:88 |
| Seniors in: | 1982 | 1987⁹ | 1990* | 1992* |

Note: comparison points are in bold italics. Fully representative grade samples are marked by an asterisk. The 1982 and 1987 samples only approximate representative samples of high school seniors.

⁹ Based on the population of students in eleventh grade and/or age seventeen in 1985-86.

can be compared, for both examine a nationally representative sample of sophomores two years later--consisting of students (most, but not all of them, seniors), early graduates, and dropouts.¹⁰ HS&B 1982 seniors can also be compared to 1972 NLS-72 and 1992 NELS:88 seniors, though not without some sample and statistical adjustments.¹¹

There are two major kinds of differences between NLS-72, HS&B and NELS:88 that must be taken into account. One difference pertains to the sample and research designs; another pertains to differences in questionnaire or cognitive test content that may affect the possibility of drawing valid comparisons. Data users who are familiar with NLS-72 and HS&B will find that despite the considerable similarity between these studies and NELS:88, there are also significant sample definition and statistical design differences. Analysts intending to compare these cohorts should note these differences. Similarly, while some effort has been made to maintain trend items over time, strict test and questionnaire overlap across the three studies is not considerable.

Differences in Sample Design. The overall sample design for NELS:88 is essentially similar to the design employed in HS&B and NLS-72. In the base year, students were selected through a two stage stratified probability sample, with schools as the first units and students within schools as the second stage units.

In NLS-72, all baseline sample members were spring term 1972 high school seniors. In High School and Beyond, all members of the student sample were spring term 1980 sophomores or seniors. Because NELS:88 began at eighth grade, its follow-ups encompass (like the HS&B sophomore cohort two years later [1982]) students (both in the modal grade progression sequence, and out of sequence) and dropouts. HS&B was designed to provide two separate cohorts--a representative sample of 1980 sophomores and a representative sample of 1980 seniors. NELS:88 is designed to provide a representative sample of 1988 eighth graders, a further representative sample of 1990 sophomores, and finally a representative sample of 1992 seniors. In the High School and Beyond first follow-up, students were not added to the original sample (that is, the 1980 sophomore cohort sample was not freshened in 1982 with seniors who had not been sophomores two years before and who therefore had no chance of selection into the HS&B baseline). However, in NELS:88, owing to the desire to provide sample representativeness at three distinct points in time, new students can enter the study at tenth grade through two routes: sample freshening (addition of 1990 tenth graders who were not 1988 eighth graders or who were not in the United States in 1988) and change of eligibility status.

Thus, while the base year designs of the three studies were essentially similar, because an eighth-grade baseline was chosen for NELS:88 and a high school baseline for NLS-72 and HS&B, two further differences arise when one compares the NELS:88 follow-up rounds with the other studies:

¹⁰ There are a number of special definitional issues in comparing NELS:88 and HS&B dropouts. For a detailed discussion of these issues, see the trend comparison (appendix D) in the *Second Follow-Up: Dropout Component Data File User's Manual* (Ingels, Dowd, Stipe, Baldrige, Bartot, and Frankel, NCES 93-375).

¹¹ Specifically, out-of-sequence students (non-seniors) and non-students (such as dropouts and early graduates) must be removed from the HS&B analysis sample, and an adjustment made for the exclusion of students who were seniors in 1982 but were not part of the HS&B base year sampling frame, that is, 1982 seniors who were not 1980 sophomores in the U.S. A simplifying assumption here would be that in results and characteristics, these out-of-sequence 1982 seniors are essentially similar to the HS&B 1980 sophomores who failed to progress in the modal grade sequence.

1) the more **variable**, typically smaller and unrepresentative within-school **samples** in **NELS:88** first and second follow-up as contrasted to the more **uniform, larger**, and representative within-school student **samples** of **HS&B**¹² and **NLS-72** (see Table 4).

2) the fact that, unlike **HS&B** in 1980, **NLS-72** in 1972, or **NELS:88** in 1988, **NELS:88** 1990 and 1992 high schools do not constitute a probability sample of schools;

In addition, despite the **fundamental** similarity of the base year **designs**, there were some differences in school and subgroup sampling and **oversampling** strategies across **NLS-72**, **HS&B** and **NELS:88**.¹³ Such differences are documented in detail in the various **sampling, technical**, and comparative analysis reports (**listed** in the reference section of this **appendix**) associated with each **study**. Such differences have implications for **intercohort** analysis. For **example**, the **NELS:88** sample of high schools lacks national **generalizability**; school-level contrasts should therefore not be drawn between 1972 and 1980 high schools in **NLS-72** and **HS&B**, on the one **hand**, and **NELS:88**, on the other. **Likewise**, subtle differences in stratification schemes limit comparisons that can be **made**. **NELS:88** contains an Asian **oversample**, but **HS&B** and **NLS-72** do not. **NELS:88** contains a substantial oversample of non-Catholic private schools, a school type much more thinly represented in the other two studies.

There are special considerations in comparing the **NELS:88** and **HS&B** dropout and early graduate **populations**. In the **NELS:88** second follow-up, dropouts who had obtained alternative credentials such as a **GED** were administered the student rather than the dropout **questionnaire**, along with the early graduate supplement--though **classified** as completers and appearing on the student data set in **NELS:88**, **GED** completers were not part of the student sampling **frame** for **HS&B** in 1980 or **NLS-72**, and therefore must be excluded from trend comparisons of **seniors**. (In **HS&B**'s first follow-up [1982] such sophomore cohort alternative completers were administered the dropout **questionnaire**.) Questionnaire assignment in the two studies is summarized in Table 5.

Use of appropriate subgroup membership flags **permits** the **analyst** to define dropouts in the **same** way in both **HS&B** and **NELS:88**; **however**, for respondents such as **GED** holders, some items that otherwise would be available cannot be compared because the dropout questionnaire was not administered to this group in **NELS:88**. On the other **hand**, **NELS:88** **GED** recipients should be excluded from comparison with **HS&B** early graduates.

Overall differences in cluster size are **summarized** in Table 4. For **NLS-72**, the target sample size was 18 students per **school**; for the **HS&B** base year, the target was 36 students per **school**; and for **NELS:88**, the target **sample** size was 24 eighth graders (or 26.2, counting the Asian-Hispanic

¹² The **HS&B** 1980 sophomore and senior samples are fully in-school representative, but the **HS&B** sophomore 1982 (first follow-up) sample is not, because transfers into the school had no chance of selection into the sample.

¹³ An important additional difference, that may carry some consequences for comparability but will little affect analytic strategies, involves student sample replacement strategies. **NLS-72**, unlike **HS&B** and **NELS:88**, permitted replacement of noncooperating students under certain circumstances. While **HS&B** and **NELS:88** made no attempt to replace students who refused to be part of the survey, **HS&B** did permit, but **NELS:88** did not, replacement of selected students who subsequently died, were discovered to have been listed in error, or who dropped out of school after selection but prior to the survey session. **HS&B** and **NELS:88** also conducted a sample update to accommodate transfers into the baseline schools between the sample selection and data collection phases of the studies.

oversimple). Numbers selected and participating for the baseline and senior surveys of the three studies are summarized in Table 4.

NLS-72, HS&B, NELS:88 Content Overlap. Content (and format) overlap across the three studies should be viewed in terms of questionnaire, cognitive test, and transcript data.

Questionnaire Overlap. A crosswalk for NELS:88 intracohort and NLS-72, HS&B, NELS:88 intercohort comparisons is provided in Appendix E of this user's manual. There are many topics that are covered in one study but not the others, or that are covered by questions that are substantially (or subtly) different. Nonetheless, a core of items is comparable across all three, and a larger number of items comparable across HS&B and NELS:88.¹⁴

Some items are repeated in identical form across the studies. Others appear to be essentially similar despite small differences in wording or response categories; analysts must exercise their own cautious judgments about such cases. For a number of items with like question wording, dissimilar response categories were employed. In many such cases, comparability can be achieved by recoding the response categories so that they are compatible.

The crosswalk (Appendix E) identifies items that are plausibly similar across studies (or waves or components). Again, researchers must exercise their own cautious judgment before choosing comparison items. While most items listed in the crosswalk are transparently comparable (for example, the ten life values items in NLS-72 were repeated almost without change¹⁵ in stem or response categories in HS&B in 1980 and NELS:88 in 1992), other items are more problematic for comparisons. It may be useful to illustrate this issue by providing a few examples of potentially problematic comparisons.

The homework questions in NLS-72, HS&B, and NELS:88 provide one example of problematic comparability. NLS-72 asked "Approximately what is the average amount of time you spend on homework a week?" and provided response categories of "No homework is ever assigned, I have homework but don't do it, less than 5 hours a week, between 5 and 10 hours a week, more than 10 hours a week." In HS&B the question stem was retained, and while additional response categories were provided, they can be mapped into the broader categories of the NLS-72. In the NELS:88 first and second follow-ups, homework was inquired about using a two-column response format that distinguished in-school and out-of-school, and cut points were used for the response options that do not readily map into the NLS-72 and HS&B scheme. It is possible to devise various schemes for trying to compare the NELS:88 homework results with the earlier studies. Nevertheless, there is no objective criterion against which to evaluate the success of any such attempted mapping.

Future occupational expectations provide a second example of problematic comparability. There are items that ask about future occupational expectations in all three studies. Unlike the HS&B and NELS:88 items, the NLS-72 item is not keyed to a specific age and uses "like" instead of "plan or expect." Can the NLS-72 item be compared to NELS:88 nonetheless? Again, researchers must make

¹⁴ For detailed discussions of item comparability issues for the 1980 and 1990 sophomore data, see Rasinski, Ingels, Rock, and Pollack, 1993; and Ingels, Scott, Lindmark, Frankel, and Myers, 1992, Appendix D.

¹⁵ The one change in this series is represented by NELS:88 variable F2S40I which reads "Getting away from this community" whereas NLS-72 base year item BQ20I reads "Getting away from this area of the country," as does the HS&B item.

their own judgments about comparability, and these judgments may depend in part on specific analytic objectives. For example, the NLS-72 questions would seem to license loftier or more wishful ambitions (the NLS-72 wording is "circle the one number that goes with the best description of the kind of work you would like to do"; the NELS:88 wording is "which of the categories below comes closest to describing the job or occupation that you expect or plan to have... when you are 30 years old"). In comparing NLS-72 and NELS:88 seniors, one finds that females have higher future occupational expectations in 1992 than in 1972. Since the wording of the NLS-72 item might be thought to minimize the large observed difference between women in the two cohorts, one might feel additional confidence that the trend toward higher female occupational expectations was real. Nonetheless, it remains possible to entertain at least some skepticism that these items are fully comparable, given that one instances aspirations and the other expectations, and that one is indefinite as to point in time and the other refers to age 30. Many more examples could be cited, but the larger point would remain the same—data users should assess carefully the comparison items listed in the crosswalk to ensure that they meet their analytic requirements.

Cognitive Test Comparability. IRT methods have been used to put mathematics, vocabulary, and reading scores on the same scale for 1972, 1980, and 1982 seniors.¹⁶ Additionally, there are common items in the HS&B and NELS:88 mathematics tests that provide a basis for equating 1980-1990 and 1982-1992 mathematics results. In general, however, the tests used in the three studies differ in many ways. Though group differences by standard deviation units may profitably be examined, caution should be exercised in drawing time lag comparisons for cognitive test data.

Transcript Comparability. The HS&B, NAEP (1987, 1990) and NELS:88 high school transcript studies were designed to support comparisons. The NAEP and NELS:88 studies, however, provide summary data in Carnegie Units, unlike HS&B which provided course totals instead.

Need for Caution in Comparing Data across Cohorts. Accurate trend measurement faces several challenges. Sampling error tends to be more of a problem for intercohort comparisons than for intracohort, since there is sampling error each time an independent sample is drawn. Differences in two sample means estimated from independent samples will be a function not only of the real differences in means, but also the sampling errors associated with both measurements. Hence small (but not therefore necessarily unimportant) differences may be harder to detect.

In estimating trends based on results from two or more sample surveys, a number of nonsampling errors also may arise. Differences in instrument format and wording, data collection mode or methodology, are potential sources of nonsampling error. While the requirements of change measurement dictate that the same measures be repeated in the same way, there are also strong disincentives to holding measures and methodologies constant. The goals, the subject, and the technology of education measurement do not remain static. The educational policy agenda changes over time; the manner and matter of education changes as curriculum content and instructional methods are revised; improvements arise in survey methodologies, data capture technologies, and in measurement techniques—that promise large benefits if implemented. Finally, the instrument design process for NLS-72, HS&B and NELS:88, in which development of instruments has proceeded through broad consensus of the user community at different points in time, militates against a strongly conservative approach to content, format, and methodology, nor is there any correct or simple way to resolve all tensions between improved measurement and comparable measurement.

¹⁶ See Rock, Hilton, Pollack, Ekstrom and Goertz, 1985, for details.

Hence, though the studies were designed to be as comparable as possible, caution must nonetheless be exercised in comparing NLS-72, HS&B and NELS:88 data. Student response rates differed and the characteristics of the nonrespondents may also differ across the studies. While nonresponse adjustments in the weights serve to compensate for nonresponse, no adjustment procedure can do so perfectly. Item response rates for questions that appear in both surveys differ as well, nor, in general, have missing data been imputed. Differences in context and question order for trend items in the various student questionnaires; differences in test format, content, and context; and other factors such as differences in data collection methodology, may also influence the accuracy of intercohort comparisons.

More specifically, there were differences in mode and time of survey administration across the four cohorts. For example, NELS:88 seniors were generally surveyed earlier in the school year than were NLS-72 seniors (many NELS:88 seniors were surveyed in January and February of 1992, though survey work continued into May); NLS-72 baseline seniors were surveyed quite late in the school year.¹⁷

NLS-72 survey forms were administered by school personnel; HS&B and NELS:88 survey forms were administered primarily by contractor (NORC) staff. In NLS-72, seniors marked answers on an answer sheet (separate from the test booklet) while in 1980 and 1982 (HS&B) and NELS:88, answers were marked in the test booklet. The HS&B format of inclusion of answers as an integral part of the test booklet is thought to have given a modest advantage to HS&B test takers (see Rock, Hilton, Pollack, Ekstrom, & Goertz, 1985, for further details). Other differences between the NLS-72 and the HS&B/NELS:88 tests include improved mapping in the latter tests and the procedure of blackening an oval versus blackening a box (Hilton, 1992, cites a study by Earles, Guiliano, Ree & Valentine, that indicates such format differences are significant for speeded tests, accounting for about one half a standard deviation in difference of result).¹⁸

There are differences in questionnaire construction across the three studies. NLS-72 and NELS:88 senior questionnaires used skip patterns more extensively than did the HS&B senior instrument; the NELS:88 and HS&B questionnaires were longer than the NLS-72 questionnaire.

NLS-72 and HS&B senior cohort sample members were subjected to their first measurement as seniors; HS&B sophomores were administered their second measurement as seniors, and NELS:88 eighth graders their third. We do not believe that problems associated with repeated measurements (such as remembering past responses to individual items) are likely to be a difficulty, both because of the sheer number of test and questionnaire items asked, and the two year intervals between data collections.

¹⁷ Indeed, while in the spring 1972 baseline 16,683 seniors in 1,061 schools completed an NLS-72 student questionnaire, 257 schools that could not (because, for example, their school year ended earlier in the spring) take part in the base year were added, in accordance with the original design--these seniors had now left their schools but they were asked some retrospective (senior year) questions. Such individuals--who redress possible school frame undercoverage bias in the NLS-72 base year--do not appear on the NLS-72 base year files that would typically be employed for comparisons of high schoolseniors, although the presence of some retrospective data for these individuals permits refinement of comparisons grounded in 1972 data.

¹⁸ The implications of context and format differences for trend comparisons have been well described in the NAEP literature--see especially A.E. Beaton and R. Zwick, 1990, *The Effect of Changes in the National Assessment: Disentangling the NAEP1985-86 Reading Anomaly* (Princeton, N. J.: ETS, NAEP Report 17-TR-21), which discusses the effects of changes in item context, assessment booklets and procedures. For some NAEP reading tests the impact of such changes was apparently larger than the trend effects that were being measured.

However, participation in a longitudinal study in theory may influence the survey member's subsequent behavior or **attitudes**. Since most **NELS** :881992 sample members had also been surveyed as eighth and tenth **graders**, such "**panel effects**"¹⁹ are in principle possible with this group (**as** with **HS&B** sophomores two years later, in 1982). In **contrast**, 1972 and 1980 seniors (**and** 1980 sophomores) were new to NLS-72 or **HS&B**.

Any of these differences **may**, to some unknown **extent**, affect the comparability of the **NELS** data **sets**, and make the task of accurate trend measurement more **difficult** to **accomplish**.

¹⁹ Discussions of longitudinal conditioning or panel effects (also known as "time in sample bias" or "panel conditioning")--for example, whether strong effects potentially exist or could affect data quality--may be found in Kasprzyk, D., Duncan, G., Kalton, G., & Singh, M. P., eds. *Panel Surveys*, 1989 (New York: Wiley). See especially contributions by B. Bailer; D. Cantor; D. Holt; A. Silberstein and C. Jacobs; L. Corder and D. Horvitz; and J. Waterton and D. Lievesley.

Table 4: Baseline and senior year student cluster sizes (*N* sampled and *N* participating), NLS-72, HS&B, and NELS:88

| | Base Year Cluster Size | | Senior Year Cluster Size | | Senior Sample Representative of Seniors/of School |
|--------------------|---------------------------|---------------------|-----------------------------|---------------------|---|
| | <i>N</i> Sampled | <i>N</i> Partic. | <i>N</i> Sampled | <i>N</i> Partic. | |
| NLS-72 | 17.9 | 15.7 | 17.9 | 15.7 | Yes / Yes |
| HS&B Sr. Cohort | 34.9 | 27.8 | 34.9 | 27.8 | Yes / Yes |
| HS&B So. Cohort | 35.2 | 29.6 | 25.4 | 24.3 | No / No |
| NELS:88 | 25.1 | 23.4 | 11.4 | 11.0 | Yes / No |

Notes: *NLS-72* statistics are based on 1,061 participating base-year schools, a student sample of 19,001, with student participation defined as completion of the student questionnaire (there were 16,683 questionnaire completers); see Riccobono, Henderson, Burkheimer, Place & Levinsohn, 1981, p.21. *HS&B* statistics reflect 1,015 participating base year schools; a base year sample of 34,981 seniors, of whom 28,240 participated; and a sophomore sample of 35,723, of whom 30,030 participated. In the HS&B first follow-up, the sophomore cohort was subsampled, with most base year nonparticipants removed from the sample. Hence 29,737 sample members were retained, of whom 25,150 were enrolled in 992 HS&B schools; 96 percent of these 25,150 students participated in the HS&B first follow-up. (The remaining 4,587 sample members were surveyed as dropouts, transfers out, or early graduates.) There was also some attrition, owing to mergers and closings, in the school sample (975 base year schools remained in the school sample; additionally, 17 schools that had received pools of base year sample members were included in data collection activities). The 1982 cluster size reported for HS&B in the table above includes seniors and non-seniors because the sophomore cohort in 1982 did not constitute a nationally representative senior sample. *NELS:88* second follow-up (1992) statistics are based on sample members who were in the twelfth grade in the spring term of the 1991-92 school year in the contextual sample of schools. There were 15,643 seniors in 1,374 such schools, as well as an additional 378 non-seniors. NELS:88 base year statistics reflect 1,052 participating schools, an eighth-grade sample of 26,432, of whom 24,599 participated. The NELS:88 senior sample in the table above is spring-based and therefore excludes early graduates, who should not be included in senior year trend comparisons with NLS-72 and HS&B (though of course the HS&B and NELS:88 early graduate cohorts can themselves be compared).

Table 5: Questionnaire assignment in HS&B and NELS:88 second follow-up

| HS&B (1982) | questionnaire | NELS:88 (1992) | questionnaire |
|---|--|--|--|
| enrolled in high school | student | enrolled in high school | student |
| graduated early | student (including early grad supplement) | graduated early or have already received GED | student (including early grad supplement) |
| not enrolled in HS, but enrolled in GED preparation classes or other special program or have received GED | dropout | not enrolled in HS, but enrolled in GED preparation classes or other special program, but have <i>not</i> received GED or equivalent | dropout |
| dropout (haven't attended school for 20 consecutive days or more) | dropout | dropout (haven't attended school for 20 consecutive days or more) | dropout |

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