

The National Longitudinal Study
of the High School Class of 1972 (NLS-72)

Fifth Follow-Up (1986)
Sample Design Report

July 1987

Bruce Spencer
Penny Sebring
Barbara Campbell

NORC
University of Chicago
1155 East 60th Street
Chicago, Illinois 60637

Prepared for:
Center for Education Statistics
Office of the Assistant Secretary for Educational
Research and Improvement
U.S. Department of Education

88-4033

Prepared for the Center for Education
Statistics under contract 300-84-0169
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Acknowledgments

The authors wish to thank all those persons who contributed to the production of this report. Martin Frankel, NORC's Technical Director, was responsible for the calculation of standard errors and design effects. Martin Glusberg and Tucker Landy, in the Center for Computing and Information Services, produced weights adjusted for nonresponse. Our appreciation is also extended to Marilyn Ford for her patience and thoroughness in the preparation of the manuscript.

Finally, we would also like to thank those members of the CES staff who have worked closely with us on this project: C. Dennis Carroll, Chief, Longitudinal Studies Branch, and Carl Schmitt, Statistician.

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1. INTRODUCTION

The fifth follow-up survey of the National Longitudinal Study of the High School Class of 1972 (NLS-72) took place during spring and summer of 1986. A mail questionnaire was sent to a subsample of 14,489 members of the original sample of 22,652. A total of 12,841 persons returned the questionnaire, for a response rate of 89 percent. By the time of the survey, the sample members averaged 32 years of age and had been out of high school for 14 years.

The fifth follow-up marked the first time that NORC conducted the NLS-72 survey. Educational Testing Service (ETS) was responsible for the base year survey, and Research Triangle Institute (RTI) carried out the first through fourth follow-up surveys.

The Center for Education Statistics (CES) has been the primary sponsor of the NLS-72 surveys. However, as the sample has become older, agencies outside the Department of Education have taken a stronger interest in the database. The fifth follow-up survey offered the opportunity to gather information on experiences and attitudes of a sample for whom an extensive history already existed. Consequently, four groups provided supplementary funding.

The National Science Foundation (NSF), provided support for a supplementary survey of all the NLS-72 sample members who had obtained teaching certification and/or who had teaching experience. A separate questionnaire, the Teaching Supplement, was mailed to eligible respondents. In addition, several items were added to the main questionnaire to obtain information on people's attitudes towards the teaching profession.

The National Institute of Child Health and Human Development (NICHD) provided funds to add about ten pages of questions on marital history, divorce, child support, and economic relationships in modern families.

A grant from the Spencer Foundation permitted the inclusion of a series of attitude questions relating to self-esteem, job satisfaction, satisfaction with school experiences, and participation in community affairs. These items had all been in prior rounds of the survey.

Finally, the Graduate Management Admissions Council (GMAC) supported a sequence of questions in the education section of the questionnaire aimed at understanding the kinds of individuals who apply for and matriculate to graduate management programs.

1.1 The CES Longitudinal Studies Program: Overview

The mission of the Center for Education Statistics, formerly the National Center for Education Statistics (NCES), includes the responsibility to "collect and disseminate statistics and other data related to education in the United States" and to "conduct and publish reports on specific analyses of the meaning and significance of such statistics" (Education Amendments of 1974 - Public Law 93-380, Title V, Section 501, amending Part A of the General Education Provisions Act).

Consistent with this mandate and in response to the need for policy-relevant, time-series data on nationally representative samples of high school students, CES instituted the National Education Longitudinal Studies (NELS) program, a continuing long-term project. The general aim of the NELS program is to study longitudinally the educational, vocational, and personal development of high school students and the personal, familial, social, institutional, and cultural factors that may affect that development.

The overall NELS program utilizes longitudinal, time-series data in two ways: (1) each of several cohorts is surveyed at regular intervals over a span of years, and (2) comparable data are obtained from successive cohorts, permitting studies of trends relevant to educational and career development and societal roles. Thus far, the NELS program consists of two major studies: The National Longitudinal Study of the High School Class of 1972 (NLS-72) and High School and Beyond (HS&B). A third major study, the National Education Longitudinal Study of 1988 (NELS:88), will begin with a survey of 8th graders in 1988 and will continue with biennial follow-up surveys throughout the 1990s.

The first major study, NLS-72, began with the collection of comprehensive base year survey data from approximately 19,000 high school seniors in the spring of 1972. The NLS-72 first follow-up survey in the spring of 1973 added to the sample nearly 4,500 individuals who did not participate at the time of the base year survey. Three more follow-up surveys were conducted in the fall and winter of 1974, 1976, and 1979, using a combination of mail surveys and personal and telephone interviews.

The second major survey, HS&B, was designed to inform Federal and State policy in the decade of the 1980s. HS&B began in the spring of 1980 with the collection of base year questionnaire and test data on over 58,000 high school seniors and sophomores. The first follow-up survey was conducted in the spring of 1982, and the second follow-up survey in the spring of 1984. The HS&B third follow-up survey was conducted concurrently with the NLS-72 fifth follow-up in the spring and summer of 1986.

1.2 The History of NLS-72

In 1968, NCES conducted a survey to determine the specific data needs of educational policy makers and researchers. Respondents to the survey expressed a need for data that would allow comparisons of student educational and vocational experiences with later outcomes. This finding provided the impetus for CES to begin planning for the first of an intended series of national longitudinal studies.

1.3 The Base Year Survey

Following an extensive period of planning, which included the design and field test of survey instrumentation and procedures, the base year survey was initiated in the spring of 1972. The sample design called for a deeply stratified national probability sample of 1,200 schools with 18 seniors per school, school size permitting. A total of 19,001 students from 1,061 high schools provided base year data on up to three data collection forms: a Test Battery, a School Record Information Form, and a Student Questionnaire. The student questionnaire was completed by 16,683 seniors.

1.4 The First Follow-Up Survey

The first follow-up survey was conducted from October 1973 to April 1974. Added to the base year sample were 4,450 1972 high school seniors from 257 additional schools that did not participate earlier. The addition of this group was meant to compensate for school nonresponse in the base year. First follow-up forms were mailed to 22,654 students and obtained from 21,350, by mail, telephone interview, or personal interview. Sample members were asked about their location in October 1973 and what they were doing with regard to work, education, and/or training. Similar information was requested for the same time period in 1972 to facilitate tracing of respondents' progress since they left high school and to define the factors that might have affected that progress. Retrospective information on some base year variables was requested from those added to the sample at this time. The first follow-up sample retention rate among the 16,683 seniors completing the base year questionnaire was 93.7 percent.

1.5 The Second Follow-Up Survey

The second follow-up survey was conducted from October 1974 to April 1975, with forms mailed to 22,364 sample members. The information requested was similar to that in the first follow-up, but for the new time point; however, some new questions regarding work and education were included. Concurrently with the second follow-up, a special retrospective survey was conducted (using an Activity State Questionnaire) to obtain key activity status information about prior time points from those who had not provided this information previously. Second follow-up questionnaires were obtained from 20,872 sample members by mail, telephone interview, or personal interview.

Among the 21,350 persons who completed the first follow-up questionnaire, sample retention rate for the second follow-up was 94.6 percent.

1.6 The Third Follow-Up Survey

The third follow-up survey was conducted from October 1976 to May 1977. Third follow-up forms were mailed to 21,807 sample members, and 20,092 third follow-up questionnaires were obtained by mail, telephone interview, or personal interview. The information collected included respondent status in October 1976, as well as for October of the intervening year (1975), and summaries of experiences and activities since the previous follow-up. The third follow-up sample retention rate for second follow-up respondents was 93.9 percent.

1.7 The Fourth Follow-Up Survey

The fourth follow-up survey was conducted from October 1979 to May 1980, with fourth follow-up questionnaires sent to 20,862 sample members and obtained from 18,630 by mail, telephone interview, or personal interview. Some 5,548 of these individuals were also asked to complete a Supplemental Questionnaire. Like the Activity State Questionnaire used in the second follow-up, this instrument was designed to collect key work and educational history data that had been requested but not obtained in prior follow-ups. Additionally, a subsample of 2,648 persons were retested during the fourth follow-up on a subset of the base year test battery.

The fourth follow-up questionnaire requested summaries of educational and occupational activities and experiences since the previous follow-up, including status at the time points of October 1977, 1978, and 1979. Given the time since high school graduation for these respondents, some emphasis was placed on other activities (e.g., family formation, political participation) in the fourth follow-up instrument. Fourth follow-up sample retention among the third follow-up respondents was 90.8 percent. At the conclusion of fourth follow-up activities, a total of 12,980 individuals had provided information on all questionnaires (base year and all four follow-up studies), representing 78 percent of the 16,683 base year respondents. As a result of the various retrospective data collection efforts, the number of individuals with some key data elements for all time points is 16,450. This represents 73 percent of the 22,652 respondents who participated in at least one survey.

1.8 The Postsecondary Education Transcript Study

Although the NLS-72 follow-up surveys collected longitudinal data on postsecondary educational activities of sample members, the kinds and quantity of information collected on course-taking patterns and on grades, credits, and credentials earned have been limited by the survey methodology and respondents' ability to recall details of their educational experiences.

To overcome these weaknesses and to provide a rich resource for the analysis of occupational and career outcomes, the Postsecondary Education Transcript Study was conducted in 1984. Transcripts were collected from academic and vocational postsecondary education institutions that respondents had reported attending. The transcripts were coded and converted to machine-readable form, allowing the data to be merged with questionnaire data and used to support powerful quantitative analyses of the impacts of postsecondary schooling.

1.9 Overview of Chapters 2 through 5

Chapter 2 summarizes the base year sample selection procedures and describes in detail the selection procedures for the fifth follow-up survey.

Chapter 3 describes the calculation of sample case weights that adjust for differential probabilities of selection and for nonresponse within weighting cells. In order to provide full technical information, the nonresponse adjustment factors for all weighting cells are included in appendix A.

Chapter 4 examines the possible impact of survey nonresponse, a potential source of bias. The amount of bias depends on the proportion of nonrespondents and the magnitude of any difference between respondents and nonrespondents on variables of interest. Chapter 4 presents a description of nonresponse rates among various subclasses of the fifth follow-up sample.

Chapter 5 describes procedures for computing sampling errors and design effects. The NLS-72 sample, because it is a clustered, stratified, and disproportionately allocated sample, presents some special difficulties in estimating actual sampling errors. Chapter 5 discusses the approach NORC has taken to this problem. Sampling errors and design effects are presented for a set of proportions for the entire sample and for important domains or subgroups. Finally, several "rules of thumb" are offered for estimating standard errors under various circumstances.

2. SAMPLE DESIGN

This chapter reviews briefly the base year through fourth follow-up survey sample design and then describes the sample design for the fifth follow-up survey. The fifth follow-up survey sample is a subsample of those students who participated in at least one of the previous waves of the NLS-72. Indeed, the fifth follow-up sample retains the basic sample design of the base year through fourth follow-up surveys. Thus, the fifth follow-up may be regarded as a stratified two-stage probability sample of students in schools in the United States that contained twelfth graders in the 1971-72 academic year. The first stage consisted of 1,318 schools in 608 strata. The second stage consisted of 12,821 students from those schools. All students who participated in at least one of the five previous waves had a non-zero probability of appearing in the fifth follow-up; students who did not participate in any of the previous waves were excluded from the fifth follow-up. Students who belonged to groups of special policy interest were retained with certainty. In general, other sample members were retained with probability less than 1. The manner in which the sample was selected is somewhat complicated, and is described in section 2.2.

2.1 Base Year Through Fourth Follow-Up Survey Sample Design

The sample design for the base-year survey was a stratified two-stage probability sample of students in schools in the United States that contained twelfth graders in the 1971-72 academic year. The first-stage sample consisted of schools sampled without replacement from 600 strata. The strata were based on the following variables: type of control (public or private), geographic region, enrollment size, geographic proximity to institutions of higher education, proportion minority group enrollment (for public schools), income level of the community, and degree of urbanization. For all but the smallest size stratum, schools were selected with equal probabilities; in that stratum (of schools with under 300 enrollment), schools were selected with probability proportional to enrollment. Also, schools in low-income areas and schools with high proportions of minority group enrollment were sampled at twice the rate used for remaining schools. The strategy was to sample two schools from each of the final 600 strata, and then (to the extent feasible) to choose a simple random sample of 18 students from each of the sampled schools. The oversampling of schools in low-income areas and schools with relatively high minority enrollment led to oversampling of low-income and minority students.

For the first follow-up survey, students from additional schools were sampled to reduce the effects of a large initial school noncooperation rate and of an incomplete frame of public schools. The additional schools were taken from eight new strata. As before, 18 students per school were selected (if possible), by simple random sampling¹.

No subsampling of the original base year sample was done, until the fourth follow-up survey, when a subsample of 1,016 was

selected from the 14,628 persons who were eligible for the fourth follow-up and had completed both a base-year questionnaire and a test battery. The subsample was stratified into blacks and nonblacks, and the black stratum was oversampled. However, within each stratum each respondent was selected with probabilities inversely proportional to his or her probability of being in the full NLS-72 sample, so that within each stratum the samples were self-weighting. The subsample underwent a retest of the original base year test items.

2.2 Fifth Follow-Up Survey Sample Design

The fifth follow-up sample is a probability subsample of the 22,652 students who participated in at least one of the five previous waves of NLS-72. It retains the essential features of the initial stratified multi-stage design, and it does not introduce additional stratification or clustering. Disproportionate retention rates for various subgroups were achieved by modification of individual selection probabilities. Thus, the fifth follow-up sample is an unequal probability subsample of all students in the initial sample who participated in at least one of the previous waves.

With certain major exceptions, the retention probabilities for students were inversely proportional to the initial sample selection probabilities. The exceptions were sample members who were retained with certainty or at a higher rate than others because of their special policy relevance; persons with very small initial selection probabilities who were retained with certainty; and finally, individuals who failed to participate in the fourth follow-up and who were retained at a lower rate than other sample members, because they were expected to be more expensive to locate and because they would be less useful for longitudinal analysis².

The subgroups of the original sample who were retained with certainty were:

- . Hispanics who participated in the fourth follow-up survey
- . Teachers and "potential teachers" who participated in the fourth follow-up survey (a "potential teacher" was defined as a person who majored in education in college or was certified to teach, or who received a degree in the sciences)
- . Persons with a four-year or five-year college degree or a more advanced degree
- . Persons who were divorced, widowed, or separated from their spouses, or never-married parents ("DWSNMP")

These groups overlap and thus do not comprise distinct strata in the usual sense. The last group was of particular concern to a study

funded by a separate grant from the National Institute For Child Health and Human Development (NICHD).

The remaining cases were classified as either participants or non-participants in the fourth follow-up survey. Overall sampling rates for the participants and non-participants in the fourth follow-up survey were determined so as to optimize specific tradeoffs between cross-sectional analyses using fifth follow-up data and longitudinal analyses using fifth and fourth follow-up data. The fourth follow-up survey participants who were not subsampled with certainty were further partitioned into two groups: those who reported completing more than two years but less than four years of college, and all others. The former group was subsampled for retention in the fifth follow-up at a rate 30 percent greater than the latter.

The implementation of the sampling was carried out via systematic selection with unequal probabilities on a sorted file of students. Specifically, the list of the active population of students was sorted according to the stratum to which the students' school belonged; within these strata, the list of students was sorted according to school from which the student was originally sampled. The structure of the list implies that the subsample is, for all practical purposes, a stratified two-stage sample from the original population. The design differs from the base-year design in that the secondary sampling unit selection probabilities were equal in the base-year design but unequal in the fifth follow-up. This inequality of selection probabilities allowed oversampling of policy-relevant groups and enabled favorable cost-efficiency tradeoffs.

As noted earlier, the sample was drawn exclusively from the 22,652 students who had responded in at least one of the five previous waves. First, all Hispanics (728) and teachers and "potential teachers" (2,342) among fourth follow-up participants were selected. Next, all (2,661) fourth follow-up participants remaining who had reported a four-year or five-year degree or an advanced degree were selected. Of the (16,921) cases remaining (from the original 22,652 sample in members) all (220) non-DWSNMP cases that were selected into the field test sample were selected. The remaining (16,701) cases were sorted by base-year stratum³ and by base-year primary sampling unit⁴. Systematic sampling was then used to select 6,853 cases with unequal probabilities proportional to the sampling weight for respondents to any of the previous waves⁵ times a factor of:

12.12 for fourth follow-up participants who had reported less than two years of college,

15.75 for fourth follow-up participants who had reported at least two but less than four years of college, and

1.0 for fourth follow-up non-participants.

(If the probability calculated this way excluded 1, the case was selected with certainty; 856 cases were selected with certainty at this phase). Finally, all remaining (1,685) DWSNMR cases were selected.

NOTES TO CHAPTER TWO

¹See Riccobono, J., Henderson, L.B., Burkheimer, G.J., Place, C., and Levinsohn, J.R. (1981) National Longitudinal Study: Base Year (1972) Through Fourth Follow-Up (1979) Data File User's Manual, Vol. 1. Washington, D.C.: Center for Education Statistics.

²The optimization analysis used to determine their retention probabilities is described in Spencer, B.D. (1984) "A Method of Efficiently Reducing the Size of Ongoing Longitudinal Surveys and It's Application to NLS-72". Chicago: National Opinion Research Center, unpublished manuscript.

³Variable number 21 in Riccobono et al. (1981) Vol. 3.

⁴Variable number 4 in Riccobono et al. (1981) Vol. 3.

⁵The weight is variable number 3289 (Weight 28) in Riccobono et al. (1981), Vol. 3.

3. SAMPLE WEIGHTS

3.1 General Approach to Weighting

The general purpose of weighting is to compensate for unequal probabilities of selection (retention) for the base year and the follow-up surveys and to adjust for the fact that not all individuals selected for participation in the survey actually participated. The weights are based on the inverse of the selection probabilities through all stages of the sample selection process and on nonresponse adjustment factors computed within weighting cells. In this report, weights are described for two subgroups of respondents of the NLS-72 sample: all fifth follow-up participants and all fifth follow-up participants who had legitimate values for certain composite variables created during earlier waves. In addition to these various sets of weights, a raw weight, unadjusted for nonresponse in the survey, was also calculated and included on the data file. The raw weight provides the basis for analysts to construct additional weights, adjusted for the presence of virtually any combination of data elements.

Three different weights have been calculated for the fifth follow-up survey, and they are described in Table 3-1. These weights project to the population of 2,953,659 high school seniors of 1972.

Table 3-1
NLS-72 Sample Case Weights

Weights	Applies to cases with:	Unweighted number of cases having these weights
RAWWT	All fifth follow-up selections	14,489
FU5WT	Fifth follow-up questionnaire data	12,917
COMVRWT	Fifth follow-up questionnaire data and legitimate values for five of the following six variables: High school grades (BQ5 OR FQ87), HSPGM, CSEX, RACE86, SES, and EDATT86*.	12,291

*See Tourangeau, R., Sebring, P., Campbell, B., Glusberg, M., Spencer, B., and Singleton, M. (1987) The National Longitudinal Study of the High School Class of 1972 (NLS-72) Fifth Follow-Up (1986) Data File User's Manual (Washington: CES) for explanation of the variables.

3.2. Weighting Procedures

The weighting procedures consisted of two basic steps. The first step was the calculation of a preliminary follow-up weight based on the inverse of the cumulative probabilities of selection for the base year sample through the fifth follow-up survey of NLS-72 (RAWWT). The second step carried out the adjustment of this preliminary weight to compensate for "unit" nonresponse--that is, for non-completion of an entire questionnaire or some combination of survey instruments. (No adjustments were made to the raw weights, which are, by definition, unadjusted for nonresponse.) These steps are described in more detail below.

Step 1: Calculation of raw weights. The first step in weighting the sample was to develop raw weights based on the inverse of the probability of selection (retention) for the various follow-ups. The raw weight for a case equals the raw weight for the base year sample¹ divided by the conditional probability of selection into the fifth follow-up survey, given that the case was selected into the base year sample.

Step 2: Nonresponse adjustment. In this step, the raw weights obtained in step 1 were multiplied by nonresponse ratio adjustment factors. Different factors were used to develop FU5WT and COMVRWT, but the approach is similar for each weight. Cases were distributed among weighting cells. Within each weighting cell two sums of raw weights were computed: the first for all cases in the cell selected for the survey wave (selections); the second for all cases in the cell for whom questionnaire data were collected (participants). The ratio of the two sums (selections over participants) provided a factor used to expand the preliminary weight of each participant to compensate for the missing weights of those who were selected but did not participate. The raw weights of nonparticipants were multiplied by an adjustment factor of zero to produce final weights of zero for these cases. Thus, the nonresponse adjustment consists of distributing the preliminary weights of the nonparticipant proportionately among the participants in each weighting cell.

During the fifth follow-up, it was learned that 48 sample members had died since the time of the fourth follow-up. Calculation of the nonresponse adjustment requires the these cases be counted as both selections and participants. Hence the deceased were assigned a weight.

The weighting cells were defined by cross classifying cases by several variables. For the weights FU5WT and COMVRWT, the weighting cells were based on cross-classification of:

- (1) Sex
 - (1) male
 - (2) female

- (2) Race
 - (1) white
 - (2) non-white

- (3) High School Program
 - (1) general
 - (2) academic
 - (3) vocational/technical

- (4) High School Grade Point Average
 - (1) B or better
 - (2) C or lower

- (5) Postsecondary Education Attendance
 - (1) none
 - (2) vocational school only
 - (3) some non-vocational school

In some instances, cells were combined by pooling across postsecondary educational attendance classes or high school grade classes; see appendix A for a detailed layout of the cells.

3.3 Results of Weighting

As a check on the adequacy of the sample case weights, NORC analyzed the statistical properties of the weights and the effects of various weights on the composition of the survey sample. Table 3-2 shows the mean, variance, standard deviation, coefficient of variation, minimum, maximum, skewness, and kurtosis for the weights calculated for the NLS-72 fifth follow-up survey.

Table 3-3

NLS-72 Fifth Follow-Up
Statistical Properties of Sample Weights

Weight	RAWWT	FU5WT	COMVRWT
Mean	203.9	228.7	240.3
Variance	79,272	92,798	101,075
Standard Deviation	281.6	304.6	317.9
Coefficient of Variation	1.381	1.332	1.323
Minimum	13.7	14.8	14.8
Maximum	3107	4382.8	5382.5
Skewness	7.44	9.29	10.02
Kurtosis	59.45	98.00	116.4
Number of Cases	14,489	12,917	12,291

NOTE TO CHAPTER THREE

¹The weight is variable 1065 or weight W7 described on p. G.8 of Riccobono et al. (1981).

4. NONRESPONSE ANALYSES

4.1 General Considerations

Nonresponse inevitably introduces some degree of error into survey results. In examining the impact of nonresponse, it is useful to think of the survey population as including two strata--a respondent stratum that consists of all units that would have provided data had they been selected for the survey, and a nonrespondent stratum that consists of all units that would have been survey nonrespondents. The actual sample of respondents necessarily consists entirely of units from the respondent stratum. Sample statistics can serve as unbiased estimates only for this stratum; as estimates for the entire population, the sample statistics will be biased to the extent that the characteristics of the respondents differ from those of the entire population¹. The bias may be expressed as:

$$\text{Bias} = Y_R - Y \quad (1)$$

in which

Y_R = a parameter (e.g., a mean) characterizing the population of respondents, and

Y = the corresponding parameter characterizing the entire population.

For many simple parameters, such as means and proportions, the population parameter (Y) is a weighted average of the stratum parameters (Y_R and Y_{NR}):

$$Y = P(Y_{NR}) + (1 - P)Y_R, \quad (2)$$

with

P = the proportion of the population in the nonrespondent stratum.

It is evident from equations (1) and (2) that the nonresponse bias for an estimated mean or proportion depends on P and on the magnitude of the difference between respondents and nonrespondents:

$$\text{Bias} = P(Y_R - Y_{NR}) \quad (3)$$

Nonresponse bias will be small if the nonrespondent stratum constitutes only a small portion of the survey population or if the differences between respondents and nonrespondents are small. P can generally be estimated from survey data using an appropriately weighted nonresponse rate.

In the National Longitudinal Study of the High School Class of 1972, there were two stages of sample selection and therefore two

stages of nonresponse. During the base year survey, sample schools were asked to permit the selection of individual seniors from the schools and to permit the collection of student questionnaire and test data. Schools that refused to cooperate in either of these activities were dropped from the sample. Individual students at cooperating schools could also fail to take part in the base year survey.

Estimates based on student data from the base year surveys include two components of nonresponse bias:

$$\text{Bias} = (Y_{1R} - Y) + (Y_{2R} - Y_{1R}) \quad (4)$$

in which

Y = a parameter characterizing all students

Y_{1R} = the corresponding parameter for all students attending cooperating schools and

Y_{2R} = the corresponding parameter for all cooperating students attending cooperating schools

The first component ($Y_{1R} - Y$) represents the bias introduced by nonresponse at the school level; the second component ($Y_{2R} - Y_{1R}$) represents bias introduced by nonresponse on the part of students attending cooperating schools. Each component of the overall bias depends on two factors--the level of nonresponse and the difference between respondents and nonrespondents:

$$\text{Bias} = P_1(Y_{1R} - Y_{1NR}) + P_2(Y_{2R} - Y_{2NR}) \quad (5)$$

in which

P_1 = the proportion of the population of students attending schools that would have been nonrespondents;

Y_{1NR} = the parameter describing the population of students attending nonrespondent schools;

P_2 = the proportion of students attending respondent schools who would have been nonrespondents; and

Y_{2NR} = the parameter describing this group of students.

The bias introduced by base year school-level refusals is of particular concern since it carries over into successive rounds of the survey. Students attending refusal schools were not sampled during the base year and have no chance for selection into subsequent rounds of observation. To the extent that these students differ from students from cooperating schools during later waves of the study, the bias introduced by base year school nonresponse will persist. Student

nonresponse is not carried over in this way since student nonrespondents remain eligible for sampling in later waves of the study.

In section 4.2, we analyze student nonresponse during the NLS-72 fifth follow-up survey².

4.2 Analysis of Fifth Follow-Up Survey Student Nonresponse Rates

An overall indication of the level of participation in the six waves of NLS-72 is presented in Table 4-1. The table presents (unweighted) frequencies and percentages of cases in each of sixty-four cells. Analysis of the table shows that 91.7 percent of the fifth follow-up sample selections participated in at least five of the six waves, and 62.1 percent participated in all six waves. Recall that only students who had participated in at least one of the previous five waves were eligible for selection into the fifth follow-up sample.

Table 4-1
 Participation Patterns for Base Year Through
 Fifth Follow-up

Participation Patterns*						Frequency	Percent
BY	1FU	2FU	3FU	4FU	5FU		
N	N	N	N	N	Y	0	0.0
N	N	N	N	Y	N	0	0.0
N	N	N	Y	N	N	2	0.0
N	N	Y	N	N	N	0	0.0
N	Y	N	N	N	N	4	0.0
Y	N	N	N	N	N	11	0.1
N	N	N	N	Y	Y	0	0.0
N	N	N	Y	N	Y	0	0.0
N	N	Y	N	N	Y	1	0.0
N	Y	N	N	N	Y	7	0.0
Y	N	N	N	N	Y	6	0.0
N	N	N	Y	Y	N	12	0.1
N	N	Y	N	Y	N	2	0.0
N	Y	N	N	Y	N	5	0.0
Y	N	N	N	Y	N	4	0.0
N	N	Y	Y	N	N	2	0.0
N	Y	N	Y	N	N	2	0.0
Y	N	N	Y	N	N	0	0.0
N	Y	Y	N	N	N	20	0.1
Y	N	Y	N	N	N	1	0.0
Y	Y	N	N	N	N	15	0.1
N	N	N	Y	Y	Y	57	0.4
N	N	Y	N	Y	Y	5	0.0
N	Y	N	N	Y	Y	5	0.0
Y	N	N	N	Y	Y	26	0.2
N	N	Y	Y	N	Y	2	0.0
N	Y	N	Y	N	Y	0	0.0
Y	N	N	Y	N	Y	3	0.0
N	Y	Y	N	N	Y	10	0.1
Y	N	Y	N	N	Y	2	0.0
Y	Y	N	N	N	Y	14	0.1
N	N	Y	Y	Y	N	9	0.1
N	Y	N	Y	Y	N	9	0.1
Y	N	N	Y	Y	N	4	0.0
N	Y	Y	N	Y	N	16	0.1
Y	N	Y	N	Y	N	3	0.0
Y	Y	N	N	Y	N	6	0.0
N	Y	Y	Y	N	N	34	0.2
Y	N	Y	Y	N	N	2	0.0
Y	Y	N	Y	N	N	9	0.1
Y	Y	Y	N	N	N	32	0.2
N	N	Y	Y	Y	Y	57	0.4

Participation Patterns*						Frequency	Percent
BY	1FU	2FU	3FU	4FU	5FU		
N	Y	N	Y	Y	Y	40	0.3
Y	N	N	Y	Y	Y	10	0.1
N	Y	Y	N	Y	Y	45	0.3
Y	N	Y	N	Y	Y	8	0.1
Y	Y	N	N	Y	Y	12	0.1
N	Y	Y	Y	N	Y	58	0.4
Y	N	Y	Y	N	Y	9	0.1
Y	Y	N	Y	N	Y	0	0.0
Y	Y	Y	N	N	Y	35	0.2
N	Y	Y	Y	Y	N	337	2.3
Y	N	Y	Y	Y	N	41	0.3
Y	Y	N	Y	Y	N	24	0.2
Y	Y	Y	N	Y	N	29	0.2
Y	Y	Y	Y	N	N	79	0.5
N	Y	Y	Y	Y	Y	2,875	19.9
Y	N	Y	Y	Y	Y	241	1.7
Y	Y	N	Y	Y	Y	87	0.6
Y	Y	Y	N	Y	Y	108	0.7
Y	Y	Y	Y	N	Y	126	0.9
Y	Y	Y	Y	Y	N	858	6.0
Y	Y	Y	Y	Y	Y	8,992	62.4
Total						14,413	

NOTE: Counts refer to all fifth follow-up selections, excluding 76 deceased persons.

* BY = base-year; 1FU = first follow-up; 2FU = second follow-up; 3FU = third follow-up; 4FU = fourth follow-up; 5FU = fifth follow-up; Y denotes participation, N denotes nonparticipation.

4.2.1 Fifth Follow-Up Survey Student Nonresponse Rates: School Variables

In this section, we examine nonresponse rates for the fifth follow-up subgroups of sample members categorized by school-level variables. Four variables are shown in Table 4-2: census region, level of urbanization, percentage of white enrollment, and senior class enrollment size. The response rates are weighted by RAWWT.

The table shows that there is moderate variation in nonresponse by region, with nonresponse for sample members who had been students from the Northeast almost half again as large as those who has attended North Central schools (18.4 percent versus 12.5 percent). The patterns by region are similar, though not identical, to those for High School and Beyond: nonresponse in both studies was greatest in the West and Northeast, lower for the South, and lowest for the West.

Table 4-2
Weighted Non-response Rates for Fifth Follow-Up Survey
By Selected School Characteristics
(Figures Are Percents)

Characteristics	Nonresponse Rate
Total Population	15.4
High School Region:	
North East	18.4
North Central	12.4
South	14.8
West	16.9
High School Urbanization:	
Urban	14.7
Suburban	18.4
Rural	12.8
Other/unknown	18.4
Percent White:	
0-75% White	15.0
76-100% White	10.7
Other/unknown	34.5
Grade 12 Enrollment:	
Less than 400	13.4
More than 400	18.6

The relationship between urbanization and nonresponse is not strong, ranging from about 13 percent for rural schools to 15 percent for urban schools to 18 percent for suburban schools. That the nonresponse rate is highest for former students of suburban schools is surprising and different from the HS&B pattern.

Sample members from schools less than three-quarters white responded almost half again as often as persons from schools that were more than three-quarters white (10.7 percent versus 15.0 percent). Former students of schools with unknown racial composition failed to respond at a far greater rate--34.5 percent. However, this phenomenon may in part be an artifact attributable to the fifth follow-up survey nonrespondents who were also base year nonrespondents and thus had no school racial data available.

As with HS&B, nonresponse was higher for persons who had attended larger schools (18.8 percent for students with senior classes of 400 or more) than for persons from smaller schools (13.4 percent).

4.2.2 NLS-72 Fifth Follow-Up Student Nonresponse Patterns: Student-Level Variables

In this section, the nonresponse rates to the fifth follow-up survey are analyzed by student-level variables, including demographic characteristics, high school program, and postsecondary education. Sample members were classified by their responses to the base year questionnaire for everything except student status (for which first through fourth follow-up data were used).

Table 4-3 shows the weighted rate of student nonresponse by race, sex, high school academic program, base-year socioeconomic status (SES), and student status. The category "other/unknown" is a general classification that includes both cases with missing data and persons who did not fall into any of the other specifically defined categories. For reasons noted earlier, nonresponse is generally higher for "other/unknown" categories.

There is marked variation in nonresponse by race. Blacks show the highest rate of nonresponse (22.1 percent), followed closely by Hispanics (19.8 percent) and then by whites (14.0 percent). This same general pattern was observed for the HS&B third follow-up survey. Also similar to the HS&B experience is the higher nonresponse rate for males (17.3 percent) than for females (13.6 percent), for a differential of 3.7 percent.

Table 4-3
 Weighted Non-Response Rates For Fifth Follow-Up Survey
 By Selected Student Characteristics
 (Figures Are Percents)

Total	15.4
Race:	
White	14.0
Black	22.1
Hispanic	19.8
Other/unknown	21.8
Sex:	
Male	17.3
Female	13.6
Other/unknown	11.5
High School Program:	
General	15.2
Academic	15.0
Vocational/Technical	15.9
Other/unknown	45.3
Base Year SES Quartile:	
Low	15.7
Medium	15.2
High	15.5
Other/unknown	16.9
Student Status:	
No postsecondary education	9.7
Only vocational postsecondary education	8.7
Some nonvocational postsecondary education	8.0
Other postsecondary education	46.6

In contrast to the HS&B experience³, there is little variation here in nonresponse rates by the three high school programs: general, academic, or vocational-technical (ranging from 15 to 16 percent). However, the nonresponse rate for students whose program was "other/unknown" was much higher--45.3 percent--than those of the other three groups. The lack of variation in nonresponse rates by base year SES is also different from what was observed for HS&B, where higher SES was associated with lower nonresponse rates.

The lack of variation in nonresponse rate by student status also differs somewhat from the HS&B experience, although the directional pattern in the variation is the same as for HS&B--persons with no postsecondary education had the highest rates of nonresponse (9.7 percent), followed by students with exclusively vocational postsecondary education (8.7 percent), and then by students with some nonvocational postsecondary education (8.0 percent). It is likely that the variation would have been larger if the nonresponse rate for the "other/unknown" category, 46.6 percent, had been smaller.

Thus, these findings generally are comparable to the findings noted for the HS&B third follow-up survey. One possible explanation for the differences that arose is that the NLS-72 fifth follow-up was a subsample that included only those students who had participated in at least one of the previous waves. If the excluded students had been represented, they might have changed the nonresponse patterns.

NOTES TO CHAPTER FOUR

¹See Cochran, W.G. (1977). Sampling Techniques, Third Ed., New York: Wiley.

²For discussion of school nonresponse in the base year of NLS-72, see Riccobono et al. (1981, Appendix H).

³Spencer, B., Sebring, P., and Campbell, B. (1987) High School and Beyond Third Follow-Up (1986) Sample Design Report. Washington: Center for Education Statistics.

5. STANDARD ERRORS AND DESIGN EFFECTS

This chapter examines the standard errors for statistics-- such as means and proportions--derived from the fifth follow-up survey data. Most researchers are familiar with the use of standard errors to assess the variability of estimates based on simple random samples; more complex designs, however, raise less familiar statistical issues. The fifth follow-up survey was selected using stratified, clustered, unequal probability designs. With such a complex design, standard errors must be calculated using procedures different from the familiar methods used for data from simple random samples.

Before presenting standard errors for fifth follow-up survey estimates, it is useful to discuss some of the statistical issues raised by complex sample designs. First the computational procedures used to estimate the standard errors are discussed, followed by an examination of the relationship between standard errors based on complex samples and those based on simple random samples.

5.1 Computational Procedures

In a simple random sample, the mean is usually estimated as

$$\bar{x}_{srs} = \frac{\sum x_i}{n} \quad (1)$$

Only the numerator is subject to sampling error; the denominator (the sample size) is taken as a fixed constant. In more complex sample designs, the mean is estimated as a ratio of estimates; for NLS-72, the ratio is

$$r = \frac{\sum \sum y_{hij}}{\sum x_{hi}} = y/x \quad (2)$$

in which

y_{hij} = the weighted value for student j
from school i in stratum h ,

x_{hi} = the estimated size of school i in
stratum h .

The numerator (y) represents an estimate of the population total; the denominator (x), an estimate of the population size. When cluster sizes (i.e., school sizes) are unequal, the overall sample size will fluctuate depending on which clusters are selected. For the same reason, the estimates of the population size will show sampling fluctuation. Thus, for a ratio estimator, both the numerator and the denominator are subject to sampling error.

Kish and Frankel¹ distinguish three major approaches to the computation of standard errors for statistics based on complex designs where ratio estimators must be used: Taylor Series, balanced repeated replication (BRR), and jackknife repeated replication (JRR).
Taylor Series estimation. It can be shown² that the variance of r (i.e., the square of the standard error of r) is

$$E(r - R)^2 = E \frac{(dy - Rdx)^2}{X^2} \frac{1}{(1 + dx/X)^2} \quad (3)$$

in which

$E(r - R)^2$ = the expected value of the squared difference between the population parameter R and the sample estimate r

dy = the difference between the sample estimate y and the population value Y

X = the population size

dx = the difference between the sample estimate of the population size, x , and the population size X .

If the term involving one plus the relative error of x is ignored (i.e., dx/X is negligible), it can be shown that (3) reduces to:

$$E(r - R)^2 = 1/X^2 (Var_y + R^2 Var_x - 2 R Cov_{xy}) \quad (4)$$

in which

Var_y = the variance of y

Var_x = the variance of x and

Cov_{xy} = the covariance of x and y

All the terms in equation (4) can be estimated from sample data (e.g., r would take the place of R , x the place of X , and so forth). The variance terms are estimated by the variation of primary selection means around the stratum mean. Sampling statisticians have offered several rationales for the use of equation (4) as an approximation of (3). One line of argument³ makes use of a standard approximation technique, called Taylor Series approximation, which gives this approach its name.

Balanced repeated replication (BRR). The replication approach was originally developed by Deming⁴. The principle underlying replicated sampling is quite simple. If a sample of size n is desired, g independent replicate samples are selected, each of size n/g . The variation among estimates from each replicate can be used to estimate the variance of estimates based on the entire sample.

Balanced repeated replication extends the principle of replication. It is usually applied to stratified designs with two primary selections per stratum. By choosing one primary selection from each stratum, a half-sample is created; the unselected primary units form another half-sample. In a design with h strata, a total of $2^{(h-1)}$ different pairs of half-samples can be formed in this fashion. Each pair is referred to as a replicate. It is customary to form only a portion of the possible replicates using an orthogonal balanced design.

For any given replicate, estimates such as the ratio means can be computed from each half-sample. Then the sampling variance for the overall statistic (r) can be estimated in any of several ways⁵. One method compares the estimate from one half-sample with the overall estimate:

$$\text{Var}_k(r) = (r_{1k} - r)^2 \quad (5)$$

in which

$\text{Var}_k(r)$ = the variance estimate based on replicate k

r = an estimate of R based on the entire sample and

r_{1k} = an estimate of R based on one of the half-samples from replicate k

The final estimate for the variance of r is the average of Var_k across all the replicates. The estimate r need not be a ratio mean; the logic of BRR applies to any type of estimate, giving the method its broad generality.

Jackknife repeated replication (JRR). Equation (5) shows that the variance of a sample statistic can be estimated using data from a portion of the sample, that is from a single half-sample. Jackknifing is a generalization of this idea. Estimates of variance can be obtained from subsamples of a single original sample with a technique known as jackknifing.

Frankel⁶ has shown how jackknifing can be used with complex stratified samples. Again this assumes a design with two primary selections in each stratum. For a particular stratum, the variance can be estimated:

$$\text{Var}_h = (r_{1h} - r_h)^2 \quad (6)$$

in which

r_{1h} = an estimate based on one of the primary selections from stratum h, and

r_h = the corresponding estimate based on both primary selections from the stratum

The estimated variance for the entire sample is just the sum of the estimated strata variances. With JRR, each "replication" represents the contribution of a single stratum to the variance of estimates from the entire sample.

Comparison of the methods. Previous empirical investigation⁷ indicated that Taylor Series, BRR and JRR gave comparable results, although BRR standard error estimates consistently gave more accurate significance levels for t-statistics. Nonetheless, a comparison of Taylor Series and BRR standard error estimates was undertaken in the HS&B survey. The comparison showed no appreciable differences between the Taylor Series and BRR standard error estimates⁸.

In the prior waves of NLS-72, RTI provided standard errors for sample statistics, using a program based on the Taylor Series approach. For the fifth follow-up, NORC also used the Taylor Series approach.

5.2 Design Effects

No matter which method had been used to estimate the standard errors for fifth follow-up statistics, the standard errors would be different from standard errors calculated on the assumption that the data are from a simple random sample. Like most national samples, the NLS-72 sample is not a simple random sample; it departs from the model of simple random sampling in three major respects: the selections are clustered by school, some subgroups are deliberately overrepresented in the sample, and the selections are stratified by school type. (The sample design is summarized in chapter 3.) Each of these departures from simple random sampling has a predictable impact on the standard errors of sample estimates. The variance of a statistic from a complex sample can be represented as the product of four factors:

$$\text{Var}(\bar{x}) = \text{Var}_{\text{srs}} \times \text{Cluster} \times \text{Strat} \times \text{Disprop} \quad (7)$$

in which

$\text{Var}(\bar{x})$ = the actual variance of a sample estimate,

Var_{srs} = the estimate variance that would be obtained if the sample were treated as a simple random sample, and

Cluster, Strat, Disprop = factors representing the impact of clustering, stratification, and disproportionate sampling.

$Var(x)$ can be estimated from sample data using any of the techniques considered earlier.

The ratio of $Var(x)$ to Var_{srs} is commonly referred to as the design effect (DEFF).

In many cases, it is more useful to work with standard errors than with variances. The root design effect (DEFT) expresses the relation between the actual standard error of an estimate and the standard error of the corresponding estimate from a simple random sample:

$$\begin{aligned} DEFT &= (DEFF)^{1/2} \\ &= (Var(\bar{x})/Var_{srs})^{1/2} \\ &= se(\bar{x})/se_{srs} \end{aligned} \tag{8}$$

The mean design effect given in table 5-1 can be used to calculate approximate standard errors for other estimates not included in the tables. For example, for proportions, the simple random sample variance is just

$$= p(1 - p)/n \tag{9}$$

in which p = the estimated proportion, and

n = the number of cases with non-missing data

and so the standard error of a proportion can be estimated using the square root of the expression in (11) times the mean root design effect (DEFT):

$$SE = DEFT (p[1-p]/n)^{1/2} \tag{10}$$

Similarly, the standard error of a change in proportion can be calculated as the mean DEFT times the square root of the weighted variance of the change scores:

$$SE = DEFT (WTVAR/n)^{1/2} \tag{11}$$

in which

WTVAR = weighted variance of the individual change scores

n = unweighted number of valid observations, and

DEFT = mean of the root design effects for change estimates

The appropriate values of DEFT to use for inflating standard errors based on simple-random-sampling calculations are discussed below.

5.3 Standard Errors and Design Effects

This section presents standard errors and design effects for fifth follow-up survey statistics. Standard errors for 30 percentage estimates for the entire sample and for 11 major subgroups were calculated by the Taylor Series method, using a program developed by NORC. In addition to the standard errors, the design effect (DEFF) and square root of the design effect (DEFT) were calculated for each estimate. All are shown in table 5-1.

Table 5-1

Estimated Percentages, Standard Errors and Design Effects
of the NLS-72 Fifth Follow-Up Participants
Who Had Specified Characteristics (Weight= FU5WT)

Statistics	Item Number	Estimate	SE	DEFF	DEFT
Working at Full or Part-Time Job, Feb '86	FI3A	79.16	0.63	3.10	1.76
Taking Vocational Courses, Feb '86	FI3B	2.70	0.16	1.32	1.15
Taking Academic Courses, Feb '86	FI3C	4.23	0.29	2.61	1.62
Taking Graduate Courses, Feb '86	FI3D	1.81	0.11	0.94	0.97
Serving on Active Duty, Feb '86	FI3F	1.24	0.10	1.11	1.06
Keeping House, Feb '86	FI3G	14.06	0.52	2.82	1.68
Looking For Work, Feb '86	FI3I	4.86	0.31	2.68	1.64
If Emp, 1st Job Professional/Technical	FI7A1	25.35	0.61	2.46	1.57
If Emp, 1st Job Clerical	FI7A2	18.54	0.54	2.41	1.55
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	19.36	0.56	2.38	1.54
If Emp, Very Dissatisfied With Job Security	FI13G	4.47	0.33	3.06	1.75
Did Not Receive Unemployment-'84	FI17B84	20.44	1.49	4.22	2.06
Not Enrolled in PSE Between '79 - '86	FI18	34.18	0.68	2.61	1.62
If in PSE 79-86, Full Time in 1st Sch	FI19D	35.81	1.20	2.86	1.69
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19I	51.12	1.43	2.99	1.73
If in PSE '79-'86, Attended Second School	FI19J	23.57	0.95	2.41	1.55
Plan to Pursue Further Training in Education	FI32E	7.55	0.29	1.45	1.21
Plan to Pursue Further Training in Pub. Serv.	FI32J	4.48	0.26	1.86	1.36
Married as of February, '86	FI77	68.29	0.72	3.04	1.74
Has No Biological Children	FI84A	33.84	0.73	3.03	1.74
If has Preschool Child., Uses Private Daycare	FI90AG	20.46	0.90	2.73	1.65
Lived With Mother, Feb '86	FI102D	5.75	0.39	3.41	1.85
Registered to Vote	FI112	78.45	0.66	3.17	1.78
Since '84, Voted In Local/State/National Elec	FI113	71.85	0.70	3.02	1.74
Being Successful in Job Very Important	FI116A	68.66	0.64	2.33	1.53
Finding Right Person To Marry Very Important	FI116B	85.81	0.57	3.25	1.80
Having Lots of Money Very Important	FI116C	16.34	0.61	3.29	1.81
Being a Community Leader Very Important	FI116F	4.10	0.31	3.00	1.73
Providing Better Opp for Child Very Important	FI116G	62.63	0.74	2.79	1.67
Having Leisure Time Very Important	FI116K	60.75	0.72	2.68	1.64
Mean				2.64	1.61
Minimum				0.94	0.97
Maximum				4.22	2.06
Standard Deviation				0.70	0.24

Table 5-2 presents the average design effects and root design effects for the entire sample and 11 subgroups. The average is taken across the 30 percentage estimates for which standard errors were calculated. Standard errors, design effects, and root design effects for all 30 variables and all subgroups can be found in appendix B.

These design effects are similar to those for the High School and Beyond third follow-up (albeit somewhat higher), which is a similarly stratified and clustered sample. The mean design effect for the overall NLS-72 sample is 2.64, as compared to means of 2.28 for the senior cohort in High School and Beyond and 2.19 for the sophomore cohort. The mean design effects indicate that an estimated percentage based on the NLS-72 data is, on the average, more than twice as variable as the corresponding statistic from a simple random sample of the same size.

The mean design effects vary across the domains from a low of 2.0 for the respondents from the highest SES quartile to a high of 3.8 for the black respondents. The large mean design effect for the black respondents probably reflects their clustering in specific schools. In addition, there are some differences across domains in how variable the design effects are across the 30 estimates. For both black and Hispanic respondents and for respondents with no postsecondary education, the standard deviations of the design effects indicate high variability across estimates. For black respondents, for instance, the standard deviation of the 30 design effects is 1.44; for Hispanics, it is 1.43; and for respondents who did not pursue postsecondary education, it is 1.57. Thus, for analyses focusing on data from each of these three subgroups, the use of a single generalized design effect to inflate simple random sample estimates of the variance must be considered as subject to greater uncertainty than would be the case for the other subgroups.

Table 5-2
 Statistics for Design Effects and Root Design Effects
 For 30 Survey Estimates by 12 Domains

Subgroup		DEFF	DEFT
Total Population	Mean	2.64	1.61
	Minimum	0.94	0.97
	Maximum	4.22	2.06
	Standard Deviation	0.70	0.24
Blacks	Mean	3.84	1.85
	Minimum	0.98	0.99
	Maximum	5.91	2.43
	Standard Deviation	1.44	0.42
Hispanics	Mean	2.50	1.52
	Minimum	1.02	1.01
	Maximum	6.48	2.54
	Standard Deviation	1.43	0.42
Whites & others	Mean	2.47	1.56
	Minimum	0.91	0.95
	Maximum	3.94	1.98
	Standard Deviation	0.64	0.22
Males	Mean	2.60	1.59
	Minimum	0.95	0.98
	Maximum	4.02	2.01
	Standard Deviation	0.75	0.25
Females	Mean	2.45	1.55
	Minimum	0.94	0.97
	Maximum	4.26	2.06
	Standard Deviation	0.75	0.26
No postsecondary education	Mean	2.53	1.52
	Minimum	0.91	0.95
	Maximum	6.46	2.54
	Standard Deviation	1.57	0.46
Some postsecondary education	Mean	2.41	1.53
	Minimum	1.06	1.03
	Maximum	5.00	2.24
	Standard Deviation	0.82	0.26

Table 5-2 (continued)

Subgroup		DEFF	DEFT
College degree or more	Mean	2.61	1.58
	Minimum	1.19	1.09
	Maximum	4.58	2.14
	Standard Deviation	1.06	0.33
Bottom SES	Mean	2.47	1.55
	Minimum	0.92	0.96
	Maximum	4.50	2.12
	Standard Deviation	0.80	0.27
Middle SES	Mean	2.77	1.65
	Minimum	0.91	0.95
	Maximum	4.10	2.02
	Standard Deviation	0.76	0.25
Highest SES	Mean	2.04	1.40
	Minimum	1.12	1.06
	Maximum	4.47	2.11
	Standard Deviation	0.81	0.27

The mean design effects given in Table 5-2 can be used to calculate approximate standard errors for estimates for which exact standard errors are unavailable. For example, for statistics based on data from white respondents, standard errors can be corrected using the average DEFT of 1.55. Because the design effects for the subgroups are generally smaller than those for the entire sample, it is reasonable to use the overall DEFT of 1.61 for subgroup analyses as well as analyses involving all respondents. As was noted earlier, the use of such a generalized correction procedure may be less accurate for certain subgroup analyses than for others. For three subgroups, those based on black or Hispanic respondents, or respondents with no postsecondary education, there was relatively high variability in the design effects.

NOTES TO CHAPTER FIVE

¹Kish, L. and Frankel, M. (1974) "Inference From Complex Samples", Journal of the Royal Statistical Society: Series B (Methodological), 36:2-37.

²Kish, L. (1965) Survey Sampling. New York: John Wiley, 206-208.

³Hansen, M., Hurwitz, W. and Madow, W. (1953) Sample Survey Methods and Theory, vol. II. New York: John Wiley.

⁴Deming, W. E. (1956) "On Simplification of Sampling Design Through Replication With Equal Probabilities and Without Stages". Journal of the American Statistical Association, 31:24-53.

⁵Frankel, M. (1971) Inference from Survey Samples: An Empirical Investigation. Ann Arbor: Institute for Social Research, University of Michigan, p. 35.

⁶Frankel (1971).

⁷Frankel (1971).

⁸Tourangeau, R., Williams, H., Jones, C., Frankel, M., and O'Brien, F., (1983) High School and Beyond First Follow-Up (1982) Sample Design Report. Washington, D.C.: CES, Chapter 5, Tables 5.1, 5.2.

Appendix A: Weights and Nonresponse Adjustments

NLS 72 - FU5 NONRESPONSE ADJUSTMENT FOR EACH CELL

SEX	RACE	HSPROG	HSGPA	EDATT	TOTAL	TOTAL	FU5PART		COMVR	
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	SUM OF WTS	ADJUSTMENT
MALE	WHITE	GENERAL	B OR BETTER	NONE	238	79199.1413	68993.0746	1.1479	60625.7058	1.3063
				SOME VOCAT	112	24250.5449	22088.5368	1.0979	21782.1625	1.1133
				SOME NONVOC	718	121231.5549	111464.8910	1.0876	110682.7602	1.0952
			C OR LESS	NONE	294	106488.5973	72156.6361	1.4757	58755.7708	1.8122
				SOME VOCAT	134	28563.1846	25964.1448	1.1001	23131.1879	1.2348
				SOME NONVOC	316	60390.5487	50380.4174	1.1987	47132.3487	1.2812
		ACADEMIC	B OR BETTER	NONE OR SOME	212	108789.6522	62502.3833	1.7406	59076.0035	1.8416
				SOME NONVOC	2148	352825.7411	322691.3937	1.0933	320590.4632	1.1005
				C OR LESS	NONE	46	12250.4256	11533.3583	1.0621	6819.9368
			SOME VOCAT		48	11122.3755	10235.1089	1.0867	8595.2727	1.2939
			SOME NONVOC		370	62442.5211	55343.6485	1.1282	51531.9851	1.2116
			VOC OR TECH	B OR BETTER	NONE	180	68863.8315	52370.1542	1.3149	44728.4295
		SOME VOCAT			117	27244.8855	26291.2863	1.0362	26116.6363	1.0431
		SOME NONVOC			217	41978.3265	38430.1913	1.0922	38236.8974	1.0978
		C OR LESS		NONE	162	63367.4311	50865.1093	1.2457	39323.0371	1.6113
				SOME VOCAT	103	22955.4494	19586.4750	1.1720	16247.2946	1.4128
				SOME NONVOC	98	19582.2303	17592.3963	1.1130	16281.9393	1.2026
		NONWHITE	GENERAL	B OR BETTER	NONE OR SOME	132	39880.8710	29424.3125	1.3553	28210.6385
	SOME NONVOC				185	23270.3556	19850.3390	1.1723	19477.9630	1.1947
	C OR LESS				NONE OR SOME	189	47407.8316	35702.7926	1.3278	26839.7913
				SOME NONVOC	100	12788.5189	10364.2085	1.2339	8532.5416	1.4988

(CONTINUED)

NLS 72 - FU5 NONRESPONSE ADJUSTMENT FOR EACH CELL

SEX	RACE	HSPROG	HSGPA	EDATT	TOTAL	TOTAL	FU5PART		COMVR		
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	SUM OF WTS	ADJUSTMENT	
FEMALE	WHITE	VOC OR TECH	B OR BETTER	SOME NONVOC	347	66651.0246	61056.2299	1.0915	61056.2299	1.0915	
			C OR LESS	NONE	171	57747.1358	38371.5262	1.5048	28322.1476	2.0387	
				SOME VOCAT	55	11680.8248	10711.9835	1.0903	9434.7010	1.2380	
				SOME NONVOC	78	14772.8372	13665.6625	1.0809	12283.6962	1.2026	
	NONWHITE	GENERAL	B OR BETTER	NONE	168	32750.8829	21080.6530	1.5535	20385.6860	1.6066	
				SOME VOCAT	58	9574.6198	9040.8798	1.0589	8363.4606	1.1448	
				SOME NONVOC	245	29868.6256	26846.3870	1.1125	26846.3870	1.1125	
			C OR LESS	NULL	226	35110.1007	30410.4407	1.1546	16463.7825	2.1326	
		ACADEMIC	NULL	NULL	592	88223.5560	64486.9247	1.3681	61518.7616	1.4341	
		VOC OR TECH	B OR BETTER	NONE	188	36869.6422	28456.4393	1.2956	27567.0754	1.3374	
				SOME VOCAT	68	9332.9086	8164.1184	1.1431	7917.7551	1.1786	
				SOME NONVOC	164	21138.1113	18121.7463	1.1664	17922.7005	1.1793	
			C OR LESS	NONE	83	16905.1385	13038.5189	1.2965	11240.6216	1.5039	
					SOME VOCAT	33	5526.1040	5037.4191	1.0969	4062.7934	1.3601
					SOME NONVOC	55	7180.9231	5902.9072	1.2165	4244.5514	1.6917

UNIVARIATE

VARIABLE=RAWWT

WEIGHT FOR FIFTH FOLLOW-UP SELECTION

MOMENTS				QUANTILES(DEF=4)			EXTREMES		
N	14489	SUM WGTS	14489	100% MAX	3106.89	99%	2401.12	LOWEST	HIGHEST
MEAN	203.855	SUM	2953659	75% Q3	247.007	95%	271.56	13.72	3083.23
STD DEV	281.553	VARIANCE	79272	50% MED	187.88	90%	255	13.72	3088.71
SKEWNESS	7.44174	KURTOSIS	59.4472	25% Q1	96.21	10%	63.56	13.72	3090.01
USS	1750610905	CSS	1148492028	0% MIN	13.72	5%	53.22	13.72	3094.74
CV	138.114	STD MEAN	2.33906			1%	36.902	13.72	3106.89
T:MEAN=O	87.1528	PROB> T	0.0001	RANGE	3093.17				
SGN RANK	52486403	PROB> S	0.0001	Q3-Q1	150.798				
NUM = O	14489			MODE	85.56				

UNIVARIATE

VARIABLE=FU5WT

WEIGHT FOR FIFTH FOLLOW-UP PARTICIPANTS

MOMENTS				QUANTILES(DEF=4)			EXTREMES		
N	12917	SUM WGTS	12917	100% MAX	4382.85	99%	800.861	LOWEST	HIGHEST
MEAN	228.664	SUM	2953659	75% Q3	273.772	95%	379.807	14.808	4310.48
STD DEV	304.627	VARIANCE	92797.7	50% MED	209.294	90%	320.858	14.808	4324.47
SKEWNESS	9.29273	KURTOSIS	97.9961	25% Q1	114.181	10%	75.2974	15.411	4325.69
USS	1873971725	CSS	1198574962	0% MIN	14.808	5%	62.0688	15.411	4348.43
CV	133.22	STD MEAN	2.68033			1%	42.7687	18.77	4382.85
T:MEAN=O	85.3122	PROB> T	0.0001	RANGE	4368.04				
SGN RANK	41715452	PROB> S	0.0001	Q3-Q1	159.591				
NUM = O	12917			MODE	244.754				

UNIVARIATE

VARIABLE=COMVRWT

WT FOR R'S WITH CERTAIN COMPOSITE VARS

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	12291	SUM WGTS	12291	100% MAX	5382.48	99%	666.305	LOWEST	HIGHEST
MEAN	240.311	SUM	2953659	75% Q3	280.829	95%	445.238	14.808	4576.57
STD DEV	317.924	VARIANCE	101075	50% MED	212.232	90%	366.033	14.808	4837.94
SKEWNESS	10.0203	KURTOSIS	116.407	25% Q1	120.708	10%	78.964	15.857	5012.01
USS	1952012735	CSS	1242216901	0% MIN	14.808	5%	64.549	15.857	5037.09
CV	132.297	STD MEAN	2.86767			1%	44.8042	19.676	5382.48
T:MEAN=0	83.8	PROB> T	0.0001	RANGE	5367.67				
SGN RANK	37770243	PROB> S	0.0001	Q3-Q1	160.121				
NUM π =0	12291			MODE	246.358				

Appendix A: Sophomore Weights and Nonresponse Adjustments

HSB SOPHOMORES - FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

DROPSTAT	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	TOTAL		FU3PART	
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	
NON-DROPOUT	MALE	HISPANIC	REG PUB AND ALTER	UNAVAILABLE	106	26476.4850	21507.4160	1.2310	
				LOWEST QUARTILE	114	26198.0170	23176.6510	1.1303	
				SECOND QUARTILE	63	15839.7210	14282.0170	1.1090	
				THIRD QUARTILE	67	11171.9090	10700.4900	1.0440	
				HIGHEST QUARTILE	44	6757.7080	6484.5260	1.0421	
			HISPANIC PUB	UNAVAILABLE	89	8638.2110	8278.7690	1.0434	
				LOWEST QUARTILE	92	7058.6840	6273.9980	1.1251	
				SECOND QUARTILE	66	4358.4890	3661.7400	1.1903	
				THIRD QUARTILE	73	4437.5380	4304.1110	1.0310	
				HIGHEST QUARTILE	60	2216.5120	2015.8340	1.0995	
		CATHOLIC	BELOW MEDIAN	74	2314.0680	2070.4630	1.1176		
			THIRD QUARTILE	61	1839.6430	1779.9530	1.0334		
			HIGHEST QUARTILE	38	874.0840	863.6340	1.0121		
		PRIV NON-CATHOLIC	NULL	19	3044.5370	2758.4470	1.1037		
		NON-HISP BLACK	REG PUB AND ALTER	UNAVAILABLE	120	43046.4160	37916.9310	1.1353	
				LOWEST QUARTILE	217	71888.6990	63350.4440	1.1348	

(CONTINUED)

HSB SOPHOMORES - FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

DROPSTAT	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	TOTAL		FU3PART	
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	
NON-DROPOUT	MALE	NON-HISP BLACK	REG PUB AND ALTER	SECOND QUARTILE	133	36679.1650	29715.5770	1.2344	
				THIRD QUARTILE	102	16650.8270	13864.8420	1.2009	
				HIGHEST QUARTILE	63	10505.3550	9053.5030	1.1603	
			HISPANIC PUB	NULL	36	3774.0740	3283.6700	1.1492	
			CATHOLIC	NULL	191	5866.7790	5409.6860	1.0844	
			PRIV NON- CATHOLIC	NULL	22	1367.2090	1139.7340	1.1996	
		NON-HISP WHITE, OTHER	REG PUB AND ALTER	UNAVAILABLE	407	179909.0600	157535.2830	1.1420	
				LOWEST QUARTILE	419	150272.6130	138970.6290	1.0813	
				SECOND QUARTILE	615	219874.3710	198696.1170	1.1065	
				THIRD QUARTILE	804	268382.6880	252730.4270	1.0619	
				HIGHEST QUARTILE	998	317169.1310	304420.3560	1.0418	
			HISPANIC PUB	BELOW MEDIAN	84	10540.1480	8898.0890	1.1845	
				ABOVE MEDIAN	-63	5786.8240	5704.8010	1.0144	
			CATHOLIC	BELOW MEDIAN	224	24999.7890	22781.1300	1.0973	
				ABOVE MEDIAN	562	62973.2560	59870.0600	1.0518	

(CONTINUED)

HSB SOPHOMORES - FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

DROPSTAT	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	TOTAL	FU3PART			
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT		
NON-DROPOUT	MALE	NON-HISP WHITE, OTHER	PRIV NON- CATHOLIC	BELOW MEDIAN	51	22796.1830	19437.8320	1.1727		
				ABOVE MEDIAN	111	29035.8380	25980.1560	1.1175		
	FEMALE	HISPANIC	REG PUB AND ALTER	UNAVAILABLE	83	19724.5220	18269.1200	1.0796		
				LOWEST QUARTILE	89	21527.4950	19368.4390	1.1114		
				SECOND QUARTILE	74	13663.8700	12413.1150	1.1007		
				THIRD QUARTILE	52	9311.4840	8804.4520	1.0576		
				HIGHEST QUARTILE	24	3839.4360	3731.4170	1.0289		
				UNAVAILABLE	55	6541.4230	6310.5190	1.0365		
			HISPANIC PUB	LOWEST QUARTILE	140	10906.3420	10517.2470	1.0370		
				SECOND QUARTILE	86	6453.2820	5910.2060	1.0919		
				THIRD QUARTILE	67	2811.2530	2783.4050	1.0099		
				HIGHEST QUARTILE	35	954.8920	882.7580	1.0816		
				CATHOLIC	NULL	300	9355.2250	8964.0510	1.0436	
			NON-HISP BLACK	REG PUB AND ALTER	PRIV NON- CATHOLIC	NULL	9	2303.3850	2303.3850	1.0000
					UNAVAILABLE	107	41448.6010	33718.5380	1.2292	
						LOWEST QUARTILE	256	94444.5290	86989.7480	1.0856

(CONTINUED)

HSB SOPHOMORES - FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

DROPSTAT	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	TOTAL	FU3PART	
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT
NON-DROPOUT	FEMALE	NON-HISP BLACK	REG PUB AND ALTER	SECOND QUARTILE	156	42928.3180	39703.7650	1.0811
				THIRD QUARTILE	102	21033.3450	20440.8940	1.0290
				HIGHEST QUARTILE	63	8884.3680	8163.5400	1.0882
			HISPANIC PUB	NULL	41	7484.0030	7449.3470	1.0046
			CATHOLIC	UNAVAILABLE	36	841.4600	826.1690	1.0185
				LOWEST QUARTILE	61	1559.0810	1517.4970	1.0274
				SECOND QUARTILE	73	2191.0590	2134.9540	1.0262
				THIRD QUARTILE	33	1457.1930	1310.6950	1.1117
				HIGHEST QUARTILE	26	1693.6550	1680.1520	1.0080
		PRIV NON-CATHOLIC	NULL	7	1152.0070	1152.0070	1.0000	
		NON-HISP WHITE, OTHER	REG PUB AND ALTER	UNAVAILABLE	342	159791.9700	143177.6460	1.1160
				LOWEST QUARTILE	426	152308.5480	143414.0770	1.0620
				SECOND QUARTILE	698	254560.9730	242711.5450	1.0487
				THIRD QUARTILE	843	282812.8360	274112.7870	1.0317
				HIGHEST QUARTILE	966	320320.3240	311271.5240	1.0290

(CONTINUED)

HSB SOPHOMORES - FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

DROPSTAT	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	TOTAL		FU3PART	
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	
NON-DROPOUT	FEMALE	NON-HISP WHITE, OTHER	HISPANIC PUB	BELOW MEDIAN	71	9659.2310	8981.2670	1.0755	
				ABOVE MEDIAN	63	7766.7730	7214.7910	1.0765	
			CATHOLIC	UNAVAILABLE	53	4154.3390	3740.5760	1.1106	
				LOWEST QUARTILE	64	5160.0370	4895.2940	1.0540	
				SECOND QUARTILE	188	20760.4270	20596.8020	1.0079	
				THIRD QUARTILE	272	31652.5780	30056.8050	1.0530	
				HIGHEST QUARTILE	343	41168.0660	39777.6760	1.0349	
				PRIV NON- CATHOLIC	BELOW MEDIAN	68	27220.7320	24204.3220	1.1246
				ABOVE MEDIAN	83	27159.1350	26162.8050	1.0380	
			DROPOUT	MALE	HISPANIC	NULL	NULL	214	36364.9670
NON-HISP BLACK	NULL	NULL			215	48657.4590	36094.2970	1.3480	
NON-HISP WHITE, OTHER	NULL	NULL			730	192297.5000	128798.3790	1.4929	
FEMALE	HISPANIC	NULL		NULL	227	33426.7310	24204.8910	1.3810	
	NON-HISP BLACK	NULL		NULL	178	39509.7090	32475.5830	1.2165	
	NON-HISP WHITE, OTHER	NULL		NULL	618	150921.2080	114148.0490	1.3222	

HSB SOPHOMORES - PANEL4, TEST NONRESPONSE ADJUSTMENTS
FOR EACH CELL

DROPSTAT	SEX	RACE	SCHTYPE	TOTAL	TOTAL		PNL4PART		TESTPART	
				N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	SUM OF WTS	ADJUSTMENT	
NON-DROPOUT	MALE	HISPANIC	REG PUB AND ALTER	394	86443.8400	56497.0570	1.5299	74597.4170	1.1587	
			HISPANIC PUB	380	26709.4340	18522.3880	1.4419	22981.7290	1.1622	
			CATHOLIC	173	5027.7950	4417.2460	1.1381	4714.0500	1.0665	
			PRIV NON-CATHOLIC	19	3044.5370	2283.6060	1.3331	2615.8960	1.1638	
		NON-HISP BLACK	REG PUB AND ALTER	635	178770.4620	119135.5770	1.5006	149850.3440	1.1930	
			HISPANIC PUB	36	3774.0740	2706.2960	1.3945	3241.1050	1.1644	
			CATHOLIC	191	5866.7790	4775.4590	1.2285	5404.3660	1.0855	
			PRIV NON-CATHOLIC	22	1367.2090	967.1960	1.4136	1139.7340	1.1996	
	NON-HISP WHITE, OTHER	REG PUB AND ALTER	3243	1135608	886286.5620	1.2812	1020889	1.1123		
		HISPANIC PUB	147	16326.9720	11687.7600	1.3968	13371.6080	1.2210		
		CATHOLIC	786	87973.0450	77362.1880	1.1371	82500.9020	1.0663		
		PRIV NON-CATHOLIC	162	51832.0210	37089.7470	1.3974	42307.9780	1.2250		
	FEMALE	HISPANIC	REG PUB AND ALTER	322	68066.8070	49014.7480	1.3886	59597.0470	1.1420	
			HISPANIC PUB	383	27667.1920	21272.1520	1.3005	26372.1330	1.0490	
			CATHOLIC	300	9355.2250	8225.4190	1.1373	8951.3190	1.0451	
			PRIV NON-CATHOLIC	9	2303.3850	2303.3850	1.0000	2303.3850	1.0000	

(CONTINUED)

HSB SOPHOMORES - PANEL4, TEST NONRESPONSE ADJUSTMENTS
FOR EACH CELL

DROPSTAT	SEX	RACE	SCHTYPE	TOTAL	TOTAL	PNL4PART		TESTPART	
				N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	SUM OF WTS	ADJUSTMENT
NON-DROPOUT	FEMALE	NON-HISP BLACK	REG PUB AND ALTER	684	208739.1610	163740.7350	1.2748	186234.5040	1.1208
			HISPANIC PUB	41	7484.0030	6157.1810	1.2155	7012.9720	1.0671
			CATHOLIC	229	7742.4480	6605.6290	1.1720	7148.3560	1.0830
			PRIV NON- CATHOLIC	7	1152.0070	1152.0070	1.0000	1152.0070	1.0000
		NON-HISP WHITE, OTHER	REG PUB AND ALTER	3275	1169795	984799.1800	1.1877	1093372	1.0698
			HISPANIC PUB	134	17426.0040	13905.4920	1.2531	15759.6830	1.1057
			CATHOLIC	920	102895.4470	93053.7360	1.1057	98756.8410	1.0418
			PRIV NON- CATHOLIC	151	54379.8670	40938.4640	1.3283	49494.3770	1.0986
DROPOUT	MALE	HISPANIC	NULL	214	36364.9670	10180.2600	3.5727	29691.6240	1.2247
		NON-HISP BLACK	NULL	215	48657.4590	19260.2380	2.5265	34530.2160	1.4090
		NON-HISP WHITE, OTHER	NULL	730	192297.5000	69274.6540	2.7762	112300.8890	1.7123
	FEMALE	HISPANIC	NULL	227	33426.7310	12547.4890	2.6638	22738.5210	1.4701
		NON-HISP BLACK	NULL	178	39509.7090	19780.2230	1.9976	32346.6990	1.2214
		NON-HISP WHITE, OTHER	NULL	618	150921.2080	65155.8930	2.3164	106810.1290	1.4130

Sophomore Cohort

SAS

1

UNIVARIATE

VARIABLE=RAWWT

WT FOR FU2 SELECTION

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	14825	SUM WGTS	14825	100% MAX	3098.14	99%	1264.23	LOWEST	HIGHEST
MEAN	255.037	SUM	3780928	75% Q3	436.375	95%	530.728	1.449	2229.2
STD DEV	240.215	VARIANCE	57703.2	50% MED	147.865	90%	463.396	1.449	2239.24
SKEWNESS	2.37723	KURTOSIS	11.8637	25% Q1	102.798	10%	21.8632	1.449	2239.24
USS	1819669595	CSS	855392021	0% MIN	1.449	5%	14.68	1.449	2627.14
CV	94.1881	STD MEAN	1.97289			1%	5.296	1.449	3098.14
T:MEAN=O	129.271	PROB> T	0.0001	RANGE	3096.7				
SGN RANK	54948863	PROB> S	0.0001	Q3-Q1	333.577				
NUM →= O	14825			MODE	436.375				

SAS

2

UNIVARIATE

VARIABLE=FU3WT

WT FOR THIRD FOLLOWUP PARTICIPANTS

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	13481	SUM WGTS	13481	100% MAX	3350.11	99%	1378.54	LOWEST	HIGHEST
MEAN	280.463	SUM	3780928	75% Q3	463.439	95%	594.488	1.619	2560.31
STD DEV	266.438	VARIANCE	70989.3	50% MED	166.899	90%	516.443	1.619	2588.94
SKEWNESS	2.65544	KURTOSIS	14.4557	25% Q1	113.076	10%	25.282	1.619	2661.61
USS	2017348708	CSS	956936427	0% MIN	1.619	5%	15.791	1.619	3000.26
CV	94.9993	STD MEAN	2.29475			1%	5.481	1.619	3350.11
T:MEAN=O	122.22	PROB> T	0.0001	RANGE	3348.49				
SGN RANK	45437711	PROB> S	0.0001	Q3-Q1	350.363				
NUM →= O	13481			MODE	449.061				

SAS

3

UNIVARIATE

VARIABLE=TESTWT3

WT FOR FU3 R'S WITH BY AND FU1 TEST DATA

MOMENTS				QUANTILES(DEF=4)			EXTREMES		
N	13205	SUM WGTs	13205	100% MAX	3446.29	99%	1378.93	LOWEST	HIGHEST
MEAN	286.325	SUM	3780927	75% Q3	485.411	95%	612.444	1.738	2736.2
STD DEV	270.257	VARIANCE	73038.7	50% MED	170.708	90%	523.53	1.738	2774.64
SKEWNESS	2.70627	KURTOSIS	15.6204	25% Q1	117.405	10%	26.333	1.775	2922.36
USS	2046979321	CSS	964403641	0% MIN	1.738	5%	15.846	1.775	2969.27
CV	94.388	STD MEAN	2.35184			1%	5.518	1.775	3446.29
T:MEAN=0	121.745	PROB> T	0.0001	RANGE	3444.55				
SGN RANK	43596308	PROB> S	0.0001	Q3-Q1	368.005				
NUM \neq 0	13205			MODE	466.876				

SAS

4

UNIVARIATE

VARIABLE=PANELWT4

WT FOR PARTICIPANTS IN ALL FOUR WAVES

MOMENTS				QUANTILES(DEF=4)			EXTREMES		
N	11708	SUM WGTs	11708	100% MAX	3969.68	99%	1231.85	LOWEST	HIGHEST
MEAN	322.935	SUM	3780927	75% Q3	550.373	95%	677.056	1.803	2837.02
STD DEV	280.962	VARIANCE	78939.8	50% MED	198.685	90%	605.994	2.025	2842.7
SKEWNESS	1.96794	KURTOSIS	10.4893	25% Q1	130.206	10%	31.1153	2.025	2842.7
USS	2145142994	CSS	924147787	0% MIN	1.803	5%	17.055	2.025	3109.21
CV	87.0026	STD MEAN	2.59661			1%	5.85843	2.025	3969.68
T:MEAN=0	124.368	PROB> T	0.0001	RANGE	3967.88				
SGN RANK	34272243	PROB> S	0.0001	Q3-Q1	420.167				
NUM \neq 0	11708			MODE	518.348				

Appendix B: Senior Weights and Nonresponse Adjustments

HSB SENIORS - FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

BYPART	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	TOTAL	FU3PART	
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT
NON-PARTICIPANT	NULL	NULL	REG PUB AND ALTER	NULL	442	399244.4560	318853.6040	1.2521
			HISP, PRIV, CATH	NULL	53	54248.7690	37858.9330	1.4328
PARTICIPANT	MALE	HISPANIC	REG PUB AND ALTER	UNAVAILABLE	53	6759.4260	5273.2710	1.2818
				LOWEST QUARTILE	153	16667.4930	12524.2910	1.3308
				SECOND QUARTILE	85	9802.6200	8390.3060	1.1683
				THIRD QUARTILE	56	5896.5060	5295.1870	1.1135
				HIGHEST QUARTILE	28	3421.2470	3290.1020	1.0398
			HISPANIC PUB	UNAVAILABLE	57	2273.8230	2030.0520	1.1200
				LOWEST QUARTILE	211	7988.0190	6933.5270	1.1520
				SECOND QUARTILE	106	3799.7740	3185.3770	1.1928
				THIRD QUARTILE	92	2389.9640	2222.5750	1.0752
				HIGHEST QUARTILE	53	1221.3200	1094.3640	1.1159
		ALL PRIVATE	BELOW MEDIAN	60	5285.9510	4748.9720	1.1130	
			ABOVE MEDIAN	88	3510.3460	2948.8820	1.1903	
		NON-HISP BLACK	REG PUB AND ALTER	UNAVAILABLE	206	25139.7010	20101.0450	1.2506
LOWEST QUARTILE	594			62025.6660	51493.6720	1.2045		

(CONTINUED)

HSB SENIORS -- FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

BYPART	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	TOTAL	FU3PART	
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT
PARTICIPANT	MALE	NON-HISP BLACK	REG PUB AND ALTER	SECOND QUARTILE	225	23369.8750	19471.2850	1.2001
				THIRD QUARTILE	136	13345.0390	10418.0040	1.2809
				HIGHEST QUARTILE	70	9044.3440	7118.3220	1.2706
			HISPANIC PUB	NULL	59	3365.0010	2947.3880	1.1416
			CATHOLIC	NULL	98	4624.3030	3740.3450	1.2363
			PRIV NON- CATHOLIC	NULL	25	1348.9910	1076.3940	1.2532
		NON-HISP WHITE, OTHER	REG PUB AND ALTER	UNAVAILABLE	245	117573.5730	98682.1150	1.1914
				LOWEST QUARTILE	431	152104.3230	131257.1520	1.1588
				SECOND QUARTILE	510	198161.4810	174481.0260	1.1357
				THIRD QUARTILE	546	215345.9890	192563.8900	1.1183
				HIGHEST QUARTILE	784	238520.9260	219074.7530	1.0887
			HISPANIC PUB	BELOW MEDIAN	80	8063.3900	5364.1370	1.5033
				ABOVE MEDIAN	62	5226.1130	4583.5830	1.1401
			CATHOLIC	BELOW MEDIAN	64	29594.0090	25000.6120	1.1837
				ABOVE MEDIAN	129	39714.5630	34971.3280	1.1355

(CONTINUED)

HSB SENIORS - FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

BYPART	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	TOTAL		FU3PART	
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	
PARTICIPANT	MALE	NON-HISP WHITE, OTHER	PRIV NON- CATHOLIC	BELOW MEDIAN	29	12616.9840	11224.4880	1.1241	
				ABOVE MEDIAN	83	23151.4660	22180.5810	1.0437	
	FEMALE	HISPANIC	REG PUB AND ALTER	UNAVAILABLE	64	8289.7620	7247.1640	1.1439	
				LOWEST QUARTILE	167	20890.6020	17413.5180	1.1996	
				SECOND QUARTILE	91	9879.3910	8610.5220	1.1473	
				THIRD QUARTILE	40	4537.0760	4093.3090	1.1084	
				HIGHEST QUARTILE	30	3408.1980	3043.3680	1.1198	
				UNAVAILABLE	73	2959.6270	2658.8360	1.1130	
			HISPANIC PUB	LOWEST QUARTILE	297	11352.8100	10343.7150	1.0975	
				SECOND QUARTILE	124	5440.7250	5111.9480	1.0642	
				THIRD QUARTILE	90	2200.3010	2143.5520	1.0264	
				HIGHEST QUARTILE	29	558.5070	481.6490	1.1595	
			ALL PRIVATE	BELOW MEDIAN	77	5392.6450	4733.5060	1.1392	
				ABOVE MEDIAN	114	2509.8250	1892.4330	1.3262	
			NON-HISP BLACK	REG PUB AND ALTER	UNAVAILABLE	206	22370.7900	18482.2550	1.2103
LOWEST QUARTILE	814	84337.0650			74775.0570	1.1279			

(CONTINUED)

HSB SENIORS - FU3 NONRESPONSE ADJUSTMENTS FOR EACH CELL

BYPART	SEX	RACE	SCHTYPE	BYTESTQ	TOTAL	FU3PART		
					N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT
PARTICIPANT	FEMALE	NON-HISP BLACK	REG PUB AND ALTER	SECOND QUARTILE	315	32671.5600	29825.5450	1.0954
				THIRD QUARTILE	135	13114.3550	11940.6400	1.0982
				HIGHEST QUARTILE	56	6657.7360	5443.1770	1.2230
			HISPANIC PUB	NULL	80	4242.6230	3709.1320	1.1437
			ALL PRIVATE	NULL	125	7495.7000	6361.2450	1.1782
			NON-HISP WHITE, OTHER	REG PUB AND ALTER	UNAVAILABLE	187	92711.2710	83877.9680
		HISPANIC PUB	LOWEST QUARTILE	455	168062.6690	152285.7310	1.1036	
			SECOND QUARTILE	583	227347.7910	214747.9480	1.0586	
			THIRD QUARTILE	669	245218.4430	229681.0030	1.0676	
			HIGHEST QUARTILE	713	210480.3300	202281.9820	1.0405	
			BELOW MEDIAN	75	6234.9920	5433.2340	1.1475	
			ABOVE MEDIAN	68	6641.5490	5437.3600	1.2214	
		CATHOLIC	BELOW MEDIAN	104	34969.2700	32328.9450	1.0816	
			ABOVE MEDIAN	184	53584.1730	52373.4050	1.0231	
		PRIV NON- CATHOLIC	NULL	117	41308.0220	37225.8820	1.1096	

HSB SENIORS - PANEL4, TEST NONRESPONSE ADJUSTMENTS
FOR EACH CELL

SEX	RACE	SCHTYPE	TOTAL	TOTAL		PNL4PART		TESTPART	
			N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	SUM OF WTS	ADJUSTMENT	
MALE	HISPANIC	PUB, ALTER, PRIV	403	53678.1950	32771.9730	1.6380	29502.0740	1.8195	
		HISPANIC PUB	524	22266.5400	13949.8250	1.5961	13435.8430	1.6572	
		CATHOLIC	130	6698.0740	5196.0440	1.2889	4800.3140	1.3952	
	NON-HISP BLACK	REG PUB AND ALTER	1253	152796.5210	93694.2630	1.6307	88501.2830	1.7265	
		HISPANIC PUB	59	3365.0010	2410.9730	1.3956	2263.1870	1.4867	
		ALL PRIVATE	123	5973.2940	4155.8460	1.4374	3916.3830	1.5253	
	NON-HISP WHITE, OTHER	PUB, ALTER, HISP	2858	1115727	756858.9420	1.4740	727186.1770	1.5342	
		CATHOLIC	203	79884.3620	55101.7370	1.4496	50087.7950	1.5948	
		PRIV NON-CATHOLIC	122	46576.8500	29030.2480	1.6043	28445.3290	1.6374	
FEMALE	HISPANIC	PUB, ALTER, PRIV	415	58698.4530	39734.0740	1.4773	33736.3570	1.7400	
		HISPANIC PUB	615	24349.4260	19566.5850	1.2444	18080.8640	1.3466	
		CATHOLIC	179	6299.3050	3913.5400	1.6095	4235.9430	1.4872	
	NON-HISP BLACK	PUB, ALTER, PRIV	1565	182507.1920	132423.1750	1.3781	122573.1200	1.4889	
		HISPANIC PUB	81	5161.3510	3374.3720	1.5295	3084.0130	1.6736	
		CATHOLIC	111	6876.0250	4867.2670	1.4126	5050.0150	1.3616	
	NON-HISP WHITE, OTHER	REG PUB AND ALTER	2788	1107312	837059.3830	1.3229	798996.6640	1.3858	
		HISPANIC PUB	146	15632.7250	10180.4300	1.5356	10719.3670	1.4583	
		CATHOLIC	295	95956.4960	79384.9160	1.2087	81779.1330	1.1732	

(CONTINUED)

HSB SENIORS - PANEL4, TEST NONRESPONSE ADJUSTMENTS
FOR EACH CELL

			TOTAL	TOTAL	PNL4PART		TESTPART	
			N OF CASES	SUM OF WTS	SUM OF WTS	ADJUSTMENT	SUM OF WTS	ADJUSTMENT
SEX	RACE	SCHTYPE						
FEMALE	NON-HISP WHITE, OTHER	PRIV NON- CATHOLIC	125	49954.7420	33722.2790	1.4812	31403.7180	1.5908

Senior Cohort

SAS

5

UNIVARIATE

VARIABLE=RAWWT

WT FOR FU2 SELECTION

MOMENTS				QUANTILES(DEF=4)			EXTREMES		
N	11995	SUM WGTS	11995	100% MAX	1080.84	99%	903.268	LOWEST	HIGHEST
MEAN	253.415	SUM	3039713	75% Q3	594.622	95%	630.075	1.094	1080.84
STD DEV	263.622	VARIANCE	69496.4	50% MED	109.279	90%	594.622	1.094	1080.84
SKEWNESS	1.01828	KURTOSIS	-0.395701	25% Q1	83.69	10%	27.087	1.094	1080.84
USS	1603849235	CSS	833540215	0% MIN	1.094	5%	16.09	1.094	1080.84
CV	104.028	STD MEAN	2.40703			1%	5.485	1.094	1080.84
T:MEAN=0	105.281	PROB> T	0.0001	RANGE	1079.75				
SGN RANK	35973005	PROB> S	0.0001	Q3-Q1	510.932				
NUM = 0	11995			MODE	594.622				

SAS

6

UNIVARIATE

VARIABLE=FU3WT

WT FOR THIRD FOLLOWUP PARTICIPANTS

MOMENTS				QUANTILES(DEF=4)			EXTREMES		
N	10583	SUM WGTS	10583	100% MAX	1548.76	99%	1131	LOWEST	HIGHEST
MEAN	287.226	SUM	3039713	75% Q3	629.51	95%	708.455	1.142	1548.76
STD DEV	303.166	VARIANCE	91909.4	50% MED	124.692	90%	675.324	1.302	1548.76
SKEWNESS	1.21689	KURTOSIS	0.60229	25% Q1	93.309	10%	31.6704	1.302	1548.76
USS	1845669759	CSS	972584942	0% MIN	1.142	5%	18.8758	1.371	1548.76
CV	105.549	STD MEAN	2.94697			1%	6.581	1.371	1548.76
T:MEAN=0	97.4649	PROB> T	0.0001	RANGE	1547.61				
SGN RANK	28002618	PROB> S	0.0001	Q3-Q1	536.201				
NUM = 0	10583			MODE	1131				

SAS

7

UNIVARIATE

VARIABLE=TESTWT3 WT FOR FU3 R'D WITH BY TEST DATA

MOMENTS				QUANTILES(DEF=4)			EXTREMES		
N	9149	SUM WGTS	9149	100% MAX	1081.9	99%	955.724	LOWEST	HIGHEST
MEAN	332.246	SUM	3039714	75% Q3	824.074	95%	912.333	1.669	1034.59
STD DEV	334.114	VARIANCE	111632	50% MED	163.055	90%	912.333	1.669	1081.9
SKEWNESS	0.935866	KURTOSIS	-0.920926	25% Q1	118.836	10%	36.94	1.791	1081.9
USS	2031142091	CSS	1021210673	0% MIN	1.669	5%	22.593	1.991	1081.9
CV	100.562	STD MEAN	3.49307			1%	7.379	1.991	1081.9
T:MEAN=O	95.1155	PROB> T	0.0001	RANGE	1080.23				
SGN RANK	20928338	PROB> S	0.0001	Q3-Q1	705.238				
NUM ^= 0	9149			MODE	824.074				

SAS

8

UNIVARIATE

VARIABLE=PANELWT4 WT FOR PARTICIPANTS IN ALL FOUR WAVES

MOMENTS				QUANTILES(DEF=4)			EXTREMES		
N	9389	SUM WGTS	9389	100% MAX	1045.54	99%	913.458	LOWEST	HIGHEST
MEAN	323.753	SUM	3039712	75% Q3	786.601	95%	876.564	1.572	973.949
STD DEV	323.22	VARIANCE	104471	50% MED	155.665	90%	876.564	1.572	973.949
SKEWNESS	0.895201	KURTOSIS	-1.01992	25% Q1	116.788	10%	39.463	1.755	973.949
USS	1964890499	CSS	980776008	0% MIN	1.572	5%	22.893	1.792	1040.99
CV	99.8356	STD MEAN	3.33571			1%	7.987	1.792	1045.54
T:MEAN=O	97.0565	PROB> T	0.0001	RANGE	1043.97				
SGN RANK	22040678	PROB> S	0.0001	Q3-Q1	669.812				
NUM ^= 0	9389			MODE	786.601				

Appendix B: Design Effects and Sampling Errors

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
Total Population
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	79.16	0.63	3.10	1.76	12817	0.36
Taking Vocational Courses, Feb '86	FI3B	2.70	0.16	1.32	1.15	12817	0.14
Taking Academic Courses, Feb '86	FI3C	4.23	0.29	2.61	1.62	12817	0.18
Taking Graduate Courses, Feb '86	FI3D	1.81	0.11	0.94	0.97	12817	0.12
Serving on Active Duty, Feb '86	FI3F	1.24	0.10	1.11	1.06	12817	0.10
Keeping House, Feb '86	FI3G	14.06	0.52	2.82	1.68	12817	0.31
Looking For Work, Feb '86	FI3I	4.86	0.31	2.68	1.64	12817	0.19
If Emp, 1st Job Professional/Technical	FI7A1	25.35	0.61	2.46	1.57	12312	0.40
If Emp, 1st Job Clerical	FI7A2	18.54	0.54	2.41	1.55	12312	0.35
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	19.36	0.56	2.38	1.54	11853	0.36
If Emp, Very Dissatisfied With Job Security	FI13G	4.47	0.33	3.06	1.75	11770	0.19
Did Not Receive Unemployment-'84	FI17B84	20.44	1.49	4.22	2.06	3083	0.73
Not Enrolled in PSE Between '79 - '86	FI18	34.18	0.68	2.61	1.62	12782	0.42
If in PSE 79-86, Full Time in 1st Sch	FI19D	35.81	1.20	2.86	1.69	4552	0.71
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19I	51.12	1.43	2.99	1.73	3628	0.83
If in PSE '79-'86, Attended Second School	FI19J	23.57	0.95	2.41	1.55	4787	0.61
Plan to Pursue Further Training in Education	FI32E	7.55	0.29	1.45	1.21	12159	0.24
Plan to Pursue Further Training in Pub. Serv.	FI32J	4.48	0.26	1.86	1.36	12159	0.19
Married as of February '86	FI77	68.29	0.72	3.04	1.74	12741	0.41
Has No Biological Children	FI84A	33.84	0.73	3.03	1.74	12707	0.42
If has Preschool Child., Uses Private Daycare	FI90AG	20.46	0.90	2.73	1.65	5443	0.55
Lived With Mother, Feb '86	FI102D	5.75	0.39	3.41	1.85	12361	0.21
Registered to Vote	FI112	78.45	0.66	3.17	1.78	12359	0.37
Since '84, Voted In Local/State/National Elec	FI113	71.85	0.70	3.02	1.74	12335	0.40
Being Successful in Job Very Important	FI116A	68.66	0.64	2.33	1.53	12236	0.42
Finding Right Person To Marry Very Important	FI116B	85.81	0.57	3.25	1.80	12218	0.32
Having Lots of Money Very Important	FI116C	16.34	0.61	3.29	1.81	12237	0.33
Being a Community Leader Very Important	FI116F	4.10	0.31	3.00	1.73	12221	0.18
Providing Better Opp for Child Very Important	FI116G	62.63	0.74	2.79	1.67	12105	0.44
Having Leisure Time Very Important	FI116K	60.75	0.72	2.68	1.64	12240	0.44
Mean				2.64	1.61		
Minimum				0.94	0.97		
Maximum				4.22	2.06		
Standard Deviation				0.70	0.24		
Median				2.81	1.68		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
Blacks
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	80.41	2.11	4.01	2.00	1412	1.06
Taking Vocational Courses, Feb '86	FI3B	3.43	0.67	1.89	1.38	1412	0.49
Taking Academic Courses, Feb '86	FI3C	4.19	1.30	5.91	2.43	1412	0.53
Taking Graduate Courses, Feb '86	FI3D	1.26	0.29	0.98	0.99	1412	0.30
Serving on Active Duty, Feb '86	FI3F	1.90	0.41	1.27	1.13	1412	0.36
Keeping House, Feb '86	FI3G	11.78	1.98	5.31	2.30	1412	0.86
Looking For Work, Feb '86	FI3I	7.25	0.85	1.53	1.23	1412	0.69
If Emp, 1st Job Professional/Technical	FI7A1	21.61	2.42	4.68	2.16	1352	1.12
If Emp, 1st Job Clerical	FI7A2	26.07	2.20	3.39	1.84	1352	1.19
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	17.80	2.02	3.65	1.91	1313	1.06
If Emp, Very Dissatisfied With Job Security	FI13G	5.91	1.46	4.99	2.23	1297	0.65
Did Not Receive Unemployment-'84	FI17B84	22.94	5.20	5.84	2.42	383	2.15
Not Enrolled in PSE Between '79 - '86	FI18	36.98	2.79	4.69	2.16	1400	1.29
If in PSE 79-86, Full Time in 1st Sch	FI19D	40.98	4.56	4.38	2.09	510	2.18
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	47.53	5.31	4.65	2.16	413	2.46
If in PSE '79-'86, Attended Second School	FI19J	23.90	4.16	5.07	2.25	534	1.85
Plan to Pursue Further Training in Education	FI32E	7.77	0.76	1.08	1.04	1340	0.73
Plan to Pursue Further Training in Pub. Serv.	FFI32J	6.00	0.81	1.56	1.25	1340	0.65
Married as of February '86	FI77	46.90	2.61	3.82	1.95	1398	1.33
Has No Biological Children	FI84A	26.38	2.40	4.12	2.03	1393	1.18
If has Preschool Child., Uses Private Daycare	FI90AG	30.39	4.16	4.26	2.06	522	2.01
Lived With Mother, Feb '86	FI102D	12.10	2.00	5.16	2.27	1380	0.88
Registered to Vote	FI112	85.11	1.59	2.73	1.65	1369	0.96
Since '84, Voted In Local/State/National Elec	FI113	72.75	2.20	3.33	1.83	1360	1.21
Being Successful in Job Very Important	FI116A	75.98	2.24	3.68	1.92	1345	1.17
Finding Right Person To Marry Very Important	FI116B	77.38	2.57	5.07	2.25	1340	1.14
Having Lots of Money Very Important	FI116C	27.13	2.48	4.19	2.05	1346	1.21
Being a Community Leader Very Important	FI116F	11.16	1.92	4.97	2.23	1343	0.86
Providing Better Opp for Child Very Important	FI116G	84.81	2.15	4.82	2.19	1349	0.98
Having Leisure Time Very Important	FI116K	57.06	2.73	4.09	2.02	1345	1.35
Mean				3.84	1.85		
Minimum				0.98	0.99		
Maximum				5.91	2.43		
Standard Deviation				1.44	0.42		
Median				4.16	2.04		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
Hispanic
Weight = FUSWT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	85.38	1.77	1.67	1.29	669	1.37
Taking Vocational Courses, Feb '86	FI3B	2.64	0.67	1.15	1.07	669	0.62
Taking Academic Courses, Feb '86	FI3C	3.86	0.83	1.25	1.12	669	0.75
Taking Graduate Courses, Feb '86	FI3D	1.08	0.41	1.08	1.04	669	0.40
Serving on Active Duty, Feb '86	FI3F	1.26	0.44	1.02	1.01	669	0.43
Keeping House, Feb '86	FI3G	10.85	1.45	1.45	1.21	669	1.20
Looking For Work, Feb '86	FI3I	4.87	0.99	1.42	1.19	669	0.83
If Emp, 1st Job Professional/Technical	FI7A1	16.12	2.01	1.89	1.37	632	1.46
If Emp, 1st Job Clerical	FI7A2	21.13	2.42	2.21	1.49	632	1.63
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	18.61	2.16	1.81	1.35	589	1.61
If Emp, Very Dissatisfied With Job Security	FI13G	5.14	1.17	1.65	1.28	584	0.91
Did Not Receive Unemployment-'84	FI17B84	28.82	9.35	6.48	2.55	153	3.67
Not Enrolled in PSE Between '79 - '86	FI18	32.51	3.54	3.82	1.95	668	1.81
If in PSE 79-86, Full Time in 1st Sch	FI19D	31.26	5.37	2.66	1.63	199	3.29
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	46.42	8.37	4.31	2.08	154	4.03
If in PSE '79-'86, Attended Second School	FI19J	18.00	3.71	1.97	1.40	213	2.64
Plan to Pursue Further Training in Education	FI32E	6.03	0.98	1.04	1.02	615	0.96
Plan to Pursue Further Training in Pub. Serv.	FFI32J	7.31	1.37	1.69	1.30	615	1.05
Married as of February '86	FI77	67.66	3.36	3.41	1.85	663	1.82
Has No Biological Children	FI84A	24.41	3.51	4.42	2.10	661	1.67
If has Preschool Child., Uses Private Daycare	FI90AG	28.04	6.10	4.97	2.23	270	2.74
Lived With Mother, Feb '86	FI102D	5.65	0.98	1.14	1.07	634	0.92
Registered to Vote	FI112	71.52	3.99	4.89	2.21	627	1.80
Since '84, Voted in Local/State/National Elec	FI113	59.94	3.73	3.60	1.90	623	1.96
Being Successful in Job Very Important	FI116A	79.65	2.18	1.83	1.35	621	1.62
Finding Right Person To Marry Very Important	FI116B	89.77	1.37	1.26	1.12	616	1.22
Having Lots of Money Very Important	FI116C	19.51	3.33	4.36	2.09	620	1.59
Being a Community Leader Very Important	FI116F	6.43	1.34	1.86	1.36	622	0.98
Providing Better Opp for Child Very Important	FI116G	83.41	2.17	2.10	1.45	616	1.50
Having Leisure Time Very Important	FI116K	66.93	2.99	2.52	1.59	623	1.89
Mean				2.50	1.52		
Minimum				1.02	1.01		
Maximum				6.48	2.55		
Standard Deviation				1.43	0.42		
Median				1.88	1.37		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
White and Others
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	78.75	0.68	2.97	1.72	10736	0.39
Taking Vocational Courses, Feb '86	FI3B	2.62	0.17	1.23	1.11	10736	0.15
Taking Academic Courses, Feb '86	FI3C	4.25	0.30	2.38	1.54	10736	0.19
Taking Graduate Courses, Feb '86	FI3D	1.90	0.13	0.91	0.95	10736	0.13
Serving on Active Duty, Feb '86	FI3F	1.17	0.11	1.12	1.06	10736	0.10
Keeping House, Feb '86	FI3G	14.44	0.55	2.61	1.61	10736	0.34
Looking For Work, Feb '86	FI3I	4.61	0.34	2.85	1.69	10736	0.20
If Emp, 1st Job Professional/Technical	FI7A1	26.18	0.65	2.27	1.51	10328	0.43
If Emp, 1st Job Clerical	FI7A2	17.62	0.57	2.28	1.51	10328	0.37
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	19.56	0.60	2.28	1.51	9951	0.40
If Emp, Very Dissatisfied With Job Security	FI13G	4.29	0.35	2.94	1.72	9889	0.20
Did Not Receive Unemployment-'84	FI17B84	19.71	1.56	3.94	1.98	2547	0.79
Not Enrolled in PSE Between '79 - '86	FI18	33.97	0.69	2.29	1.51	10714	0.46
If in PSE 79-86, Full Time in 1st Sch	FI19D	35.39	1.25	2.61	1.62	3843	0.77
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	51.76	1.46	2.61	1.61	3061	0.90
If in PSE '79-'86, Attended Second School	FI19J	23.78	0.98	2.14	1.46	4040	0.67
Plan to Pursue Further Training in Education	FI32E	7.60	0.32	1.50	1.23	10204	0.26
Plan to Pursue Further Training in Pub. Serv.	FFI32J	4.20	0.28	1.95	1.39	10204	0.20
Married as of February '86	FI77	70.58	0.74	2.79	1.67	10680	0.44
Has No Biological Children	FI84A	35.06	0.78	2.86	1.69	10653	0.46
If has Preschool Child., Uses Private Daycare	FI90AG	19.24	0.89	2.35	1.53	4651	0.58
Lived With Mother, Feb '86	FI102D	5.08	0.39	3.22	1.80	10347	0.22
Registered to Vote	FI112	78.05	0.72	3.09	1.76	10363	0.41
Since '84, Voted In Local/State/National Elec	FI113	72.26	0.75	2.90	1.70	10352	0.44
Being Successful in Job Very Important	FI116A	67.41	0.68	2.16	1.47	10270	0.46
Finding Right Person To Marry Very Important	FI116B	86.53	0.58	3.01	1.73	10262	0.34
Having Lots of Money Very Important	FI116C	15.06	0.62	3.08	1.75	10271	0.35
Being a Community Leader Very Important	FI116F	3.25	0.28	2.56	1.60	10256	0.18
Providing Better Opp for Child Very Important	FI116G	59.35	0.79	2.65	1.63	10140	0.49
Having Leisure Time Very Important	FI116K	60.87	0.76	2.52	1.59	10272	0.48
Mean				2.47	1.56		
Minimum				0.91	0.95		
Maximum				3.94	1.98		
Standard Deviation				0.64	0.22		
Median				2.61	1.61		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
Males
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	88.91	0.72	3.20	1.79	6043	0.40
Taking Vocational Courses, Feb '86	FI3B	3.24	0.26	1.31	1.14	6043	0.23
Taking Academic Courses, Feb '86	FI3C	3.41	0.34	2.10	1.45	6043	0.23
Taking Graduate Courses, Feb '86	FI3D	2.04	0.18	0.95	0.98	6043	0.18
Serving on Active Duty, Feb '86	FI3F	2.16	0.19	1.06	1.03	6043	0.19
Keeping House, Feb '86	FI3G	1.26	0.17	1.46	1.21	6043	0.14
Looking For Work, Feb '86	FI3I	5.35	0.49	2.86	1.69	6043	0.29
If Emp, 1st Job Professional/Technical	FI7A1	24.05	0.95	2.95	1.72	5981	0.55
If Emp, 1st Job Clerical	FI7A2	5.34	0.42	2.13	1.46	5981	0.29
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	20.24	0.85	2.59	1.61	5739	0.53
If Emp, Very Dissatisfied With Job Security	FI13G	3.23	0.41	3.09	1.76	5698	0.23
Did Not Receive Unemployment-'84	FI17B84	30.71	2.56	4.02	2.01	1311	1.27
Not Enrolled in PSE Between '79 - '86	FI18	33.76	0.99	2.65	1.63	6017	0.61
If in PSE 79-86, Full Time in 1st Sch	FI19D	40.65	1.81	2.87	1.69	2121	1.07
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	55.08	1.97	2.77	1.67	1766	1.18
If in PSE '79-'86, Attended Second School	FI19J	23.72	1.46	2.63	1.62	2233	0.90
Plan to Pursue Further Training in Education	FI32E	4.05	0.34	1.66	1.29	5689	0.26
Plan to Pursue Further Training in Pub. Serv.	FFI32J	4.99	0.40	1.92	1.39	5689	0.29
Married as of February '86	FI77	68.35	1.00	2.80	1.67	5997	0.60
Has No Biological Children	FI84A	38.08	1.04	2.75	1.66	5972	0.63
If has Preschool Child., Uses Private Daycare	FI90AG	20.83	1.45	3.26	1.81	2577	0.80
Lived With Mother, Feb '86	FI102D	6.26	0.51	2.57	1.60	5795	0.32
Registered to Vote	FI112	76.51	1.04	3.47	1.86	5797	0.56
Since '84, Voted In Local/State/National Elec	FI113	70.10	1.08	3.22	1.79	5781	0.60
Being Successful in Job Very Important	FI116A	73.45	0.90	2.41	1.55	5744	0.58
Finding Right Person To Marry Very Important	FI116B	85.57	0.79	2.93	1.71	5732	0.46
Having Lots of Money Very Important	FI116C	21.54	1.02	3.53	1.88	5736	0.54
Being a Community Leader Very Important	FI116F	5.74	0.59	3.68	1.92	5730	0.31
Providing Better Opp for Child Very Important	FI116G	61.56	1.07	2.76	1.66	5693	0.64
Having Leisure Time Very Important	FI116K	62.62	0.98	2.36	1.54	5739	0.64
Mean				2.60	1.59		
Minimum				0.95	0.98		
Maximum				4.02	2.01		
Standard Deviation				0.75	0.25		
Median				2.77	1.67		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
Females
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	69.93	0.96	2.95	1.72	6767	0.56
Taking Vocational Courses, Feb '86	FI3B	2.18	0.20	1.26	1.12	6767	0.18
Taking Academic Courses, Feb '86	FI3C	5.04	0.46	3.05	1.75	6767	0.27
Taking Graduate Courses, Feb '86	FI3D	1.60	0.15	0.94	0.97	6767	0.15
Serving on Active Duty, Feb '86	FI3F	0.36	0.07	0.96	0.98	6767	0.07
Keeping House, Feb '86	FI3G	26.40	0.90	2.84	1.69	6767	0.54
Looking For Work, Feb '86	FI3I	4.22	0.34	1.97	1.40	6767	0.24
If Emp, 1st Job Professional/Technical	FI7A1	26.75	0.83	2.23	1.49	6325	0.56
If Emp, 1st Job Clerical	FI7A2	32.19	0.92	2.44	1.56	6325	0.59
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	18.48	0.72	2.13	1.46	6109	0.50
If Emp, Very Dissatisfied With Job Security	FI13G	5.76	0.53	3.09	1.76	6067	0.30
Did Not Receive Unemployment-'84	FI17B84	11.79	1.35	3.12	1.77	1770	0.77
Not Enrolled in PSE Between '79 - '86	FI18	34.48	0.93	2.60	1.61	6758	0.58
If in PSE 79-86, Full Time in 1st Sch	FI19D	31.01	1.43	2.33	1.52	2429	0.94
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	47.65	2.03	3.07	1.75	1861	1.16
If in PSE '79-'86, Attended Second School	FI19J	23.57	1.30	2.41	1.55	2551	0.84
Plan to Pursue Further Training in Education	FI32E	10.86	0.48	1.55	1.24	6464	0.39
Plan to Pursue Further Training in Pub. Serv.	FFI32J	4.02	0.33	1.88	1.37	6464	0.24
Married as of February '86	FI77	68.35	0.99	3.04	1.74	6737	0.57
Has No Biological Children	FI84A	29.85	0.97	3.02	1.74	6728	0.56
If has Preschool Child., Uses Private Daycare	FI90AG	19.78	1.02	1.87	1.37	2863	0.74
Lived With Mother, Feb '86	FI102D	5.29	0.57	4.26	2.06	6560	0.28
Registered to Vote	FI112	80.25	0.82	2.77	1.66	6556	0.49
Since '84, Voted In Local/State/National Elec	FI113	73.45	0.92	2.86	1.69	6548	0.55
Being Successful in Job Very Important	FI116A	64.25	0.91	2.33	1.53	6486	0.60
Finding Right Person To Marry Very Important	FI116B	86.02	0.80	3.43	1.85	6480	0.43
Having Lots of Money Very Important	FI116C	11.45	0.66	2.76	1.66	6495	0.40
Being a Community Leader Very Important	FI116F	2.56	0.22	1.20	1.10	6485	0.20
Providing Better Opp for Child Very Important	FI116G	63.60	0.94	2.44	1.56	6406	0.60
Having Leisure Time Very Important	FI116K	58.92	1.02	2.80	1.67	6495	0.61
Mean				2.45	1.55		
Minimum				0.94	0.97		
Maximum				4.26	2.06		
Standard Deviation				0.75	0.25		
Median				2.52	1.59		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
No Post Secondary Education
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	77.74	3.93	3.81	1.95	427	2.02
Taking Vocational Courses, Feb '86	FI3B	4.07	1.04	1.18	1.09	427	0.96
Taking Academic Courses, Feb '86	FI3C	3.37	0.94	1.16	1.08	427	0.87
Taking Graduate Courses, Feb '86	FI3D	0.90	0.48	1.12	1.06	427	0.46
Serving on Active Duty, Feb '86	FI3F	0.96	0.45	0.91	0.95	427	0.47
Keeping House, Feb '86	FI3G	10.39	1.66	1.26	1.12	427	1.48
Looking For Work, Feb '86	FI3I	9.68	3.64	6.46	2.54	427	1.43
If Emp, 1st Job Professional/Technical	FI7A1	9.21	1.55	1.14	1.07	397	1.45
If Emp, 1st Job Clerical	FI7A2	28.48	4.32	3.62	1.90	397	2.27
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	13.83	2.12	1.35	1.16	359	1.82
If Emp, Very Dissatisfied With Job Security	FI13G	3.36	1.03	1.13	1.06	349	0.97
Did Not Receive Unemployment-'84	FI17B84	33.75	10.23	5.52	2.35	119	4.35
Not Enrolled in PSE Between '79 - '86	FI18	55.68	4.24	2.71	1.65	373	2.58
If in PSE 79-86, Full Time in 1st Sch	FI19D	15.04	3.13	1.17	1.08	153	2.90
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	51.72	8.95	2.53	1.59	80	5.62
If in PSE '79-'86, Attended Second School	FI19J	13.30	6.07	5.50	2.35	173	2.59
Plan to Pursue Further Training in Education	FI32E	5.06	1.24	1.07	1.04	334	1.20
Plan to Pursue Further Training in Pub. Serv.	FFI32J	6.20	1.50	1.29	1.14	334	1.32
Married as of February '86	FI77	66.86	4.13	3.05	1.75	397	2.37
Has No Biological Children	FI84A	28.50	3.99	3.11	1.76	400	2.26
If has Preschool Child., Uses Private Daycare	FI90AG	16.85	3.73	1.41	1.19	143	3.14
Lived With Mother, Feb '86	FI102D	9.24	3.40	5.14	2.27	375	1.50
Registered to Vote	FI112	74.73	2.90	1.66	1.29	374	2.25
Since '84, Voted In Local/State/National Elec	FI113	67.43	3.36	1.91	1.38	371	2.44
Being Successful in Job Very Important	FI116A	68.38	3.56	2.15	1.47	368	2.43
Finding Right Person To Marry Very Important	FI116B	85.18	3.17	2.92	1.71	368	1.85
Having Lots of Money Very Important	FI116C	16.79	2.36	1.46	1.21	369	1.95
Being a Community Leader Very Important	FI116F	8.66	3.28	5.00	2.24	368	1.47
Providing Better Opp for Child Very Important	FI116G	74.09	3.53	2.37	1.54	365	2.30
Having Leisure Time Very Important	FI116K	55.70	4.23	2.69	1.64	371	2.58
Mean				2.53	1.52		
Minimum				0.91	0.95		
Maximum				6.46	2.54		
Standard Deviation				1.57	0.46		
Median				2.03	1.43		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
Some Postsecondary Education
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	79.02	1.04	2.44	1.56	3719	0.67
Taking Vocational Courses, Feb '86	FI3B	4.92	0.42	1.39	1.18	3719	0.35
Taking Academic Courses, Feb '86	FI3C	10.07	0.83	2.83	1.68	3719	0.49
Taking Graduate Courses, Feb '86	FI3D	0.29	0.10	1.27	1.13	3719	0.09
Serving on Active Duty, Feb '86	FI3F	1.58	0.22	1.11	1.06	3719	0.20
Keeping House, Feb '86	FI3G	13.46	0.84	2.27	1.51	3719	0.56
Looking For Work, Feb '86	FI3I	5.04	0.48	1.75	1.32	3719	0.36
If Emp, 1st Job Professional/Technical	FI7A1	19.44	1.06	2.56	1.60	3596	0.66
If Emp, 1st Job Clerical	FI7A2	22.80	1.08	2.38	1.54	3596	0.70
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	18.74	0.96	2.11	1.45	3471	0.66
If Emp, Very Dissatisfied With Job Security	FI13G	4.14	0.46	1.84	1.36	3449	0.34
Did Not Receive Unemployment-'84	FI17B84	17.69	1.83	2.21	1.49	968	1.23
Not Enrolled in PSE Between '79 - '86	FI18	54.61	1.29	2.51	1.58	3726	0.82
If in PSE 79-86, Full Time in 1st Sch	FI19D	34.41	1.90	3.03	1.74	1891	1.09
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	37.20	2.09	2.75	1.66	1470	1.26
If in PSE '79-'86, Attended Second School	FI19J	20.33	1.17	1.69	1.30	2015	0.90
Plan to Pursue Further Training in Education	FI32E	6.00	0.41	1.06	1.03	3564	0.40
Plan to Pursue Further Training in Pub. Serv.	FFI32J	5.83	0.53	1.82	1.35	3564	0.39
Married as of February '86	FI77	67.44	1.27	2.72	1.65	3706	0.77
Has No Biological Children	FI84A	33.21	1.37	3.11	1.76	3697	0.77
If has Preschool Child., Uses Private Daycare	FI90AG	20.66	1.56	2.32	1.52	1576	1.02
Lived With Mother, Feb '86	FI102D	6.80	0.85	4.05	2.01	3593	0.42
Registered to Vote	FI112	79.99	1.07	2.56	1.60	3593	0.67
Since '84, Voted In Local/State/National Elec	FI113	73.48	1.12	2.30	1.51	3584	0.74
Being Successful in Job Very Important	FI116A	68.96	1.10	2.02	1.42	3559	0.78
Finding Right Person To Marry Very Important	FI116B	84.01	1.12	3.29	1.82	3552	0.62
Having Lots of Money Very Important	FI116C	15.97	1.11	3.25	1.80	3562	0.61
Being a Community Leader Very Important	FI116F	4.44	0.77	5.00	2.24	3553	0.35
Providing Better Opp for Child Very Important	FI116G	64.49	1.23	2.32	1.52	3524	0.81
Having Leisure Time Very Important	FI116K	60.45	1.29	2.47	1.57	3562	0.82
Mean				2.41	1.53		
Minimum				1.06	1.03		
Maximum				5.00	2.24		
Standard Deviation				0.82	0.26		
Median				2.35	1.53		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
College Graduate
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	85.36	0.86	2.59	1.61	4412	0.53
Taking Vocational Courses, Feb '86	FI3B	1.93	0.23	1.23	1.11	4412	0.21
Taking Academic Courses, Feb '86	FI3C	3.62	0.31	1.22	1.11	4412	0.28
Taking Graduate Courses, Feb '86	FI3D	6.42	0.41	1.24	1.11	4412	0.37
Serving on Active Duty, Feb '86	FI3F	1.51	0.20	1.19	1.09	4412	0.18
Keeping House, Feb '86	FI3G	9.30	0.63	2.10	1.45	4412	0.44
Looking For Work, Feb '86	FI3I	2.95	0.28	1.23	1.11	4412	0.25
If Emp, 1st Job Professional/Technical	FI7A1	57.23	1.29	2.95	1.72	4363	0.75
If Emp, 1st Job Clerical	FI7A2	8.32	0.71	2.88	1.70	4363	0.42
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	19.38	0.98	2.60	1.61	4232	0.61
If Emp, Very Dissatisfied With Job Security	FI13G	3.94	0.54	3.28	1.81	4215	0.30
Did Not Receive Unemployment-'84	FI17B84	10.52	2.03	4.42	2.10	1008	0.97
Not Enrolled in PSE Between '79 - '86	FI18	59.05	1.24	2.81	1.68	4417	0.74
If in PSE 79-86, Full Time in 1st Sch	FI19D	39.32	1.48	2.31	1.52	2508	0.98
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	65.22	1.71	2.69	1.64	2078	1.05
If in PSE '79-'86, Attended Second School	FI19J	28.42	1.52	2.96	1.72	2599	0.88
Plan to Pursue Further Training in Education	FI32E	17.64	0.85	2.10	1.45	4245	0.59
Plan to Pursue Further Training in Pub. Serv.	FFI32J	2.31	0.26	1.24	1.11	4245	0.23
Married as of February '86	FI77	65.73	1.32	3.39	1.84	4394	0.72
Has No Biological Children	FI84A	49.68	1.23	2.64	1.63	4386	0.76
If has Preschool Child., Uses Private Daycare	FI90AG	29.00	1.79	3.10	1.76	1986	1.02
Lived With Mother, Feb '86	FI102D	3.64	0.32	1.27	1.13	4297	0.29
Registered to Vote	FI112	87.73	1.06	4.50	2.12	4298	0.50
Since '84, Voted In Local/State/National Elec	FI113	83.55	1.12	3.89	1.97	4294	0.57
Being Successful in Job Very Important	FI116A	73.55	1.07	2.49	1.58	4267	0.68
Finding Right Person To Marry Very Important	FI116B	84.91	1.17	4.58	2.14	4260	0.55
Having Lots of Money Very Important	FI116C	18.15	1.26	4.54	2.13	4261	0.59
Being a Community Leader Very Important	FI116F	4.87	0.38	1.36	1.16	4258	0.33
Providing Better Opp for Child Very Important	FI116G	47.55	1.37	3.16	1.78	4191	0.77
Having Leisure Time Very Important	FI116K	64.49	1.09	2.22	1.49	4258	0.73
Mean				2.61	1.58		
Minimum				1.19	1.09		
Maximum				4.58	2.14		
Standard Deviation				1.06	0.33		
Median				2.62	1.62		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
Low SES
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	77.19	1.24	2.82	1.68	3221	0.74
Taking Vocational Courses, Feb '86	FI3B	2.68	0.31	1.19	1.09	3221	0.28
Taking Academic Courses, Feb '86	FI3C	3.68	0.56	2.82	1.68	3221	0.33
Taking Graduate Courses, Feb '86	FI3D	0.95	0.16	0.92	0.96	3221	0.17
Serving on Active Duty, Feb '86	FI3F	1.15	0.20	1.15	1.07	3221	0.19
Keeping House, Feb '86	FI3G	16.03	1.18	3.35	1.83	3221	0.65
Looking For Work, Feb '86	FI3I	6.33	0.64	2.23	1.49	3221	0.43
If Emp, 1st Job Professional/Technical	FI7A1	16.17	0.97	2.09	1.45	3044	0.67
If Emp, 1st Job Clerical	FI7A2	20.99	1.07	2.12	1.46	3044	0.74
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	17.20	1.04	2.22	1.49	2924	0.70
If Emp, Very Dissatisfied With Job Security	FI13G	5.33	0.65	2.46	1.57	2902	0.42
Did Not Receive Unemployment-'84	FI17B84	25.99	3.20	4.50	2.12	844	1.51
Not Enrolled in PSE Between '79 - '86	FI18	26.96	1.24	2.50	1.58	3205	0.78
If in PSE 79-86, Full Time in 1st Sch	FI19D	33.08	2.01	1.68	1.30	921	1.55
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	49.62	3.13	2.82	1.68	721	1.86
If in PSE '79-'86, Attended Second School	FI19J	23.32	2.19	2.62	1.62	983	1.35
Plan to Pursue Further Training in Education	FI32E	5.69	0.42	1.01	1.00	3034	0.42
Plan to Pursue Further Training in Pub. Serv.	FFI32J	5.06	0.47	1.37	1.17	3034	0.40
Married as of February '86	FI77	66.49	1.43	2.94	1.72	3196	0.84
Has No Biological Children	FI84A	25.90	1.38	3.16	1.78	3182	0.78
If has Preschool Child., Uses Private Daycare	FI90AG	17.16	1.82	2.98	1.73	1279	1.05
Lived With Mother, Feb '86	FI102D	7.84	0.85	3.09	1.76	3109	0.48
Registered to Vote	FI112	73.76	1.43	3.24	1.80	3088	0.79
Since '84, Voted In Local/State/National Elec	FI113	65.48	1.43	2.78	1.67	3078	0.86
Being Successful in Job Very Important	FI116A	68.57	1.25	2.22	1.49	3059	0.84
Finding Right Person To Marry Very Important	FI116B	86.38	0.97	2.41	1.55	3049	0.62
Having Lots of Money Very Important	FI116C	16.12	1.12	2.84	1.68	3060	0.66
Being a Community Leader Very Important	FI116F	5.64	0.80	3.65	1.91	3055	0.42
Providing Better Opp for Child Very Important	FI116G	75.77	1.16	2.24	1.50	3049	0.78
Having Leisure Time Very Important	FI116K	56.87	1.45	2.61	1.62	3060	0.90
Mean				2.47	1.55		
Minimum				0.92	0.96		
Maximum				4.50	2.12		
Standard Deviation				0.80	0.27		
Median				2.56	1.60		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
Med SES
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	79.51	0.89	2.92	1.71	6030	0.52
Taking Vocational Courses, Feb '86	FI3B	2.86	0.23	1.19	1.09	6030	0.21
Taking Academic Courses, Feb '86	FI3C	4.34	0.46	3.08	1.76	6030	0.26
Taking Graduate Courses, Feb '86	FI3D	1.49	0.15	0.91	0.95	6030	0.16
Serving on Active Duty, Feb '86	FI3F	1.35	0.16	1.12	1.06	6030	0.15
Keeping House, Feb '86	FI3G	13.82	0.73	2.69	1.64	6030	0.44
Looking For Work, Feb '86	FI3I	4.40	0.44	2.77	1.66	6030	0.26
If Emp, 1st Job Professional/Technical	FI7A1	23.35	0.92	2.75	1.66	5800	0.56
If Emp, 1st Job Clerical	FI7A2	20.72	0.87	2.65	1.63	5800	0.53
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	20.20	0.86	2.58	1.61	5574	0.54
If Emp, Very Dissatisfied With Job Security	FI13G	4.62	0.57	4.05	2.01	5533	0.28
Did Not Receive Unemployment-'84	FI17B84	21.40	2.24	4.10	2.02	1374	1.11
Not Enrolled in PSE Between '79 - '86	FI18	33.63	1.02	2.79	1.67	6014	0.61
If in PSE 79-86, Full Time in 1st Sch	FI19D	34.99	1.99	3.60	1.90	2070	1.05
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	49.72	2.25	3.32	1.82	1645	1.23
If in PSE '79-'86, Attended Second School	FI19J	23.17	1.49	2.69	1.64	2168	0.91
Plan to Pursue Further Training in Education	FI32E	7.22	0.45	1.72	1.31	5718	0.34
Plan to Pursue Further Training in Pub. Serv.	FFI32J	4.86	0.43	2.27	1.51	5718	0.29
Married as of February '86	FI77	69.73	1.04	3.05	1.75	5992	0.59
Has No Biological Children	FI84A	32.95	1.06	3.04	1.74	5984	0.61
If has Preschool Child., Uses Private Daycare	FI90AG	18.07	1.09	2.10	1.45	2608	0.75
Lived With Mother, Feb '86	FI102D	5.30	0.55	3.45	1.86	5813	0.29
Registered to Vote	FI112	77.76	0.96	3.12	1.77	5812	0.55
Since '84, Voted In Local/State/National Elec	FI113	70.73	1.06	3.15	1.78	5801	0.60
Being Successful in Job Very Important	FI116A	68.82	0.95	2.40	1.55	5759	0.61
Finding Right Person To Marry Very Important	FI116B	85.90	0.86	3.53	1.88	5752	0.46
Having Lots of Money Very Important	FI116C	15.59	0.89	3.48	1.87	5758	0.48
Being a Community Leader Very Important	FI116F	3.44	0.43	3.22	1.80	5752	0.24
Providing Better Opp for Child Very Important	FI116G	62.44	1.08	2.82	1.68	5689	0.64
Having Leisure Time Very Important	FI116K	61.12	1.04	2.62	1.62	5759	0.64
Mean				2.77	1.65		
Minimum				0.91	0.95		
Maximum				4.10	2.02		
Standard Deviation				0.76	0.25		
Median				2.81	1.68		

NLS-72 Fifth Follow-Up Estimated Percentages,
Standard Errors and Design Effects
High SES
Weight = FU5WT

Survey Item	Item Number	Estimate	SE	DEFF	DEFT	N	SE-SRS
Working at Full or Part-Time Job, Feb '86	FI3A	81.66	1.09	2.72	1.65	3408	0.66
Taking Vocational Courses, Feb '86	FI3B	2.46	0.31	1.36	1.17	3408	0.27
Taking Academic Courses, Feb '86	FI3C	4.62	0.43	1.41	1.19	3408	0.36
Taking Graduate Courses, Feb '86	FI3D	3.50	0.33	1.12	1.06	3408	0.32
Serving on Active Duty, Feb '86	FI3F	1.02	0.18	1.12	1.06	3408	0.17
Keeping House, Feb '86	FI3G	11.61	0.65	1.40	1.18	3408	0.55
Looking For Work, Feb '86	FI3I	4.27	0.51	2.20	1.48	3408	0.35
If Emp, 1st Job Professional/Technical	FI7A1	38.80	1.32	2.45	1.57	3318	0.85
If Emp, 1st Job Clerical	FI7A2	11.60	0.68	1.48	1.21	3318	0.56
If Emp, Very Sat. with Pay/Fringe Benefits	FI13A	19.29	0.96	1.89	1.38	3216	0.70
If Emp, Very Dissatisfied With Job Security	FI13G	3.45	0.35	1.16	1.08	3198	0.32
Did Not Receive Unemployment-'84	FI17B84	11.97	1.27	1.25	1.12	819	1.13
Not Enrolled in PSE Between '79 - '86	FI18	42.91	1.25	2.16	1.47	3407	0.85
If in PSE 79-86, Full Time in 1st Sch	FI19D	38.79	1.57	1.58	1.26	1519	1.25
If in PSE 79-86, Rec. Cert/Dip. in Last School	FI19D	54.84	1.88	1.75	1.32	1229	1.42
If in PSE '79-'86, Attended Second School	FI19J	24.48	1.18	1.20	1.09	1591	1.08
Plan to Pursue Further Training in Education	FI32E	10.03	0.58	1.20	1.09	3264	0.53
Plan to Pursue Further Training in Pub. Serv.	FFI32J	3.19	0.37	1.44	1.20	3264	0.31
Married as of February '86	FI77	66.97	1.29	2.55	1.60	3395	0.81
Has No Biological Children	FI84A	44.41	1.29	2.27	1.51	3384	0.85
If has Preschool Child., Uses Private Daycare	FI90AG	28.94	2.04	3.03	1.74	1495	1.17
Lived With Mother, Feb '86	FI102D	4.52	0.77	4.47	2.11	3289	0.36
Registered to Vote	FI112	84.84	1.04	2.79	1.67	3305	0.62
Since '84, Voted In Local/State/National Elec	FI113	80.72	1.02	2.23	1.49	3303	0.69
Being Successful in Job Very Important	FI116A	68.84	1.23	2.29	1.51	3270	0.81
Finding Right Person To Marry Very Important	FI116B	85.08	1.08	3.03	1.74	3268	0.62
Having Lots of Money Very Important	FI116C	17.99	1.26	3.51	1.87	3270	0.67
Being a Community Leader Very Important	FI116F	3.65	0.36	1.22	1.10	3265	0.33
Providing Better Opp for Child Very Important	FI116G	48.84	1.41	2.57	1.60	3221	0.89
Having Leisure Time Very Important	FI116K	64.51	1.26	2.26	1.50	3272	0.84
Mean				2.04	1.40		
Minimum				1.12	1.06		
Maximum				4.47	2.11		
Standard Deviation				0.81	0.27		
Median				2.03	1.43		