

PART B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

B1. Statistical Design and Estimation

B1.1 Introduction

The spring 2007 eighth grade Early Childhood Longitudinal Study-Kindergarten Class of 1998-99 (ECLS-K) data collection will be for a longitudinal sample from the student population who remained eligible (e.g., were not out of the country, deceased, etc.) after the spring 2004 fifth grade data collection, regardless of their fifth grade response status. The fifth grade sample included base year (i.e., kindergarten) respondents and a supplemental sample of first graders who were not enrolled in kindergarten during the base year and so had no prior chance of being sampled. The base year students were selected randomly within a sample of schools located within the boundaries of a geographically representative, demographically heterogeneous sample of 100 primary sampling units (PSUs).

In the spring 2007 eighth grade data collection, care will be taken to use procedures to avoid the potential deterioration of the sample due to attrition and mobility. Procedures similar to those used in the fifth grade rounds of data collection will be used to address this concern.

B1.2 Sampling

A major concern of any longitudinal survey is retaining the sampled members across the entire duration of the study because attrition may bias the estimates. For the ECLS-K, there is considerable evidence that students who are mobile are more likely to be “at risk” and have different characteristics than those who are not mobile, thus increasing the chances for bias if mobile students are not retained in the study.

In the spring 2004 follow-up data collection, various subsampling rates for certain subgroups of movers to control the costs of the study were used. The subsampling rates varied between 15 percent for non-language minority movers with missing data points to 75 percent for language minority movers with longitudinal data. The plan for the eighth grade sample is to

include all the respondents from the spring 2004 data collection and follow all movers without any subsampling to ensure that the final eighth grade sample is sufficiently large for data analysis.

B1.3 Analytical Subgroups and Sample Sizes

In the ECLS-K, the student is the ultimate analytic unit; all other respondents are linked to the student as contextual data sources.

The spring 2004 fifth grade data collection began with 16,143 sample students (after the exclusions of groups of movers detailed in section B1.2) and resulted in 12,129 students eligible for the eighth grade data collection. The expected number of respondents at the end of the eighth grade followup is approximately 9,600, assuming that the moving and response rates of the students are similar to those from previous rounds. This sample will allow analysis of the eighth grade students by subgroups such as the type of school (public/private, Catholic/non-Catholic private), race-ethnicity (Hispanic, black, Asian/Pacific Islander, other), geographic region, level of urbanicity (rural, nonrural), and language minority status, with subgroup sample sizes ranging from approximately 800 (Asian/Pacific Islander) to 7,500 (public school).

B1.4 Sample Weights and Standard Error Calculations

Both cross-sectional and longitudinal student sample weights for the eighth grade will be computed at the student level. The creation of replicate weights (for jackknife repeated replication) and stratum and PSU identifiers for Taylor series variance estimation has been a standard feature of the ECLS-K weighting procedures in previous rounds. These procedures will continue to be implemented for the eighth grade using the methods that are already in place.

Standard errors and design effects for illustrative survey items will be presented in the user's manual for all students. Mean design effects will be presented for subgroups defined by type of school, gender, race-ethnicity, region, and urbanicity.

B2. Data Collection Procedures

B2.1 Tracking the Sample

In Phase III a tracking system database was developed for the ECLS-K and the following sample tracking activities were conducted: (1) the entire household (parent) address database was submitted to postmasters for address corrections (ACR); and (2) a respondent mailing was sent to parents, asking them to report any changes in sampled students' schools and/or home addresses. Household updates resulting from those two activities were recorded in the ECLS-K tracking system database. Building on these tracking activities from Phase III, the updated information about the household location of sampled ECLS-K respondents (parents and students) will continue to be collected. In addition, a function will be added to the ECLS-K tracking system to collect information about changes in students' schools.

In October of the 2005-06 school year, a respondent newsletter similar to the one that was produced and mailed after spring-fifth grade was mailed to the ECLS-K households. The newsletter contained information from the fifth grade data collection. As with the Phase III respondent tracking mailing, households will be encouraged to contact the contractor regarding updates to their household location and their students' schools.

Households that are marked as “unlocatable” in the tracking system will be subjected to telephone followup.

The advance school contact described in the eighth grade data collection procedures that follow will also identify students who have changed schools. Information about these students' new schools will be recorded and updated in the ECLS-K tracking system database in preparation for national data collection.

B2.2 Eighth Grade Study

Topics covered in this section include advance contact with schools, conducting student assessments, conducting parent interviews, and distributing and collecting hard-copy instruments.

Advance Contact. Eighth grade data collection will begin in fall 2006 with an advance contact with the schools of the ECLS-K students. The advance contact will alert the school coordinators to the upcoming data collection scheduled for spring 2007 and ask them to provide some information regarding the sampled ECLS-K students enrolled in their school, including (1) student's enrollment status (withdrawn or currently enrolled in their school); (2) student's grade; (3) student's English, mathematics, or science teacher's name, classroom number, and class time; (4) information on any accommodations the student requires for the direct assessment; (5) if the student receives any special education services; and if so, (6) the primary special education teacher's name. In addition, school coordinators will be asked to provide any possible information regarding the new (transfer) school into which withdrawn students may have enrolled.

Hard-Copy Instrument Mailout. The advance school contact will have identified most of the sampled students' English, mathematics, or science teachers and special education teachers, as well as the school administrators, in fall 2006. Beginning in mid February 2007, the contractor will mail the hard-copy questionnaires for these respondents, embedded within information packets, to the schools. The information packets will be addressed to the school coordinator with instructions to distribute them to the identified teachers and the school administrator. Each packet will include the following (1) the questionnaire(s) to be completed; (2) an introductory letter with instructions on how to complete and return the instruments; (3) an addressed, postage-paid return mailer; (4) ECLS-K fact sheet and newsletter and (5) a \$25 check.

Student Assessment. Each sampled student will complete a self-administered assessment. Each of the assessment sections (reading, mathematics, and science) has a routing test that directs the student, depending on the student's skills, into one of three second-stage tests. In addition, the assessment will include a self-administered socioemotional questionnaire (see below), as well as collecting the student's height and weight. The test will be administered in small groups or individually in schools where only one ECLS-K student is enrolled and will last on average about 65 minutes.

Student Questionnaire. The students will complete a questionnaire that asks about their dietary habits, schooling, and experiences in and outside of school. The student questionnaire will average about 20 minutes to complete.

Parent Interview. The parent or guardian will be interviewed over the telephone or in person. The parent instrument will ask about family structure, family practices, and parental

involvement in school. Parents will also be asked to provide their opinions on their students' level of physical functioning, health, and disability status. Because it will have been 3 years since family information was collected, the parent interview will also include updates to the household composition, family income, education levels, and other demographic indicators.

Teacher, and School Administrator Questionnaires. English, mathematics, or science teachers and special education teachers of sampled students will be asked to complete self-report questionnaires about their background and curriculum and instructional practices for the eighth grade year.

Teachers (i.e., subject matter and special education) of the sampled eighth graders will also complete rating scale forms, which assess the student's socioemotional and cognitive skills. These forms are self-reported and will be scanned after data collection is complete. The teacher rating scales will provide data from sources that have first-hand knowledge of the student and his/her activities in a school environment.

School administrators will complete self-report questionnaires. Information about the school administration, the staff, and the building will be collected through these questionnaires.

B3. Methods for Maximizing Completion Rates

This section describes the methods the contractor will use to maximize completion rates for student assessments, parent interviews, and hard-copy questionnaires.

B3.1 Working with Schools

School participation is integral to the success of the study. Without the school's cooperation, there can be no school, teacher, or student data collection activity for the facility.

NCES recognizes that administrators will assess the burden level before agreeing to participate. To minimize this perceived burden, NCES intends to continue its use of two strategies that have not only worked successfully on two other major NCES studies (HS&B and NELS:88)

and its in-school followup studies but were also used in Phase III of the ECLS-K with OMB's approval.

First, the contractor will request the school to appoint a member of the school staff to serve as a liaison with the contractor's field staff. In a few cases, (i.e., schools with grade spans to 8th grade), participating schools have already done this in Phase III. The requirements of this study are extensive, and the coordinator will arrange the following:

- Logistics of scheduling and assembling sampled students for group-administered assessments;
- Space for conducting the assessment;
- Distribution and collection of teacher questionnaires and rating scale forms; and
- Assembly of specific enrollment and locating information (for following transfer students).

B3.2 Student Assessments

There are two main areas in which completion rates can be maximized for the student assessments: (1) accommodating students who are absent on scheduled assessment days and (2) locating students who move.

Absent Students. Some students will be absent from school during the time that assessments are scheduled at any given school. The contractor will set aside days throughout the field period in which some field staff have no assessments scheduled, so that make-up assessments can be more easily conducted. As in Phase III, a make-up assessment will be conducted for any student who can be assessed during the field period. If an in-school assessment cannot be scheduled, field supervisors will contact parents to make arrangements for in-home assessments for absent students.

Locating Students Who Move. Locating transfer students who move, and particularly the new school in which they are enrolled, is critical in maintaining high completion rates for student assessments overall. As discussed in section B2 (Data Collection Procedures, Tracking the Sample), the ECLS-K has established an effective tracking system and database for students and parents. The data collection plan to contact schools in the fall of the school year

provides early information on the schools of previously identified students who move, as well as newly identified students who move. This early identification of these students gives the contractor ample time to locate them prior to the beginning of the national study field period and ensures contact with new districts and schools in time to arrange for assessments early in the spring of the school year.

B3.3 Parent Interviews

There are three main areas in which completion rates can be maximized for the parent interviews: (1) flexibility in scheduling interviews, (2) locating parents of students who move, and (3) avoiding refusals and converting initial refusals to completed interviews.

Flexibility in Scheduling Interviews. Effective calling patterns are essential for achieving high response rates on all telephone surveys. Previous experience shows that individual respondent schedules (work, classes, recreational activities, vacations, etc.) have a more negative effect on the level of nonresponse when call attempts are limited to a short time span. A larger percentage of the initially noncontacted numbers will be converted to a positive outcome if the call attempts are distributed. Completion rates improve when interviewers call on different days of the week and at varying times of the day and evening.

To establish initial contact with a parent of a sampled student, field staff will be trained to place two day, three evening, and two weekend calls over a two-week period. These calls will be made in a nonsequential set of targeted time periods called “time slices.” The time slices and required number of calls are as follows:

	Required Number of Calls
■ Weekday 10 a.m. to 3 p.m.	1
■ Weekday 3 p.m. to 6 p.m.	1
■ Weekday 6 p.m. to 9 p.m.	1
■ Weekday 6 p.m. to 7:30 p.m.	1
■ Weekday 7:30 p.m. to 9 p.m.	1
■ Anytime Saturday or Sunday on separate weekends	2

If, after seven call attempts, no contact has been made with the parent, the field staff will be instructed to review the case with the field supervisor for additional instruction on how to proceed. The supervisor may instruct the field staff to conduct one or more of the following procedures: (1) send a letter to the parent; (2) contact the school coordinator to see if the school can help or offer any insight into contacting the parent; (3) contact one of the “other contacts listed for the parent”; or (4) contact the “nonresident” parent, if applicable.

Once contact is established, up to seven additional calls will be made to complete the parent interview. If the interview is not completed and the respondent has not refused, the field staff may be instructed to attempt an in-person interview. During the last few weeks of data collection, noncontact and uncompleted cases will be visited in-person as appropriate to improve response rates.

Locating Parents of Transfer Students. Locating parents of students who move is critical in maintaining high completion rates for parent interviews overall. As discussed in section B2 (Data Collection Procedures, Tracking the Sample), the ECLS-K has established an effective tracking system and database for students and their parents. Early identification of the students who move will also provide ample time to locate the parent.

Refusal Avoidance and Conversion Procedures. Another technique that will be used to maximize the parent interview response rate is to incorporate into the training sessions techniques for averting refusals based on methodological work conducted by Dr. Robert Groves and others. The averting refusal training materials include becoming thoroughly familiar with the study including answers to frequently asked questions (FAQs) and respondent objections, drafting responses in their own words to FAQs, practicing saying these responses, diagnosing respondent objections and quickly responding with a response tailored to the objection. The training includes self-analysis by recording responses and listening to them, preparing answers for different situations, using the voice effectively, and role-plays between trainer and interviewer and between interviewer and interviewer. Thus, averting refusal training will focus specifically on addressing reasons for refusals on the parent interview component of the ECLS-K study.

During the parent interview data collection period, supervisors and field managers will review initial refusals with the field staff, putting a particular emphasis on reviewing the interviewer record of calls, which will be available to supervisory staff on a weekly basis. If a refusal occurs, the interviewer will be instructed to record key demographic information about the

refusing respondent and the respondent's reason(s) (if given) for refusing to participate. This information will be evaluated by the field supervisor to convert refusals.

Cases identified for refusal conversion will be assigned to a select group of field staff identified as possessing the necessary skills to act as refusal converters. Field managers will hold telephone conferences with the identified field staff to review the refusal conversion procedures and discuss strategies for converting refusals.

B3.4 Hard-Copy Instruments

There are three main areas in which completion rates can be maximized for hard-copy instruments: (1) early distribution of instruments to schools that have participated in prior rounds of data collections and schools new to the study, (2) effectively communicating the importance of school administrator and teacher participation, and (3) the efforts made by supervisory staff to avoid refusals and to convert initial refusals to cooperating respondents.

Early Distribution of Instruments. Feedback from prior round participating school administrators and teachers indicated that there would be increased participation if they have more time to complete the hard-copy instruments. As described earlier, the advance school contact will identify most of the sampled students' English, mathematics, or science teachers and special education teachers, as well as the school administrators, in the fall of the school year. The plan is to send these school and teacher questionnaires, along with an information packet, beginning in January of the school year. This schedule will allow two months of additional time for these respondents to complete the instruments and hold them for pickup by the field staff.

Effective Communication with New Transfer Schools. The participation of newly identified transfer school administrators and teachers can be increased by effectively communicating information about the ECLS-K, including the goals of the study, what the study measures, the various components, why it is important that schools and teachers participate, the study activities to date, the plans for the future, and some overall results from previous rounds of data collection. Effective respondent materials, as well as telephone contact early in the data collection field period by supervisors who are trained to convey this information efficiently and completely, will help maximize the participation by new transfer schools.

Refusal Avoidance and Conversion Procedures. As part of the spring-first grade hard-copy data retrieval effort conducted in fall 2000, an effective set of procedures to avoid refusals was developed. These procedures will be incorporated into the supervisor training sessions. Much like the Averting Refusal Training described above for ECLS-K parent interviews, the training session for hard-copy refusal aversion will include analyzing the reasons for refusal on the ECLS-K study, preparing answers for different situations, using the voice effectively, and role-play situations between trainer and interviewer and between interviewer and interviewer. Thus, this averting refusal training will focus specifically on addressing reasons for refusals on the hard-copy instrument components of the ECLS-K study.

B4. Individuals Responsible for Study Design and Performance

The following individuals are responsible for the study design and the collection and analysis of the data on ECLS-K.

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