

Collection of Information Employing Statistical Methods

B

B.1 Universe, Sample Design, and Estimation

B.1.1 Sample Design for Fall First-Grade Data Collection

A 30 percent subsample of students will be selected for the fall first-grade data collection, which will include the ECLS-K:2011 first-grade assessment battery (direct assessments of reading, mathematics, science, and executive function) and height and weight measurements. In addition, parents will participate in a 15-minute interview that asks about their child's summer activities and experiences that may be associated with summer learning/learning loss and learning trajectories. Teachers will complete a 15-minute self-administered questionnaire for each ECLS-K:2011 child in their classroom. The teacher questionnaire will collect information about the sampled children and their skills and classroom experiences.

To obtain the 30 percent subsample of students, we will first select a subsample of PSUs. The design for the base year (i.e., kindergarten) sample consists of 90 PSUs, 10 of which are self-representing PSUs. These self-representing PSUs are large in population size and will be included in the fall first-grade sample with certainty. The 80 non-self-representing PSUs will be grouped in strata of two PSUs each, and we will sample 20 of them with probability proportional to the PSU population size. To select the 20 PSUs, we will first sample 20 strata, then select one PSU within each stratum.

In the 30 sampled PSUs, all eligible schools with students sampled in the base year will be included and all eligible students found still attending these schools in fall 2011 will be part of the fall first-grade sample. A subsample of eligible students who have moved to another school in the same PSU or another sampled PSU will be assessed in their new school (or home, if the student's new school refuses to participate in the study). The subsampling rate of movers will be 50 percent or more depending on the number of completes from the kindergarten year. Except for students repeating kindergarten in the 2011-2012 school year, all students enrolled in schools that have kindergarten as their highest grade are de facto movers, as defined in the study, because they will change schools between data collection

rounds.¹ Using the information collected during the base year, a list of destination schools for students attending schools that terminate in kindergarten will be compiled. If four or more students move into a primary destination school in fall 2011, the students will be treated as nonmovers. That is, they will be followed with certainty, rather than being subsampled.

B.2 Procedures for the Collection of Information

B.2.1 Fall First-Grade Data Collection

The fall first-grade data collection will include direct child assessments, height and weight measurement, parent interviews, and questionnaires for children’s regular classroom teachers. Computer assisted interviewing (CAI) will be the mode of data collection for the child assessment and the parent interview. Teacher-reported information about the ECLS-K:2011 children’s skills and experiences in school will be collected via hard-copy questionnaires.

Pre-Assessment Activities. School coordinators² will be sent a packet with the list of participating children who will be assessed in the fall. Team leaders³ will work with the school coordinators to discuss details of the schools’ participation. Additionally, team leaders will confirm whether the children on the list sent to the school are still enrolled in the school. If the school coordinator informs the team leader that a child has moved to a new school, the team leader will attempt to get the child’s new school information from the school coordinator. Team leaders will also determine:

- **Assessment Dates.** The team leader will discuss the schedule for data collection with the school coordinator. The dates for the assessment schedule will be set, making sure to avoid conflicts with any special events in the school’s calendar.

¹ In the ECLS-K:2011, movement is defined by a change in school, not a change in home address. “Movers” are participating children who move from their originally sampled school to a new school between data collection rounds (e.g., between the kindergarten spring data collection and fall first-grade data collection). “Nonmovers” are participating children who remain in their originally sampled schools.

² The school coordinator will often be the same school staff member who acted as school coordinator in the kindergarten data collection. If that person is not available, then a new staff member will be identified by the school administrator to act as a liaison to the study.

³ The team leader is a specially-trained ECLS staff member responsible for communicating with schools and making arrangements for assessment activities; for leading a team of assessors in each school; for recording school, child, parent, and teacher information in the field management system; and for reporting assessment and parent interview production information to the field manager.

- **Assessment Location.** The locations within the school where the assessments will take place will also be determined. The goal will be to identify assessment locations that provide as little distraction as possible, that protect the privacy of the children, and that are as nondisruptive of the school routine as possible.
- **Identify Teachers of Sampled Children.** Team leaders will ask the school coordinator to identify the regular classroom teachers and, if applicable, special education teachers⁴ of the sampled children.

Team leaders will make a telephone call to each school coordinator to discuss these issues. If a new school is identified for any of the sampled children, a study information packet will be sent to the school administrator of the new school and he or she will be contacted by telephone in order to recruit the school into the study and identify a school coordinator. The team leader will then work with the school coordinator to schedule an assessment date, determine an assessment location, and identify the teacher (or teachers) of the sampled child. Throughout these pre-assessment activities, positive and cooperative working relationships with school personnel and the school community will be maintained.⁵

During the pre-assessment call, team leaders first will address any questions that the school coordinator or school administrator may have. A primary goal of the pre-assessment call is to determine the logistical arrangements for conducting data collection within the school. A checklist of the arrangements that need to be agreed upon and the tasks to be completed will guide the pre-assessment call. At the time of pre-assessment call, the team leader will also collect classroom teacher information so that questionnaires can be prepared and given to the children's teachers. Once the teachers of sampled children are identified, team leaders will prepare the teacher materials and deliver them in-person to the school coordinators for distribution at least 2 weeks prior to the fall first-grade site visit.

⁴ Special education teachers will be asked to complete a questionnaire in the spring first-grade data collection, not the fall data collection. However, field staff will identify the special education teacher in the fall to prepare for the spring data collection.

⁵ During the kindergarten data collections, school coordinators, school administrators, and teachers aided the team leaders and other data collection staff in identifying ways to inform the school community about the study using the school's communication systems and tools, for example by posting news about the survey on the school's website, submitting articles about the survey to the school newsletter, and discussing the survey at a PTA meeting or on Back-to-School Night. To make it easier for team leaders to carry out these informational activities, sample letters for parents on the study and its findings, articles for school newsletters on these topics, and PowerPoint presentations for parent audiences that could be customized by team leaders were included in an [ECLS-K:2011 Best Practices Guide distributed to team leaders at the start of the study.](#)

Child Assessment

Typically, the assessment visit will take about 3 days in each school. The number of days for the site-visit will depend on several factors, such as the number of participating children at the school, any restrictions on the assessment schedule (e.g., assessments only in the morning), and the amount of space available for simultaneous assessments. The length of the site visit will be worked out with the school coordinator during the pre-assessment call. The assessment team that visits the school will include the team leader and two assessors. There will be one team per PSU. The assessment team will arrive at the school on the appointed first day of assessments and, following any of the school's required check-in procedures, immediately contact the school coordinator. The team leader will introduce the assessors to the school coordinator. The procedures to be used during the on-site data collection period will be discussed with the school coordinator to ensure there is a common understanding of those procedures. The team leader also will confirm that all sampled children are still enrolled in the school as of the assessment day and determine which children are at school that day. New school contact information will be obtained for any children who may have left the school after the preassessment call.

The team leader and assessors will be taken by school personnel to the assessment area(s), from which they will arrange to remove potential distractions as much as possible and establish a comfortable environment for conducting the assessment. They will set up the assessment materials and log into the child assessment CAI program on the laptops that they will carry with them. All field staff will be provided with backup batteries, cords, etc., to ensure that data collection activities are not disrupted by equipment problems.

Once the assessment areas have been set up and assessors are ready to begin work, the school coordinator will introduce the ECLS-K:2011 team members to the teacher(s) whose children will be assessed. The teacher, in turn, will introduce the assessors to the class. Assessors will then escort the sampled children to the assessment areas, one-by-one, and conduct each 60-minute assessment. As discussed in Section A, the assessments will consist of the following: a direct cognitive assessment of reading, mathematics, science, and executive functioning, and measurement of children's weight and height, which will be obtained using instruments and equipment brought by the assessors.

Children who were assessed in English in either the fall or spring of kindergarten (either because their primary home language was English or because their primary home language was one other than English and they passed the language screener) will only be administered two preLAS items that contribute to the overall reading assessment score, rather than the full battery of Simon Says and Art Show preLAS items that serve as the language screener for this study. They will then be administered the full assessment battery in English.

Children whose primary home language is one other than English and who did not pass the language screener in kindergarten will be administered the full preLAS again in first grade. Those who achieve the publisher recommended cut score on the language screener will be administered the full assessment battery in English. Spanish-speaking children who do not achieve the publisher recommended cut score will be administered a test of their Spanish early reading skills and math and executive function assessments in Spanish, and they will have their height and weight measured. Non-Spanish-speaking children who do not achieve the publisher recommended cut score on the language screener will not take the remaining assessment battery in English; they will have their height and weight measured.

Additionally, rather than administer the test of basic reading skills to all children, as was done in kindergarten, in first grade the basic reading skills items will be administered to a subset of children, specifically those who are administered the cognitive assessments in English and whose score on the first-stage reading test routes them into the low or middle second-stage reading test. Children who perform well enough on the reading router to be administered the high second-stage test will not receive the basic reading skills items.

It is expected that some children will be absent from school when the assessments are scheduled. Certain days throughout the field period will be designated as days on which some field staff will have no assessments scheduled, so that make-up assessments can be conducted on those particular dates. Attempts will be made to conduct a make-up assessment for all children absent on their school's assessment day who can be assessed at some point during the field period.

Teacher Questionnaires

The team leader will identify the teachers of the sampled children who will receive the child-level teacher questionnaires and enter the teachers' names into the field management system (FMS),⁶ creating a link between each sampled child and his or her teacher. This linking system was first developed and used successfully for the ECLS-K and is currently being used in the ECLS-K:2011 kindergarten data collection.

Once the teachers of sampled children are identified, team leaders will prepare the classroom teacher materials and deliver them to the school coordinator for distribution at least 2 weeks prior to the fall first-grade site visit. These materials will consist of a letter describing the ECLS-K:2011, a copy of the ECLS-K:2011 brochure and time line,⁷ one questionnaire for each sample child the teacher teaches, an incentive check, and instructions for completing the questionnaires and returning them to the school coordinator.

Distributing the Teacher Questionnaires. In the fall first-grade collection, teachers will be asked to complete child-level questionnaires about the ECLS-K:2011 children in their classrooms, which indirectly assess the children's socioemotional and cognitive skills, children's experiences in school, and teacher- or school-assigned summer learning activities. The teacher questionnaires will provide data from a source who has first-hand knowledge of the child and his/her abilities. As described above, the team leader will work with the school coordinator to identify the teachers of the ECLS-K:2011 children and deliver the child-level questionnaires to the school coordinator for distribution and collection. The average number of children per teacher is expected to be about 6; teachers will receive an incentive of \$7 per child-level questionnaire, for an average incentive of \$42 per teacher. Team leaders will collect completed teacher questionnaires, with assistance from the school coordinator, during the assessment visits. Once all questionnaires have been collected, the team leader will mail the completed questionnaires to the home office via FedEx. If there are any questionnaires that are not completed by the last day of assessments in the school and hence require follow-up collection, the team leader will collect the remaining questionnaires and mail them.

⁶ The Field Management System (FMS) is a web-based system designed to help team leaders manage and view their cases, enter and update case information at the school, child, parent, and teacher levels, and communicate information to the contractor's home office.

⁷ [The ECLS-K:2011 brochure was approved in the previous OMB clearance package submitted on 2/2/10 \(see Appendix H\).](#)

Parent Interview

ECLS-K:2011 field staff will be trained to conduct both the child assessments via CAI and the telephone interviews with parents using a computer assisted telephone interviewing (CATI) instrument. Having the same staff members conduct the child assessments and the parent interview better links the activities that take place in the school with the parent interviews, which may in turn promote greater parent participation. The list of parent interview cases assigned to each field staff member will be loaded on the laptops when field staff receive them, with new cases being transmitted as they become available (e.g., when a parent interview case gets transferred from one interviewer to another).

Flexibility in Scheduling Interviews. Procedures for conducting telephone interviews at times that are most convenient for parents and that allow sufficient flexibility will be used. To establish initial contact with a parent of a sampled child, field staff will be trained to place two day, three evening, and two weekend calls over a 2-week period. If, after these seven call attempts, no contact has been made with the parent by telephone, the field staff will visit the child's home to explain the study and attempt to complete an in-person interview. Once telephone contact is established, up to seven additional calls will be made to complete the parent interview. If the interview is still not completed after seven calls and the respondent has not actively refused to participate, the field staff will attempt an in-person interview. During the last few weeks of data collection, cases that have not yet been contacted or completed will be attempted as in-person interviews to improve response rates.

Non-English Interviewing. The ECLS-K:2011 sample includes a substantial number of children from linguistically isolated households. (A household is considered linguistically isolated if no one older than 14 speaks English very well.) In order to include these families in the ECLS-K:2011, special measures are required. Based on the data from the fall 2010 kindergarten data collection, Spanish is spoken in the majority of these households. Of the 13,461 completed fall 2010 parent interviews, 1,175 were completed in a foreign language. Of those, 1,121 (or 95%) were completed in Spanish. Therefore, as was done for the ECLS-K: 2011 kindergarten data collections, the parent interview will be fully translated into Spanish and field staff will be recruited who are bilingual in Spanish and English to conduct parent interviews in Spanish. A number of Asian and other languages were

also identified in the fall kindergarten data collection as spoken by parents of sampled children, but in much smaller numbers. It is cost-prohibitive to develop a full translation of the parent interview for less common languages, identify and train bilingual staff that represent all languages spoken by ECLS-K:2011 families, and send this staff out for extensive travel across PSUs. Therefore, the primary approach for conducting parent interviews in non-English, non-Spanish languages in the ECLS-K:2011 has been to identify someone in the household or community to provide a translation during the administration of the parent interview. All translators must sign an affidavit of nondisclosure prior to working on the project. Over the course of the fall kindergarten data collection, interpreters have been identified for the less common languages that are spoken by sampled children's parents; they will serve as interpreters for the fall first-grade data collection as needed. If a household or community translator is not available, another approach we will employ is to identify bilingual staff working in Westat's Telephone Research Center (TRC) to conduct parent interviews. This approach was used for telephone interviewing in another NCES study (the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B)). An interpreting service was used to obtain interpreters for about 20 languages who were connected in a three-way conference call with an English-speaking interviewer and the respondent. Evaluations of the quality and cost of data obtained in this way have established that it can be an efficient way to collect data from respondents who speak less common languages.

B.2.2 Tracking Activities for the First- and Second-Grade Rounds

Tracking the children, their parents, and their schools is a major part of maintaining high response rates, both for movers and nonmovers. Sample tracking for the first-grade data collection is a yearlong effort that will start during the spring kindergarten data collection using the procedures outlined in our previous OMB approval package (e.g., birthday cards). During the kindergarten spring site visits, the team leaders will tell the school coordinators that they will be contacting them in the fall to prepare for the first-grade data collection, regardless of whether the school will be part of the fall first-grade subsample. At the child level, the family's current contact information will be collected as part of the spring parent interview; this information will be used for tracking during the first-grade collections.

Starting in the summer 2011, birthday cards will be mailed to all sampled children during the month of their birth with “Address Correction Requested” stamped on the envelope. Any birthday cards returned from the Post Office (P.O.) with forwarding information or any updated contact information received from parents through the Westat toll-free 800 number, email address, website, or fax number will be processed in order to prepare for the first-grade data collection(s). Other tracing activities include the following: (1) the entire household (parent) address database will be submitted to postmasters for address correction requests (ACR); (2) when NCES publishes an initial report of the ECLS-K:2011 kindergarten data (e.g., “First Look” report), then it may be advantageous to send these out to respondents to keep them apprised of the study findings, initiate another point of contact, and include a change of address card (see Appendix A of this package for the change of address card); and (3) schools will be asked to provide updated contact information for the sampled children, if they have it. Home address and school updates resulting from these activities will be recorded in the ECLS-K:2011 tracking system database. If necessary, tracking activities conducted by the TRC would be conducted in January and February prior to the spring first-grade data collection for households with a P.O. return with no forwarding address. If there are any cases that require TRC tracking, the TRC expert tracers will be given a detailed history of the sampled children’s previous addresses, telephone numbers, and list of individuals the parent identified in the parent interview who will know where the family is if the family moves. Simple, cost-effective tracing techniques will be attempted next, such as calling directory assistance and conducting Internet searches of publicly available websites.

Our ECLS-K experience was that, on average, 4 to 5 percent of household cases required some TRC tracking between rounds that were two years apart (e.g., between first and third grade); our assumption is that the level of effort for ECLS-K:2011 tracing activities would be less than the effort employed for ECLS-K tracing because the data collection is annual and the more frequent contact with families will mean that we are better able to locate families who move between the short period between data collection rounds.

The fall first-grade tracking activities conducted in schools are described above in the Pre-Assessment Activities discussion in Section B.2.1 (i.e., confirming students’ continued enrollment in the school, obtaining new contact information for movers, etc.). For students identified as transferring to a new school during the

preassessment call, team leaders will ask the school coordinators where the child's immunization records were sent and try to obtain the new school's name, address, and telephone number. Although school coordinators often have information on the new school in their records, this is not always the case. If the new school's information is not available, the team leader will conduct advanced tracking activities to identify the new school, typically beginning by calling the child's parent(s) and then the contacts provided by the parent in the previous round's parent interview. Once the new school is identified, the district and the new school will be contacted to begin the school recruitment procedures. If the new school refuses to participate, the parent of the participating child is still contacted and an attempt is made to conduct the child assessment in the child's home.

In August 2011, prior to the fall first-grade data collection,⁸ parents of children in the 30 percent subsample will be mailed a letter reminding them that ECLS-K:2011 staff will be assessing their child and will be calling the household for an interview. The parent letter envelope will be stamped "Address Correction Requested" to collect address updates from the U.S. Postal Service. All returned mail (e.g., wrong address, no such address, undeliverable) will be reviewed for further followup locating activities, such as tracing by the TRC.

In February 2012, prior to the spring first-grade data collection,⁹ all parents will be mailed a letter reminding them that ECLS-K:2011 staff will be assessing their child and will be calling the household for an interview. Similar to the letter sent out prior to the fall first-grade data collection, the parent letter envelope will be stamped "Address Correction Requested" to collect address updates from the U.S. Postal Service.

During the spring first-grade site visits, the team leader will tell the school coordinator that he or she will be contacting the coordinator in the fall to prepare for the second-grade data collection. For each child, the family's current contact information will be collected as part of the spring parent interview. Tracing activities for data collection in second grade are identical to those described above for data collections in first grade.

⁸ The fall first-grade data collection will be conducted from August to December 2011.

⁹ The spring first-grade data collection will be conducted from March to June 2012.

B.3 Methods to Secure Cooperation, Maximize Response Rates, and Deal with Nonresponse

This section describes methods for securing cooperation and gaining consent for the fall first-grade round of the ECLS-K:2011 and the methods that will be used to maximize completion rates for child assessments, parent interviews, and teacher questionnaires in this round.

A major challenge in any survey today is obtaining high response rates, and this is even more important in longitudinal surveys where nonresponse can occur at multiple time points. As in most longitudinal surveys, attrition is closely associated with those persons who move between waves; however, as mentioned above, “moving” in the ECLS-K:2011 is defined as a change in the school the sampled child attends, whether or not the child’s residence changes. In ECLS-K, 25 percent of children changed schools between kindergarten and first grade, and by the fifth-grade round, 56 percent of children were in different schools than they were in during kindergarten. To the extent that parents take advantage of the opportunity to transfer their children from schools that are defined as in need of improvement under the Elementary and Secondary Education Act (ESEA), school mobility may be greater in ECLS-K:2011 than it was more than a decade earlier for the ECLS-K.

The main problem associated with nonresponse is the potential for nonresponse bias in the estimates produced using data collected from those people who do respond. Bias can occur when the people who do respond are systematically different from the people who do not. Two approaches that will be used to reduce the potential for bias are designing the data collection procedures and methods wisely to reduce nonresponse (e.g., being flexible in scheduling parent interviews) and using statistical methods of sampling and weighting to reduce the effect of nonresponse on the estimates. While the statistical approaches are important in controlling biases and costs, the data collection procedures and methods are at the heart of a successful longitudinal survey.

B.3.1 Gaining Cooperation from a Variety of Sources

Cooperation issues loom large in any major school-based survey today. The demands of required testing, which have increased since the enactment of ESEA,

may reduce time for and willingness to participate in voluntary studies like the ECLS-K:2011, such that districts and schools may be increasingly less likely to cooperate. Parents are increasingly skeptical about the value of surveys and non-required tests for their children. Teachers are heavily burdened and often reluctant to spend time on non-teaching activities. The additional burden of a longitudinal survey (and the need to communicate clearly to parents and schools the expected burden of participation in a longitudinal survey) makes securing cooperation even more challenging. The base year of the ECLS-K:2011 is paving the way for concerted follow-up efforts in later rounds by collecting high quality data that will help maintain cooperation and track movers.

The data collection plan approaches the school as a community. We aim to establish rapport with the whole community—principals/administrators, teachers, parents, and children. The school community must be approached with respect and sensitivity to achieve high initial response rates and maintain cooperation for future rounds of data collection.

The ECLS-K:2011 field staff have been trained that all tasks—securing school and teacher cooperation, and completing child assessments and parent interviews—are but different aspects of a single case in their assignment, which is their responsibility to complete. Therefore, field staff will be responsible for conducting the direct assessments as well as the parent interviews and any required followup on the teacher questionnaires. Also, incentives have proven to be effective tools in achieving high response rates, and we plan to offer monetary incentives to teachers.

Based on the experience from ECLS-K, most families who participate in kindergarten continue to participate in the later rounds, presumably because they feel invested in the study. Similarly, schools typically continue to participate once they participate in one round. The fact that parents have given consent to the longitudinal study is an incentive for schools to continue participating. In addition, the school coordinator is instrumental for maintaining school participation and recruiting new teachers into the study in later rounds.

B.3.2 Methods to Maximize Response Rates

Parent Interviews

There are four main areas that can be focused on in order to maximize completion rates for the parent interviews: (1) flexibility in scheduling interviews, (2) non-English interviewing, (3) locating parents of children who transfer schools, and (4) avoiding refusals, including 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 response when call attempts are limited to a short time span. A larger percentage of the cases that are noncontacts after the first call attempt will be converted to a successful contact if the call attempts are distributed across a longer time span. 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 child, field staff will be trained to place two weekday, three evening, and two weekend calls over a 2-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:

	<u>Required Number of Calls</u>
■ 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
■ Saturday or Sunday, 10 a.m. to 8 p.m., 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 team leader for additional instruction on how to proceed. The team leader may instruct the field staff to do one or more of

the following: (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) attempt to contact the parent using alternative contact information or methods (i.e., call other phone number, send email, or fax) listed for the parent, if any; (4) contact the nonresident parent, if applicable; (5) assign the case to another field staff member for a fresh approach and a new voice; or (6) conduct an in-person visit to the parent's home.

Once contact is established, up to seven additional calls will be made to complete the parent interview. If the interview is not completed after these seven additional calls and the respondent has not explicitly refused, the field staff may be instructed by their team leader 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.

Non-English Interviewing. In the fall kindergarten data collection the ECLS-K:2011, 9 percent of the 13,461 completed parent interviews were conducted in a language other than English. To achieve high response rates, it is important that study procedures work to include these parents to the greatest extent possible. As described in the data collection procedures section, we will hire and train field staff who are bilingual in Spanish and English to conduct fully translated parent interviews in Spanish and use home and community interpreters, as available, for interviews in non-English, non-Spanish languages.

Locating Parents of Transfer Children. Locating parents of transfer children is critical for maintaining high completion rates for parent interviews overall. It is expected that a substantial portion of participating children will transfer schools between the kindergarten and first-grade data collections. A tracking system database with household contact and school information was developed at the beginning of the study and the sample tracking activities described earlier will be conducted to locate children who transfer schools. While this OMB package requests approval for the fall first-grade collection and first- and second-grade tracing activities, long-term study plans are to follow the sample children through fifth grade. Maintenance of this tracking database will be an important activity for the lifetime of the study, with updates of new information occurring through the final data collection round.

Refusal Avoidance and Conversion Procedures. Achieving an acceptable parent response rate will require active and effective refusal conversion efforts. A key factor in converting refusals is the ability of the team leaders and assessors to clearly and confidently convey the purpose and importance of the study and the benefits that will be derived from it. This will be a focus of the field staff training. The training materials for averting refusals direct field staff to become thoroughly familiar with the study and include activities designed to help field staff: 1) answer frequently asked questions (FAQs) and respond to respondent objections, 2) draft responses to FAQs in the interviewer's own words, 3) practice saying these responses, and 4) diagnose respondent objections and quickly respond with a response tailored to the objection. The training includes modules on preparing answers for different situations, using the voice effectively, and role-plays between trainers and interviewers and between interviewers. Additional training will cover how to avert refusals, focusing specifically on addressing reasons for refusals on the parent interview component of the ECLS-K:2011 study.

During the parent interview data collection period, team leaders and field managers¹⁰ will review initial refusals (i.e., a refusal by a respondent after the first recruitment effort) with the field staff, putting a particular emphasis on reviewing the interviewer record of calls, which will be available to supervisory staff (i.e., team leaders and field managers) on a weekly basis. If a parent refusal occurs, the interviewer will be instructed to record key demographic information about the refusing respondent (e.g., sex, approximate age) and the respondent's reason(s) (if given) for refusing to participate. This information will be evaluated by the team leader to determine the best strategy for converting 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. During data collection, field managers will hold telephone conferences with the identified field staff to review the refusal conversion procedures and discuss strategies for converting refusals.

¹⁰ The field manager is responsible for the management of all data collection activities in a region of approximately 100 schools, including the supervision of approximately 10 assessment teams, quality control, and reporting assessment, interview, and hardcopy production information to the home office field directors.

Child Assessments

There are two main areas that can be focused on in order to maximize completion rates for the child assessments: (1) conducting make-up assessments with children who are absent on scheduled assessment days and (2) locating transfer children.

Absent Children. It is expected that some children will be absent from school during the time that assessments are scheduled at their school. Days will be set aside throughout the field period in which some field staff have no assessments scheduled, so that make-up assessments can be conducted. A make-up assessment will be conducted for any child who is unable to be assessed during his/her school's scheduled assessment day(s) and who can be assessed at some other point during the field period. If an in-school make-up assessment cannot be scheduled, team leaders will contact parents to make arrangements for in-home assessments for these children, if possible.

Locating Transfer Children. As was the case with the parent interview, locating transfer children and the new school in which they are enrolled is critical for maintaining high completion rates for child assessments overall.

There is an additional consideration with locating children who transfer schools, which is the need to contact their new schools and teachers and encourage them to participate (if a child transfers to a school not already participating in the ECLS-K:2011), thereby allowing the children to be assessed in the school. This issue is discussed further in the next section.

Teacher Instruments

There are three main areas that can be focused on in order to maximize completion rates for the teacher hard-copy instruments: (1) early distribution of instruments to teachers, (2) effective communication of the importance of teacher participation to school personnel in schools to which ECLS-K:2011 children have transferred after the kindergarten year data collection, (3) effective communication of the importance of teacher participation to teachers new to the study, regardless of whether or not their school participated in the kindergarten round, and (4) efforts made by supervisory staff to avoid refusals and to convert initial refusals to cooperating respondents.

Early Distribution of Instruments. Feedback from teachers in the ECLS-K indicated that there would be increased participation if they had had more time to complete the hard-copy instruments. During the preassessment call in the fall of the first-grade school year, most of the sampled children's regular classroom will be identified. Once the teachers are identified, team leaders will prepare the teacher packets and go to the school to distribute the packets, asking teachers to complete the questionnaires before the assessment visit.

Effective Communication with School Staff New to the ECLS-K:2011. The participation of newly identified school administrators and teachers (including new teachers at schools that participated in the kindergarten rounds) can be increased by effectively communicating information about the ECLS-K:2011, including the goals of the study, what the study measures, the various study components, why it is important that schools and teachers participate, the study activities to date, study plans for the future, and selected results from the ECLS-K. Effective respondent materials, as well as telephone contact by school recruiters who are trained to convey this information efficiently and completely, will help maximize the participation of schools to which sample children transfer. In addition, parental consent was recorded for all children in the kindergarten data collection, so a record of consent will be available for new schools. Each recorded consent will be reviewed and verified by project staff and a hard copy consent form will be produced documenting the recorded consent. This recorded consent should make it easier to recruit new schools and teachers to participate, because they will have written documentation of the parent's consent for the student to participate in the study.

Maximizing Response Rates for Hard Copy Instruments. Team leaders will be trained to maximize the response rates for the hard-copy instruments, which will include being flexible in the timing in which they collect the questionnaires from teachers, following up with the teachers to prompt the completion of the questionnaires, and returning to the school after the assessment visit to pick up late questionnaires from teachers or school coordinators. Team leaders will be trained to apply the general refusal aversion techniques to the collection of hard copy questionnaires. These techniques will include analyzing the reasons for refusal, responding appropriately, and using their voice effectively.

Special Considerations in Maintaining Cooperation. District and school personnel have stated that they face increasing demands upon their schools for a variety of noninstructional activities, including requirements for state and district assessments. Sensitivity to these concerns is essential to gaining cooperation for the ECLS-K:2011, and it must be made clear to school system personnel at all levels that the ECLS-K:2011 staff is more than willing to work with them to facilitate their participation with the least burden and disruption possible.

Statistical Approaches to Nonresponse

High response rates in the early years of data collection are very important because any nonresponse biases incurred then are likely to persist in the longitudinal estimates even if attrition is minimized in the subsequent waves. As noted in previous clearance requests, in the base year of the study, we will analyze nonresponse in the initial school cooperation rates and focus efforts on obtaining rates that are as equal as possible across the major subgroups. For example, non-Catholic private schools have the lowest response rates in surveys of this type and thus additional efforts are required to improve their response rates. This approach to building response rates contrasts with blindly trying to increase overall response rates by spending resources on those groups that already have the highest response rates, which might raise the overall response rate but does not necessarily overcome bias that would be present in the estimates due to lower response rates for certain subgroups. It is a primary method by which biases in the data will be reduced.

We also will subsample movers using a scheme that is similar to that used in ECLS-K to reduce nonresponse bias. The subsampling itself does not reduce nonresponse bias, but the subsampling does enable the same fixed resources to be allocated to a smaller number of children so that higher response rates for subgroups can be achieved. The most expensive children to survey are movers because collecting data on movers requires additional efforts to get permission from the entities from which permission is required (e.g., new districts and school administrators). Also, cost per completed case is increased when there are fewer children per school, and it is often the case that when children change schools, they are the only study child in the school to which they moved. The exception to this rule is when students attending a school that terminates in kindergarten move en masse to another school to attend first grade. If four or more students from one school move into the

same new school, we designate this new school as a destination school. Students that move to a destination school are all followed, rather than being subsampled as movers.

While we will not follow all movers, we plan to follow those in special groups of policy interest at higher rates than other movers to protect the sample sizes and statistical power for analyzing these groups of children. For example, for the ECLS-K, Asian, Native Hawaiian, and other Pacific Islander children who moved, as well as language minority children who moved, were retained at much higher rates than other movers. Other children who moved were subsampled at a rate of about 50 percent. We will use a similar mover subsampling plan for the ECLS-K:2011; however, movers from the subgroups that need to be protected may be included with certainty and a subsampling rate of more than 50 percent may be used for the other groups, depending on the number of completed cases that we have at the end of the base year. This subsampling strategy reduces data collection costs for the movers and ensures that the variances of the estimates are not greatly inflated.

B.4 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:2011.

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The ECLS-K:2011 Fall First-Grade Questionnaires



C.1 Introduction

This section provides information about the general contents of the fall first-grade ECLS-K:2011 parent interview and regular classroom teacher questionnaire. Appendices B (Parent Interview) and C (Teacher Questionnaire) include the final survey instruments for the national fall first-grade data collection. Items in the instruments are intended to measure the constructs and topics listed in this section. Tables that map the respective instrument items to the constructs and research questions listed in this section can be found in Appendix D.

The design of the ECLS-K:2011 and the survey instruments is guided by a conceptual framework of children’s development and learning that emphasizes the interaction among the various environments children experience and the resources within those environments to which children have access. For this reason, the fall first-grade instruments collect information on a wide array of topics, including educational activities in the home, educational activities required or suggested by the school, children’s activities outside the home, and nonparental care and education arrangements. The ECLS-K:2011 uses data from multiple respondents (e.g., parents, teachers) so that information about each of the environments children experience can be collected from the people most likely to provide accurate and reliable data. The interview and questionnaire included in the fall first-grade round of the study and the general topics covered in each are:

- **Parent Interview**—to be administered to parents/guardians of children in the study. In the fall of first grade, the parent interview includes questions about various educational and enrichment activities the child participated in during the summer, including educational activities in the home; use of a computer for educational purposes; reading books from summer book lists provided by the school; going to the library or bookstore; playing outside; outings; camps; summer school; tutoring; therapy services or special education programs; hours spent watching television and playing video games; and nonparental child care.
- **General Classroom Teacher Questionnaire**—to be completed by classroom teachers of children in the study. This child-level questionnaire has questions specifically about each study child and includes the

teacher's assessment of the child's language and literacy skills, classroom behaviors, approaches to learning, social skills, summer assignments, and achievement grouping placement.

The data from these instruments can be used in conjunction with the data obtained in the ECLS-K:2011 direct assessments and questionnaires and interviews from the kindergarten year to answer a wide variety of research questions about how home, school, and neighborhood factors relate to children's cognitive development. The following sections include research questions that may be addressed with the data from each instrument as well as a discussion of some of the important constructs covered by each instrument.

C.2 ECLS-K:2011 Parent Interview

The children in the ECLS-K:2011 come from a broad range of backgrounds and enter school with widely differing abilities and levels of preparation. Understanding these variations and examining the ways in which home and school environments interact in relation to them as children progress through school is a key goal of the ECLS-K:2011. Conducting interviews with parents is central to obtaining the information necessary to measure these constructs over time. The ECLS-K:2011 defines the parent to be interviewed as the child's parent or guardian in the household who knows the most about the child's care, education, and health. If the parent or guardian is not available during the field period, or if there is no parent or guardian, another adult who knows about the child's care, education, and health is selected as the respondent.

C.2.1 Parent Interview: Research Questions

By including a parent interview at the fall first -grade data collection point, the research questions that can be addressed with the ECLS-K:2011 will be expanded to include important topics associated with summer activities between kindergarten and first grade. Research questions related to the ECLS-K:2011 fall first-grade parent interview are shown below.

- PQ1: How do variations in children's developmental status at kindergarten entry relate to learning during the summer after kindergarten?
- PQ2: Does summer learning differ by child and family sociodemographic and contextual characteristics?

- PQ3: How does parent involvement in educational activities during the summer after kindergarten affect children’s learning?
- PQ4: How do children’s summer activities relate to children’s summer learning?
- PQ5: Are school practices such as providing summer school and summer book lists related to children’s learning over the summer?
- PQ6: How does participation in nonparental care and education during the summer after kindergarten relate to children’s summer learning?
- PQ7: Among children who are performing behind their peers, is tutoring over the summer associated with summer learning?
- PQ8: How does children’s participation in services or therapy for special needs relate to summer learning?

C.2.2 Parent Interview: Construct Coverage

Child Characteristics

The child’s sex and date of birth are collected in the fall first-grade parent interview if they were not collected during the kindergarten year.

- Child’s sex; and
- Child’s date of birth.

Parent Involvement in Education/Home Environment, Activities, and Cognitive Stimulation

Parental involvement in education has proven to be a critical influence on school outcomes for children (Stallings and Stipek, 1986; Hoover-Dempsey and Sandler 1997; Gonzalez-DeHass, Willems, and Holbein 2005). One type of parent involvement involves parents working with their children on activities in the home. Children’s literacy is positively correlated with the frequency with which parents read to their children and also with nonliterary, social activities that can contribute to the development of reading skills.

Many studies have examined the importance of the quality of the home environment for children's cognitive development. For example, Aikens and Oscar (2008) found that family characteristics including home literacy and parental involvement in school relate to literacy ability at the beginning of kindergarten. Other studies have shown that reading in the home, doing literacy related activities, having educational resources and materials in the home, and taking children on outings to museums, libraries, and other places are related to children's achievement (Shumow 2010).

Some research on summer learning has focused on which home activities contribute to summer learning beyond the effects of socioeconomic status (SES). In Burkam, Ready, Lee, and LoGerfo (2004), ECLS-K data were used to examine social class differences in summer learning. Literacy activities during the summer had a small effect on summer gains in literacy beyond that of SES. Activities that were related beyond SES to summer gains in mathematics were using a computer for educational purposes, having a computer at home, and summer outings. Burkam et al. also found that summer outings were related positively to gains in children's general knowledge. Variables that had no relationship to summer learning gains were frequency of television viewing, summer lessons, and frequency of engaging in mathematics activities over the summer.

Because of the importance of children's literacy activities, having schools give children lists of books to read over the summer would also be expected to affect summer learning. However, researchers using ECLS-K data found that summer learning rates did not differ based on whether schools assigned summer book lists or reading assignments (Downey, Von Hippel, and Hughes 2008; Von Hippel 2009). One reason why book lists may not have predicted to summer learning is that there was not a measure of whether the child actually read any books from the list. Also, the question asked if the parent ever got information about a summer book list or reading assignment from the school. A reading assignment could mean that the child should simply read a certain number of books over the summer, without regard to the type of book.

Another summer activity that would be expected to be related to summer learning is summer school. The study by Burkam et al. (2004) found that children who attended summer school that was required or suggested by the school gained less in general knowledge than those who did not; however, the authors noted that this

finding may be related to the difference between the topics covered in summer school and the topics on the ECLS-K general knowledge assessment. Burkam et. al (2004) also found no relationship between summer school (whether it was required or suggested by the school, or the parent decided to send the child to summer school) and child assessment data for reading or mathematics. The lack of detectable differences may have to do with the variation in summer programs.

The parent interview for the fall first grade in the ECLS-K:2011 will allow researchers to build on these findings by including questions from the ECLS-K that have been shown to be related to summer learning. Some items (e.g., the frequency of mathematics activities) have been reworded to refer to a typical week during the summer (rather than the week after July 4th as they did in the ECLS-K). The question about book lists and summer assigned reading in the fall first grade has been rephrased for the ECLS-K:2011 to ask whether the school provided a book list with particular books for the child to read over the summer. The parent is also asked how many books the child read from the list. Questions on other ways that parents provide resources to their children will also be included, such as trips to the library or bookstore, participation in story hours at the library or bookstore, summer camps, outings, and tutoring. Questions will also be included about how frequently children play outside and how many hours they watch television and play video games.

Although summer school programs may vary too widely to show an effect on the ECLS-K:2011 child assessment scores, the fall first-grade parent interview will continue to ask about summer school in order to document how many children attend summer school and how many of those children were asked or required to attend by their school, or were enrolled at their parent's request.

In the ECLS-K:2011, there will be a new item about whether English language instruction was part of summer school. It is of interest to know how young children in homes where the primary language is not English become English proficient. One study found that children who started school classified as English language learners, but were reclassified as English proficient later in school, performed similarly on achievement tests compared to those who started school speaking English, and performed better on achievement tests compared to those who were never reclassified as English proficient (Flores, Painter, and Pachon 2009). To understand the interplay of factors related to ELL children's academic progress, researchers will

be able to use ECLS-K:2011 data to consider summer English language instruction in relation to home language and classroom and school data collected in kindergarten and other grades.

The following ECLS-K:2011 constructs covered in the fall first-grade parent questionnaire will address research questions concerning how the home environment influences children's summer learning:

- Frequency of math, writing, and reading activities with the child;
- Frequency of the child's use of a computer for educational purposes;
- Frequency that the child played outside;
- Number of hours the child spent watching television;
- Number of hours the child spent playing video games;
- Number of times the child went to a library or bookstore during the summer;
- Participation in story hours at the library or bookstore;
- Whether the school provided a list of books for the child to read over the summer;
- The number of books the child read from the book list;
- Outings with the child;
- Whether the child attended summer school;
- Whether the school required or suggested summer school;
- English language instruction during summer school;
- Summer camps; and
- Tutoring.

Child Care

Research has indicated that the quality of child care received during the early school years has implications for children's functioning in the elementary school

grades. For example, in a sample of children who had been exposed to multiple risks in early childhood, Burchinal et al. (2006) found that early child care quality was related to fewer behavior problems and higher mathematics test scores in the first four years of elementary school. Howes (1988) found that with family characteristics controlled, higher quality early child care (center or family daycare) was predictive of better academic progress and school skills and fewer behavior problems in boys, and of better school skills and fewer behavior problems in girls at the end of first grade. In addition, Peisner-Feinberg and her colleagues from the Cost, Quality, and Child Outcomes study (2001) found that high-quality child care was related positively to children's language, mathematics, and behavioral competence in the classroom through the first years of schooling.

The quality of early child care has also been related to children's outcomes beyond elementary school. Using data from the NICHD Study of Early Child Care and Youth Development, Vandell et al. (2010) found that high quality early child care predicted higher cognitive achievement test scores and fewer self-reported externalizing problems among adolescents at age 15. In addition, receiving more hours of early child care by a nonrelative was positively related to impulsivity and risk taking at age 15.

Because some studies show lasting effects of preschool programs, while others show that the effects fade over time, Magnuson, Ruhm, and Waldfogel (2007) explored why the effects of child care may persist for some children but not others. Using ECLS-K data, they found that children who attended preschool went to kindergarten with more academic skills (based on child assessments) than those who did not. The positive effects of preschool continued to be shown in the third grade. However, the initial disparity lessened by third grade for those who did not attend preschool if they were in small classes and had high levels of reading instruction in the early elementary school years. Children who did not attend preschool did not do as well as those who attended preschool if they were in large classes or had low levels of reading instruction in school. Thus, the effects of preschool attendance on achievement were shown to interact with classroom characteristics in school. Future research can take preschool attendance, classroom characteristics in school, and child care during the school year and summer into account to examine the relation to children's achievement.

Throughout the current study, the ECLS-K:2011 will collect information on the number, consistency, and variety of formal before- and after-school care arrangements that the children currently experience. For the fall first-grade parent interview, questions will focus on the type of nonparental child care used most on a regular basis over the past summer and the amount of care received. In addition, a new item was added about whether summer camps were used as child care.

The ECLS-K:2011 will address child care through questions on the following:

- Participation in care and education programs during the past summer, by type of arrangement used most (i.e., relative, nonrelative, and center-based);
- The amount of time the child spent in care arrangements during the past summer; and
- Whether the child's participation in summer camp covered the hours when adult supervision was needed for him or her.

Child's Health and Well-Being

This section of the parent interview includes items about therapy services or special education programs children may have received over the summer. These items will allow analysis of the accessibility of services and special education programs for children who were identified as having disabilities in kindergarten and the use of these services by children who were not identified as having disabilities. The presence of disabilities is an important risk factor for children and is related to children's development and educational experiences in school. The ECLS-K:2011 data will allow for analysis of whether children who are able to receive services during the summer, such as speech or language therapy, occupational therapy, or psychological services, have better outcomes in school than those who are not able to receive these services.

The ECLS-K:2011 will collect the following data addressing children's receipt of therapy services or participation in special education programs during the summer:

- The child's receipt of therapy services or participation in a special education program over the summer;

- Speech or language therapy over the summer;
- Occupational therapy over the summer;
- Physical therapy over the summer;
- Psychological services over the summer; and
- Other types of therapies over the summer.

C.3 Teacher Questionnaires

ECLS-K:2011 will collect information from the general classroom teachers of the sampled children during the fall first-grade data collection. Teachers will be asked to provide information on the study participants who are in their classes, completing one child-level questionnaire for each ECLS-K:2011 child. The ECLS-K:2011 assessment battery is designed to provide an objective assessment of academic outcomes for the nationally representative sample of children. Teachers can provide another perspective, albeit a less objective perspective, on children's academic abilities and behaviors because they spend a great deal of time with the children.

C.3.1 Teacher Questionnaires: Research Questions

- TQ1: What language and literacy skills and behaviors do teachers report children having as they enter first grade? Do these vary by family social background characteristics or educational activities over the summer between kindergarten and first grade? How do these skills and behaviors change over time?
- TQ2: What socioemotional skills and behaviors do teachers report children having as they enter first grade? Do these vary by family social background characteristics or educational activities over the summer between kindergarten and first grade? How do these skills and behaviors change over time?
- TQ3: What assignments do teachers report children were given over the summer between kindergarten and first grade? Does completion of these summer assignments vary by family social background characteristics or educational activities over the summer between kindergarten and first grade? How does completion of these summer assignments relate to children's skills and behaviors as they enter first grade?
- TQ4: In what reading and mathematics achievement groups do teachers report children are placed as they enter first grade? Do these vary by family social background characteristics or educational activities over the summer

between kindergarten and first grade? Do placements change during the school year? How do changes in children's placement in reading and mathematics achievement groups from fall to spring of first grade relate to achievement gains during first grade?

C.3.2 Teacher Questionnaires: Construct Coverage

Child-Specific: Evaluation of Child's Skills, Knowledge, and Behavior; Achievement Group Placement; Summer Assignments

Teachers' reports of children's academic skills augment the information obtained in the direct cognitive assessments. Teachers provide ratings of the skills the children demonstrate in the classroom in literacy and language. These ratings cover constructs that are not directly assessed in the first-grade assessments including writing behaviors. Teachers will also rate ECLS-K:2011 children in their classroom on social skills (including their ability to exercise self-control, interact with others, resolve conflict, and participate in group activities); problem behaviors (e.g., fighting, bullying, arguing, anger, depression, low self-esteem, impulsiveness); and learning dispositions or "approaches to learning" (e.g., curiosity, self-direction, inventiveness). These important socioemotional behaviors have been incorporated into a wide variety of research done with the ECLS-K data. For example, using both kindergarten and first-grade data from the ECLS-K, Hair et al. (2006) found that children's language and cognition skills, health, and social skills in kindergarten were related to their scores on math and reading assessments. Children's language and cognition skills and socioemotional skills in kindergarten were also related to children's self-control and classroom motivation at the end of first grade. In addition, the ECLS-K:2011 data will provide information about whether children's placement in achievement groups changes between the end of the kindergarten year and entry into first grade, and between the beginning and end of the first- grade school year.

Child-specific skills and behaviors covered in the child-level teacher questionnaires are:

- Language and literacy skills;
- Social skills;

- Child's achievement group placement;
- Child's summer assignment work.

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