



Considerations for Analysis of ECLS-K Data

Module Objectives

Describe the analysis considerations for using information regarding

- Language minority children and English language learners
- Children with disabilities and using special education data
- Student mobility
- Teacher reports
- Geographic identifiers

Identifying Language Minority Children and English Language Learners

Language minority children and, more specifically, English language learners (ELLs) can be identified through

- Information provided by their parents
- Information provided by children's schools and teachers
- Their performance on the ECLS-K assessments



Language
Minority Children
and ELLs

Home-Based Information

In the primary language (PLQ) section of the parent interview, parents were asked about

- Use of languages other than English in the home
- Whether English was also spoken in the home
- Primary language spoken in the home
- How often key household members used a non-English language when speaking with the child
- How often the child used a non-English language when speaking with those key household members



Language
Minority Children
and ELLs

School-Based Information (Kindergarten)

- School records were consulted to identify children whose primary home language was not English
- Teachers were asked about languages used in the classroom and whether any students were language minorities or had limited English proficiency
- Teachers indicated whether the children received English language instruction as part of an English-as-a-Second Language (ESL) program or participated in a Title I-funded ESL/bilingual education program



Language
Minority Children
and ELLs

General [Assessment Protocol](#) for Language Minority Children

- In kindergarten and first grade, children identified by school records or teachers as having a non-English primary home language were administered the Oral Language Development Scale (OLDS) to assess their basic English language skills
- Children who achieved the cut score or higher on the OLDS were administered the full ECLS-K assessment battery in English, including having their height and weight measured
- Children who did not achieve at least the cut score on the OLDS were administered Spanish translations of the mathematics and psychomotor assessments if their home language was Spanish
 - They also had their height and weight measured
- Children who did not achieve at least the cut score on the OLDS and whose home language was not Spanish had their height and weight measured
 - They were not assessed in the cognitive or psychomotor domains



Language
Minority Children
and ELLs

The OLDS as an Indicator of English Proficiency

- Composed of three subtests of the preLAS® 2000: Simon Says, Art Show, Let's Tell Stories (Duncan and De Avila 1993)
 - CTB/McGraw-Hill's preLAS® 2000 measures the English and Spanish language proficiency and pre-literacy skills of learners in early childhood
- Measured children's listening comprehension, vocabulary, and ability to understand and produce language
- Whether a child achieved at least the cut score and was assessed in English can be used as an indicator of children's basic English proficiency
- The data file includes a variable indicating a child's score on the OLDS for each round in which the child was administered it (CxOLDS) and a variable indicating in which round the child passed the OLDS (CPSOLDS)
 - Note: x is a placeholder for the round number in the variable name



Language
Minority Children
and ELLs

How Many Language Minority Children Participated in the ECLS-K?

- Answer depends on how they are identified, including the source of the information; identification depends on your research question
 - All language minority children (whether or not English is also used at home), a subset who do not speak English at home at all, or the subset of language minority children who are classified as English language learners
- For example, in the fall of kindergarten, about 2,850 children were identified as having a non-English primary home language through school records, while about 4,310 children had parents who said a non-English language was spoken in the home
 - In the spring of kindergarten, about 1,680 children had teachers who said the child participated in an ESL program during the school year, while about 1,450 children did not pass the OLDS in the fall kindergarten data collection and about 960 did not pass in the spring kindergarten data collection



Language
Minority Children
and ELLs

Issues to Consider in Analysis

Language Minority Children and ELLs

- These populations can be identified in several ways using data from different sources, which may be inconsistent with one another
- These populations can be identified based on initial status at kindergarten entry or status in the rounds of analytic interest
- The ECLS-K includes large samples of language minority children, but the group is diverse
 - The majority of language minority children speak Spanish



Language
Minority Children
and ELLs

Issues to Consider in Analysis (Continued)

The number of language minority children with complete assessment data increases across time

- Missing or incomplete data in early rounds affects ability to measure gains
- Spanish-speakers switched from Spanish to English math assessments once they passed the OLDS
- Inclusion in later rounds of children who had not passed the OLDS at some earlier time point can affect longitudinal analyses for certain race/ethnicity groups
- Consider using the [Academic Rating Scale](#) as an alternative source of information on cognitive knowledge and skills



Language
Minority Children
and ELLs

Sources of Information on Child Disabilities and Special Education

- Parent Interview Child Health section (CHQ)
 - Some data are available in the public-use files, while some are available only in the restricted-use files
- Special Education Teacher Questionnaires
 - Data are only available in the restricted-use files
- School Record Abstract (SRA) and Field Management System (FMS)
 - Some data are available in the public-use files, while some are available only in the restricted-use files



Child Disabilities
and
Special Education

Considerations for Identifying Children with Disabilities

- There are multiple sources of data that can be used to identify children with disabilities in the ECLS-K
- There may be differences in the data collected from the various sources because of misreport or differences in the questions asked
- The sources of data that are used to identify children with disabilities should be determined by the research question being asked



Child Disabilities
and
Special Education

Repeated Measures

For the most part, measures of disability status and special education were repeated at each round, except



Child Disabilities
and
Special Education

- No questions about disability or participation in special education were asked in the spring of kindergarten or the fall of first grade (biannual collection years)
- No information about disability or participation in special education was collected from school records in the eighth-grade data collection, because the student record abstract was not used in that round

Parent Interviews

CHQ items in the parent interviews asked about issues with attention, learning, activity level, communication, hearing, vision, and behavior



Child Disabilities
and
Special Education

- How does the child compare to other children of the same age?
- Does the parent have any concerns related to the issue?
- Was an evaluation sought from a professional?
- Did a professional diagnose a specific problem?
- What was the diagnosis?
- When was the diagnosis made?
- Has the child ever received services for the diagnosed condition?

Special Education Teacher Questionnaires

- Teacher characteristics (age, sex, education, work experience, etc.)
- Information specific to the study child
 - Disability category (primary disability; any for which services were received)
 - IEP goals for the school year
 - Extent and type of services provided for the year
 - Primary classroom placement (for example, in a general education classroom)
 - Teaching practices, methods, and materials used with the child
 - Assistive technologies used by the child
 - General education goals, academic expectations, and assessments
 - Collaboration and communication with the child's general education teacher
 - Frequency of communication with the child's parents
 - Formal evaluations of the child (e.g., psychological, speech/language, and learning/educational)



Child Disabilities
and
Special Education

Special Education Teacher Data

- Variables indicate whether the child has data from a special education teacher
 - Part A of questionnaire (DxSETQA=1)
 - Part B of questionnaire (ExSETQB=1)
 - Note: x is a placeholder for the round number in the variable name
- Base year: merge data from the supplementary special education restricted-use data file to the main data file by child ID
- Subsequent rounds: all special education teacher questionnaire data are included in the main restricted-use files



Child Disabilities
and
Special Education

Administrative Data

Two sources

- Field management system (FMS): Field supervisor asked school staff if the child received special education services
- Student record abstract (SRA): Indicates whether the child's school records indicated the child had an IEP and what disabilities the child had



Child Disabilities
and
Special Education

General Measures of Child Disability

- Parents
 - Any diagnosed disability (composite variables) (RPxDISAB for kindergarten through third grade, P6DISABL, P7DISABL)
- Special education teachers
 - Child has special education teacher data (DxSETQA, ExSETQB)
 - School record abstract (UxRIEP)
 - Field staff: child receives special education (FxSPECS)



Child Disabilities
and
Special Education

Note: x is a placeholder for the round number in the variable name

Types of Disabilities

- Parent
 - Variables indicating whether a diagnosis was received for specific problems (e.g., PxDIAGNO)
 - Fall kindergarten: questions about receipt of services for specific types of problems (P1THERAP through P1THER13)
- Special education teacher questionnaire
 - Child's primary disability as identified in the IEP (ExPRMDIS)
 - All disabilities for which the child receives services (ExLRNDIS to ExBRAIN)
- Student record abstract (no information for eighth grade)
 - All disabilities identified in the most current IEP (UxLRNNG to UxBRAIN)



Child Disabilities
and
Special Education

Note: x is a placeholder for the round number in the variable name

Student Mobility in the ECLS-K

- Definition of mobility in the ECLS-K: Moving from one school, classroom, or teacher to another
- Not all movers were followed for continued participation in the study
- Mobility needs to be considered when conducting certain analyses



Student
Mobility

Cumulative Percentage of Children Who Changed Schools After Fall K

	Kindergarten spring	1 st grade spring	3 rd grade spring	5 th grade spring	8 th grade spring
Sample (unweighted)	6	11	25	30	84
Population (weighted)	2	20	39	63	94
Race/ethnicity					
White, non-Hispanic	1	20	38	62	93
Black, non-Hispanic	4	24	40	70	97
Hispanic	2	18	44	64	95
Asian, non-Hispanic	1	17	36	59	95
Other, non-Hispanic	5	14	40	56	92



Student
Mobility

NOTE: Estimates are based on change in school ID between rounds. The comparison is between the fall kindergarten school ID and subsequent round school IDs. Estimates based on cases with school identification information for the two rounds within the comparison. Population estimates produced with weight C1_7FC0.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K), Full Sample Kindergarten Through Eighth Grade Public-Use Data Files; do not cite data for training purposes only.

Identify Children Who Changed Schools For These Types of Analyses

- Analyses of children’s growth by **school characteristics**
- Analyses of children’s status in either fall or spring within a single grade that use information on **school characteristics** collected in the other round of data collection for that grade
- Analyses using **school information** collected in a prior round to look at children’s status in a later round when school information from the later round of interest is not available
- Identify all children who changed schools during the time and
 - Drop all of these cases, or
 - Drop all cases except for those whose new school has the same values on the school characteristics of interest as the previous school



Student
Mobility

Identify Children Who Changed Teachers For These Types of Analyses

- Analyses of children's growth from fall to spring within a single grade by **teacher or classroom characteristics**
- Analyses of children's status in either fall or spring within a single grade that use information on **teacher or classroom characteristics** collected in the other round of data collection for that grade



Student
Mobility

Identify all children who changed teachers from fall to spring and

- Drop all of these cases, or
- Drop all cases except for those whose new teacher has the same values on the characteristics of interest as the previous teacher or classroom

Variables That Identify Children Who Changed Schools

Kindergarten

- FKCHGSCH indicates whether a child changed schools between rounds 1 and 2



Student
Mobility

Variables That Identify Children Who Changed Schools (Continued)

First, Third, Fifth, and Eighth Grades



Student
Mobility

- The school change variables for first grade indicate whether a child changed schools between rounds 2 and 3 (**R3R2SCHG**), between rounds 2 and 4 (**R4R2SCHG**), and between rounds 3 and 4 (**R4R3SCHG**)
- The school change variables for third, fifth, and eighth grades (**R5R4SCHG**, **R6R5SCHG**, **R7R6SCHG**) indicate whether a child changed schools between a given round and the round immediately preceding it
- These variables also indicate whether the school transfer was from
 - public to public,
 - public to private,
 - private to private, or
 - private to public

Variables That Identify Children Who Changed Teachers



Student
Mobility

- **FKCHGTCH** indicates whether a child changed teachers between rounds 1 and 2
- **R4R2TCHG** indicates whether a child changed teachers between rounds 2 and 4
- There are no variables indicating a change in teachers that include round 3, the fall first grade data collection, because no data were collected from teachers in round 3
- There are no teacher change variables for rounds 5, 6, and 7 because there were no fall collections in those grades and most children changed teachers from grade to grade
 - In the spring data collections teachers were asked whether the study child had been in his or her classroom since the beginning of the school year
- All children who changed schools also changed teachers
- Change variables were created by comparing a child's school or teacher ID from one round to another

Information on Classroom Instruction

Kindergarten, First Grade, and Third Grades



Teacher
Questionnaire
Data

- Sample children's primary or homeroom teachers reported information about themselves and their teaching practices
- The primary teacher reported on instructional practices in all core subject areas, even if the child was not in the homeroom teacher's classroom for a particular subject
- Use information from teachers about whether they were the child's primary teacher for reading, mathematics, science, and social studies to identify children for whom the information about instruction in the different subject areas was not obtained from the teacher who provided such instruction to that child

Information on Classroom Instruction (Continued)

Fifth and Eighth Grades



Teacher
Questionnaire
Data

- Separate questionnaires were given to the study children's teachers in different subjects to collect data on the instructional practices that children experienced in those specific teachers' classrooms
 - All study children's reading/language arts/English teachers were surveyed
 - For a randomly sampled half of the children, the child's mathematics teacher was surveyed
 - For the other randomly sampled half of the children, the child's science teacher was surveyed
- In eighth grade, a questionnaire was given to the teacher for the same subject area that the child was sampled for in fifth grade

Structure of the Teacher Questionnaires

Kindergarten, First Grade, and Third Grades

- TQA: teacher-/classroom-level questionnaire with questions about classroom characteristics and teacher's instructional and grading practices
- TQB: teacher-level questionnaire with questions about the teacher's background and experience, views on teaching, job satisfaction, and views on the school climate and environment
- TQC: questions specifically about the study child



Teacher
Questionnaire
Data

Structure of the Teacher Questionnaires (Continued)

Fifth and Eighth Grades

- TQA and TQB combined into one teacher-/classroom-level questionnaire
 - Given to all reading, math, and science teachers with a sampled child in his or her classroom, regardless of subject taught
- TQC customized according to the subject area the teacher taught
 - Questions specifically about the child's experiences related to the focal subject area, including the child's achievement, teacher's instructional practices, and the characteristics of the classroom in which the child received instruction



Teacher
Questionnaire
Data

Teacher Questionnaire Variables

Kindergarten, First Grade, and Third Grades



Teacher
Questionnaire
Data

- Variables that begin with an **A** prefix are based on information from the teacher-/classroom-level questionnaire about teacher and classroom characteristics and instructional practices
- Variables that begin with a **B** prefix are based on information from the teacher-level questionnaire about the teacher's background and experience, views on teaching, job satisfaction, and views on the school climate and environment
- Variables that begin with a **T** prefix are based on information from the child-level questionnaire that is specific to the sample child

Teacher Questionnaire Variables (Continued)

Fifth and Eighth Grades



Teacher
Questionnaire
Data

- Variables that begin with a **J** prefix are based on information from the teacher-/classroom-level questionnaire
- The third character indicates the subject area taught by the teacher who completed the questionnaire
 - **J61 and J71** prefixes indicate that this information was reported by the child's reading/language arts teacher
 - **J62 and J72** prefixes indicate that this information was reported by the child's mathematics or science teacher

Teacher Questionnaire Variables (Continued)

Fifth and Eighth Grades

- Variables that begin with a **G**, **M**, or **N** prefix are based on child-level data about sample children's performance and the instructional experiences in the teachers' classrooms
 - **G** is used for reading
 - **M** is used for mathematics
 - **N** is used for science



Teacher
Questionnaire
Data

Teacher Questionnaire Variables (Continued)

Fifth and Eighth Grades

- **F6MTHSCI** is the fifth-grade variable indicating whether it was the child's mathematics or science teacher who was sampled to participate
- **F7MTHSCI** is the eighth-grade variable indicating whether it was the child's mathematics or science teacher who was sampled to participate



Teacher
Questionnaire
Data

Teacher Questionnaire Variables (Continued)

Issues to Consider

- Many questions asked of teachers were repeated over time; however, some were asked at the teacher level in the earlier grades and at the child level in the later grades
- In the early grades, teachers may have reported about classroom practices that were not experienced by every study child in the class
- In the fifth and eighth grades, child-level mathematics and science teacher data are not available for all sample children
- Choice of an appropriate sampling weight depends on the particular teacher variables selected



Teacher
Questionnaire
Data

Geographic Area Data

- There are only two variables with geographic area information available in the public-use file
 - Census region: Northeast, Midwest, South, and West
 - Locale: city, suburb, town, or rural area
- More specific geographic data are available on the restricted-use data files



Geographic
Data

Restricted-Use Geographic Data for Schools and Homes

- State and county FIPS codes
- ZIP code/ZCTA (ZIP code tabulation area)
- Census tract
- Latitude and longitude (for schools only)



Geographic
Data

Restricted-Use Data Files with Geographic Variables

- Geocode data files, kindergarten through third grade
- Restricted-use cross-sectional data files (sometimes referred to as RUFs), first through eighth grade



Geographic
Data

2000 Census Data in the Geocode Data Files

Geocode data files include more than 600 variables about the demographic characteristics of each ECLS-K ZCTA and tract, for example



Geographic
Data

- Median and average income
- Race/ethnicity of residents
- Age groups
- Home ownership status
- Households headed by females
- Military households

Census Data

Other [Census Bureau data](#) can be linked to the ECLS-K ZCTAs or tracts, for example



Geographic
Data

- Proximity to social service agencies
- Proximity to grocery stores
- Proximity to industries
- Proximity to parks and recreations facilities

Geocode Data Files

Eight ASCII data files

- **school.dat**: tract and ZCTA identifiers for schools that participated in at least one round of data collection from kindergarten to third grade
- **child1.dat, child2.dat, child3.dat, child4.dat, child5.dat**: tract and ZCTA identifiers for ECLS-K children's homes in rounds 1, 2, 3, 4, and 5. There is one file for each round because children's home addresses can differ from round to round
- **tracts.dat**: 635 selected Census-derived variables for all tracts in the U.S.
- **zctas.dat**: 635 selected Census-derived variables for all ZCTAs in the U.S.



Geographic
Data

Geocode Data Files (Continued)

- The geocode school and child files can be linked to ECLS-K data files using the school IDs and child IDs
- Additional Census data can be linked to the geocode data files using the ZCTA and tract variables
- The 11-digit tract variable includes the state FIPS Code (the first 2 characters), the county FIPS Code (the next 3 characters), and the Census tract code (the last 6 characters)



Geographic
Data

ECLS-K Cross-Sectional Restricted-Use Data Files

- Beginning with the first-grade restricted-use file, the cross-sectional restricted-use data file includes the state FIPS code, county FIPS code, and ZIP codes for the schools, as well as ZIP codes for the children's homes
- For eighth grade, the restricted-use data file also includes ZCTA and tract data for schools and homes, and longitude and latitude data for schools
- No ZCTA, tract, or longitude and latitude data are available for fifth grade, although these identifiers can be obtained from other rounds for children who have not moved homes or changed schools



Geographic Data

Geographic Variables

U. S. DEPARTMENT OF EDUCATION

Geographic Variables by Grade Level

Area	Grade					
	K	1	3	5	8	
School	FIPS state	Geo CD	Geo CD or RUF 1 st	Geo CD or RUF 3 rd	RUF 5 th	RUF 8 th
	FIPS county	Geo CD	Geo CD or RUF 1 st	Geo CD or RUF 3 rd	RUF 5 th	RUF 8 th
	ZIP code	Geo CD	Geo CD or RUF 1 st	Geo CD or RUF 3 rd	RUF 5 th	RUF 8 th
	ZCTA	Geo CD	Geo CD	Geo CD	–	RUF 8 th
	Tract	Geo CD	Geo CD	Geo CD	–	RUF 8 th
	Latitude	Geo CD	Geo CD	Geo CD	–	RUF 8 th
	Longitude	Geo CD	Geo CD	Geo CD	–	RUF 8 th
Home	FIPS state	Geo CD	Geo CD or RUF 1 st	Geo CD or RUF 3 rd	–	RUF 8 th
	FIPS county	Geo CD	Geo CD or RUF 1 st	Geo CD or RUF 3 rd	–	RUF 8 th
	ZIP code	Geo CD	Geo CD or RUF 1 st	Geo CD or RUF 3 rd	RUF 5 th	RUF 8 th
	ZCTA	Geo CD	Geo CD	Geo CD	–	RUF 8 th
	Tract	Geo CD	Geo CD	Geo CD	–	RUF 8 th



 Early Childhood Longitudinal Study



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Geographic Data

Note: RUF = Restricted-use data file

Module Summary

Described the analysis considerations for using information regarding

- Language minority children and English language learners
- Children with disabilities and using special education data
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- Teacher reports
- Geographic identifiers

Module Resources

- [General assessment protocol for language minority children](#)
- [Academic Rating Scale](#)
- [Types of disabilities resource document](#)
- [Census data products](#)