

Identifying and Locating ECLS Variables

Tip Sheet

Early Childhood Longitudinal Study (ECLS) Program

May 2022

U.S. DEPARTMENT OF EDUCATION

A Publication of the National Center for Education Statistics at IES

General Guidance

Once researchers have identified specific topics to explore or research questions to answer using the ECLS data, the following general steps can be taken to identify and examine variables of interest, with some additional guidance noted for each of the ECLS studies.

Step 1: Determine which instruments and assessments collected information related to your research interests or questions.

This can be done by reviewing each of the ECLS main study web pages which broadly describe the sources and content of data, the ECLS Instrument & Assessment pages, and sections in the Data File User's Manuals (DFUMs) that describe the main topics covered in each data collection instrument. The most recent DFUMs for each study are listed below.

- For the **Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011)**, review information provided in chapter 2 of the *User's Manual for the ECLS-K:2011 Kindergarten-Fifth Grade Data File and Electronic Codebook, Public Version* available here: <https://nces.ed.gov/pubs2019/2019051.pdf>.
- For the **Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K)**, review information provided in chapter 2 of the *User's Manual for the ECLS-K Kindergarten-Eighth Grade Data File and Electronic Codebook, Public Version* available here: <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009004>.
- For the **Early Childhood Longitudinal Study, Birth Cohort (ECLS-B)**, data and user's manuals are only available to researchers who are granted a restricted-use data license. However, there is an ECLS-B Direct Child Assessment Components Matrix (<https://nces.ed.gov/ecls/pdf/bassessments.pdf>) as well as links to each of the instruments and questionnaire item matrixes available for review on the ECLS-B's Instruments and Assessments page: <https://nces.ed.gov/ecls/birthinstruments.asp>.

Researchers should refer to the most recent DFUM for their study of interest for the most up-to-date information on the study, as well as notes on errata and anomalies that have been identified since earlier releases. For the most detailed information on a specific round of data collection, researchers will need to refer to the data documentation that aligns with that round. For example, information related to the creation of the ECLS-K:2011's kindergarten composite variables is found in the ECLS-K:2011's kindergarten round user's manual; these composite variables are not described in the K-5 user's manual. However, any changes to variables from previous rounds would be documented in the later round manuals. The user's manuals for earlier rounds of data collection for both the ECLS-K and ECLS-K:2011 public-use files (PUFs) are available on the NCES website. ECLS-B user's manuals are only available to IES restricted-use license holders from the IES Data Security Office (IESData.Security@ed.gov).

Step 2: Review the instruments (interviews, questionnaires) and Data File User's Manuals to identify items or variables of interest.

After determining which instruments include information on your topics of interest, review the interviews and questionnaires on the ECLS website to see the actual questions asked and decide if their corresponding variables would be appropriate for your analysis. This is an important step in the variable selection process, as it will help you understand how and of whom questions were asked. In order to understand how participants were routed through the data collection instruments you must review the instruments themselves.

Interviews, questionnaires, and summary information on the child assessments for each study are available online:

- For the **ECLS-K:2011** go to: <https://nces.ed.gov/ecls/instruments2011.asp>.
- For the **ECLS-K** go to: <https://nces.ed.gov/ecls/kinderinstruments.asp>.
- For the **ECLS-B** go to: <https://nces.ed.gov/ecls/birthinstruments.asp>.

In addition to variables associated with specific questions asked in the instruments, there are other variables that might be related to topics of interest or that may be needed for analyses. For example, each of the ECLS data files contains identification variables, composite variables derived from two or more questions and/or data sources, and methodological variables. These variables are discussed in chapter 7 (ECLS-K, ECLS-K:2011) or chapter 10 (ECLS-B) in the Data File User's Manuals. There are also variables for the scores derived from the direct and indirect child assessments discussed in chapter 3. However, the ECLS child assessments are not publicly available due to copyright restrictions. Access to review the assessment batteries requires that researchers obtain permission from both NCES and the publishers of the assessment items. Information about this process can be found on each of the ECLS Instrument & Assessment pages on the ECLS website.

Step 3: Identify key pieces of information about your items of interest.

Once you've identified your items of interest, identify key pieces of information that will be helpful when looking for variables to include in your analysis (described further below).

1. **Instrument or data source**—for example, data collected from the parent interview or school administrator questionnaire.
2. **Data collection round**—for example, ECLS-K:2011 fall kindergarten (fall 2010) was the first round (“round 1”) of the ECLS-K:2011.
3. **Item number in the instrument**—for example, the item shown below from the ECLS-K:2011 spring fifth-grade parent interview (spring 2016) has the item number “PIQ185” (highlighted in yellow).

PIQ185

QUESTION TEXT:

During this school year, how many times have you or other adults in your household gone to meetings or participated in activities at {CHILD}'s school?

□ □ □ □

This key information will help you identify the item's associated variable(s) in the data file, because variables are named according to the data source and collection round, and variable descriptions (i.e., variable labels) include question/item numbers when applicable. Variable naming conventions are described in chapter 7 (ECLS-K, ECLS-K:2011) or chapter 10 (ECLS-B) in the Data File User's Manuals. Within a study, variable names and item numbers are generally consistent across rounds, but the most thorough way to determine if and when items were collected across multiple rounds is by confirming in the instruments. Sometimes variable names did change for the same item over the course of a study, making it important to conduct these checks of the study instruments themselves. The item numbers are particularly important to note prior to

searching for associated variables because variable labels have character limits and words are often abbreviated in variable names and labels. That is, if you search for a variable using a full word (e.g., “homework”), you may not find all the items with information on that topic.

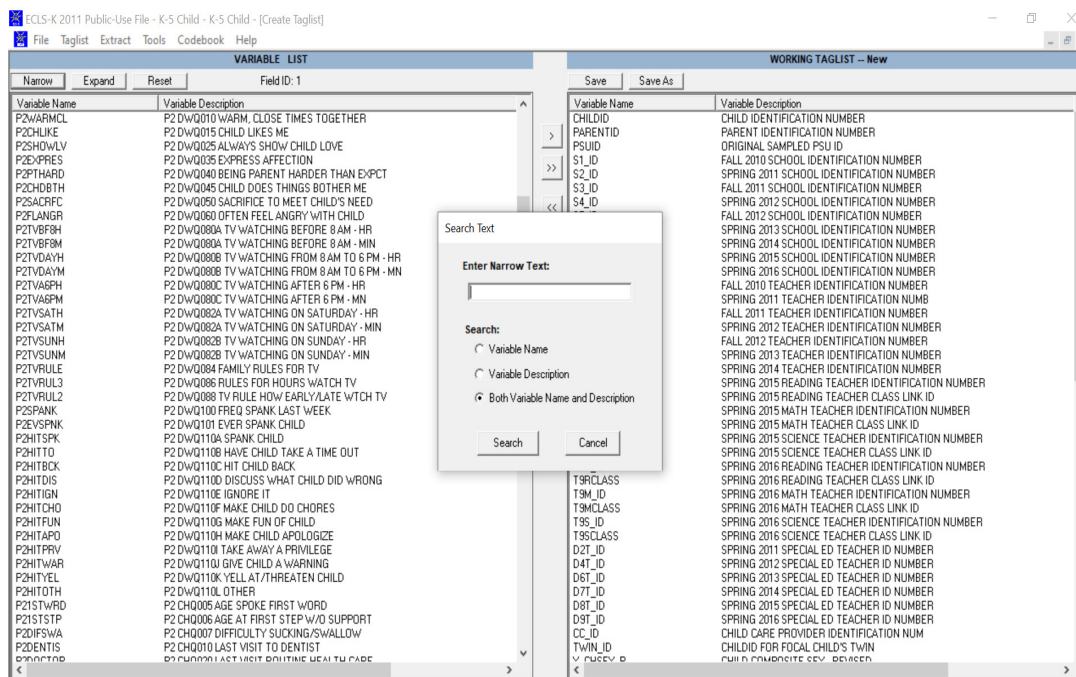
Step 4: Locate variables.

Option A: Use the Electronic Codebook (ECB)

A common tool used for locating variables for the ECLS studies is the **Electronic Codebook**, or **ECB**. ECBs that can be installed on one's computer are distributed by NCES for all three studies, as described in Option A below. The ECLS-K variables can be accessed publicly through use of the Online Codebook, described in Option B below. Researchers with older public-use ECBs for the ECLS-K that are no longer distributed by NCES can also follow the steps in Option A. The ECB permits researchers to locate and tag variables, view variable frequencies, and prepare data extract files for analysis with SAS, SPSS, or Stata that can be run to generate a customized data file containing only the variables of interest. Chapter 8 in each of the Data File User's Manuals provides instructions for how to install and use the ECB.

- The **ECLS-K:2011** K-5 PUF ECB is available to download online (<https://nces.ed.gov/ecls/dataproducts.asp>).
- The **ECLS-B** ECB for the 9-month-kindergarten 2007 file is sent by the IES Data Security Office to researchers with an IES restricted-use data license.
- The **ECLS-K** ECBs for cross-sectional restricted-use data files are sent by the IES Data Security Office to researchers with an IES restricted-use data license.

Once the ECB is installed and opened, you can select the “Narrow” button to search for your variables of interest by variable name, variable description, or both:



If you are searching for the variable associated with a specific item, it will be helpful to have the key information you noted in **Step 3** (instrument or data source, data collection round, and item number) to identify the variable by name or description based on the conventions described in chapter 7 (ECLS-K, ECLS-K:2011) or chapter 10 (ECLS-B) of the Data File User's Manuals. Variable names for a composite variable, assessment score, or other variable not derived directly from one questionnaire or interview question can be found in the Data File User's Manuals. For example, if you are looking for an SES composite variable in the ECLS-K:2011, that would be provided in chapter 7; if you are looking for an assessment score in the ECLS-K:2011, that would be in chapter 3.

The ECB software is not compatible with Mac computers. It is recommended that Mac users use the Online Codebook for analyses of public-use ECLS-K data (option B) or the file record layout (option C) for analyses of restricted-use ECLS-K and ECLS-B data and all analyses of ECLS-K:2011 data.

Option B: Use the Online Codebook (ECLS-K only)

If you are interested in the **ECLS-K** public-use data and do not have an ECB distributed by NCES, variables can best be located using the **NCES Online Codebook** (<https://nces.ed.gov/OnlineCodebook>).

Within the Online Codebook, you can customize the search for your variables of interest by data file, variable type, or keywords found in the variable name, variable label, or variable description.



The **Online Codebook** is similar to the ECB in that it can be used to locate variables, view variable frequencies, and prepare data extract files containing only the variables of interest for analysis, but it is accessible online without downloading or installing ECB software. Additionally, the Online Codebook has increased capabilities for keyword searches compared to the ECB. Keyword searches in the Online Codebook can include keywords used in item wording or response options if **Variable Description** is selected in **Options** under the search field.

Option C: Use the File Record Layout

For researchers who cannot or choose not to use an ECB or the Online Codebook, ECLS variables can also be searched for using the appropriate **file record layout**. The file record layouts are provided as PDF files, which allows for keywords, variable names, and variable labels to be searched for using $\text{⌘} + \text{F}$ (Mac), or $\text{ctrl} + \text{F}$ (PC).

- The full **ECLS-K:2011** K-5 data file record layout is available at <https://nces.ed.gov/ecls/dataproducts.asp>.
- The full **ECLS-K** K-8 data file record layout is available at <https://nces.ed.gov/ecls/dataproducts.asp>.
- The full **ECLS-B** data file record layout is available at <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010011>.

Example of How to Identify and Locate Variables to Answer a Research Question Using the ECLS-K:2011

This section goes through the steps outlined above with some additional details to demonstrate how to use ECLS-K:2011 data to answer the following example research question:

Do entering kindergartners' reading knowledge and skills differ by their home literacy environment, as indicated by how many children's books parents report having in the home?

Step 1: Determine which instruments and assessments collected information related to your research interests or questions, in this case reading knowledge and skills and home literacy environment.

- The ECLS-K:2011 user’s manuals describe whether the study included items related to these topic areas, while the study instruments available online can be reviewed for more detail on the questions asked.
- The fall kindergarten parent interview included questions about the home literacy environment; the exact items can be seen in the interview itself.
- The fall kindergarten reading assessment was designed to measure study children’s reading knowledge and skills during the fall of their kindergarten year. The user’s manuals and psychometric reports describe the assessments.

Step 2: Review these instruments and the ECLS-K:2011 Data File User’s Manuals to identify the specific items or variables of interest needed to answer this research question.

Fall kindergarten parent interview, section HEQ, item HEQ 040: “About how many children’s books does {CHILD} have in your home now, including library books? Please only include books that are for children.”

Fall kindergarten reading assessment—reading score: Depending on your analysis plans, you could either use the reading scale score or the corresponding reading theta. Descriptions of the scores are detailed in chapter 3 of the Data File User’s Manual. Please note that even if you are using scores from earlier rounds of the study, it is critical to use the assessment score variables from the most recent and/or final release of the data file, because the scores are recalibrated with every release.

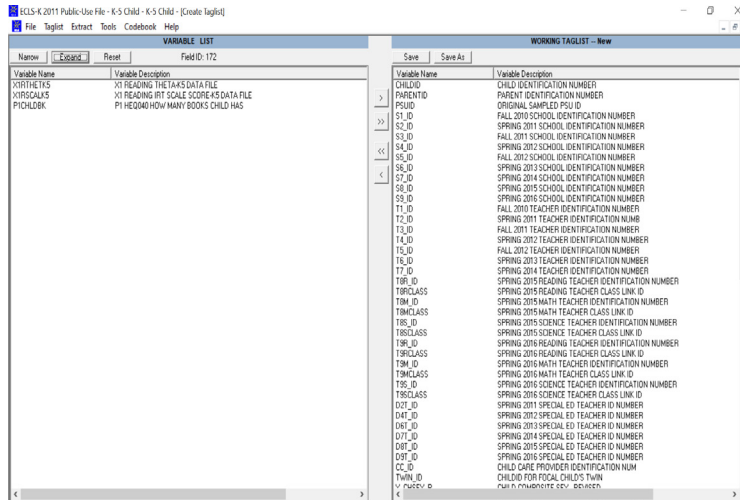
Step 3: Identify key information about these items.

Item of Interest	Instrument or Data Source	Data Collection Round	Item Number in the Instrument	Variable Name in the DFUM
“About how many children’s books does {CHILD} have in your home now, including library books? Please only include books that are for children.”	Parent interview	Fall kindergarten (round 1)	HEQ040	Not applicable
<i>Reading scale score</i>	Child reading assessment	Fall kindergarten (round 1)	Not applicable	X1RSCALK5
<i>Reading theta score</i>	Child reading assessment	Fall kindergarten (round 1)	Not applicable	X1RTHETK5

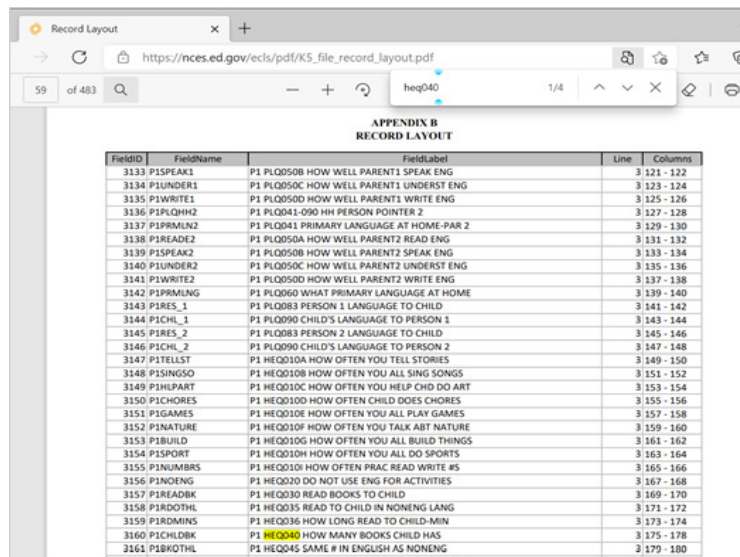
This information, along with the variable naming conventions described in chapter 7 of the DFUMs, will help you search for and locate these items and variables in the data file.

Step 4: Locate variables.

Given that this research question is being addressed using the ECLS-K:2011, if you are working on a PC, it is recommended that you locate variables using the **ECB (option A)**:



or the file record layout (option C) (the only option for Mac users):



Still looking for more resources to work with the ECLS data?

NCES provides dataset-specific training modules for the ECLS-K:2011, the ECLS-B, and the ECLS-K with more detailed information, such as how to use and analyze the particular datasets appropriately. These free training modules are part of the Distance Learning Dataset Training (DLDT) system available online: <https://nces.ed.gov/training/datauser/>.

For more information, please visit the [ECLS program website](https://nces.ed.gov/ecls/) or email us at: ecls@ed.gov.

Follow: @EdNCES on [Twitter](#), [Facebook](#), [LinkedIn](#), and [YouTube](#)

View: [NCES Blog](#)

Subscribe: ies.ed.gov/newsflash

