



# A longitudinal study of

Biostat 653

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# ECLS Background

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## What is ECLS program

- **ECLS (Early Childhood Longitudinal Study)** is a series of nationally representative, longitudinal studies run by the U.S. National Center for Education Statistics (NCES). It provides detailed data on children's development, school readiness, and early grade experiences.

## Core Features

- **Longitudinal by design** — Follows the same children over time to study growth, developmental trajectories, and the long-term impact of early experiences.
- **Nationally representative** — Samples are scientifically selected to reflect the diversity of U.S. students, enabling generalizable findings.
- **Multi-level data**
  - **Children** (direct assessments)
  - **Parents** (surveys)
  - **Teachers** (surveys)
  - **School administrators** (surveys)

# ECLS-K:2011 (Kindergarten Class of 2010–11)

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## The Sample

- **Who:** ~18,170 children enrolled in kindergarten across the U.S. in 2010–2011.
- **Where:** ~970 public and private schools nationwide.

## Data Collection Waves (Timeline)

- **Kindergarten:** Fall 2010 & Spring 2011
- **Grade 1:** Fall 2011 & Spring 2012
- **Grade 2:** Fall 2012 & Spring 2013
- **Grade 3:** Spring 2014
- **Grade 4:** Spring 2015
- **Grade 5:** Spring 2016

## Key Data Components

- **Outcome:** Math IRT scale score on the K–5 vertical scale.
- **Selected Predictors:** student/ family (sex, SES, height/weight/BMI, parent education/ occupation/income, household size,) and school context (type, locale, enrollment, grade span, district poverty).