



A longitudinal study of

Biostat 653

ECLS Background

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)

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).