

Middle Grades Longitudinal Study of 2017–18 (MGLS:2017)

Website: <https://nces.ed.gov/surveys/mgls/>

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1. OVERVIEW

The Middle Grades Longitudinal Study of 2017–18 (MGLS:2017) is the first study to follow a nationally-representative sample of students as they enter and move through the middle grades. The MGLS:2017 addresses a subpopulation of students not currently studied in either the ECLS-K or the HSLs surveys, which study early childhood learning and high school students, respectively. The MGLS:2017 will provide rich descriptive data on academic experiences, development, and learning that occur during the critical, middle grade years (grades 6–8) and on the individual, social, and contextual factors that are related to development and future success. This data will allow researchers to examine associations between various factors and student outcomes.

Purpose

The MGLS will provide nationally-representative data on (1) children’s math and reading skills in the middle level grades, (2) their non-academic cognitive function and (3) the experiences these children have with family and peers in and out of school. These data allow researchers to test hypotheses about the associations and interactions of a wide range of family, school, community, child characteristics, and child experiences with children’s development and educational progress in a key transitional phase of their lives.

Components

MGLS:2017 data is collected using multiple measures. Students are the most fundamental unit of analysis in the MGLS:2017. They complete assessments of their reading, mathematics, and executive function abilities. Students also respond to surveys of their attitudes, behaviors, activities, and relationships. Finally, additional contextual information is collected from other sources, including the school’s head administrator, the students’ mathematics teacher, their special education teacher (if applicable), and a parent or guardian.

Longitudinal design. In the two-stage sampling design, 900 schools are randomly selected at a national level from among the 50 states and the District of Columbia. Students are then randomly selected from those schools, with an average of 29 students selected per school. Students and their parents, teachers and school administrators are surveyed first in the winter-spring of 2018. These students and their parents are then followed each year for two subsequent years. The student’s associated teachers and administrators for a given year are also surveyed at each round. Students are followed regardless of their promotion to the next grade or their move to a different school. An additional feature of the MGLS:2017 is an oversample of students in two special education categories, autism and emotional disturbance..

Student mathematics assessment. The MGLS:2017 mathematics assessment is designed to measure growth toward algebra readiness in anticipation of the demands students will encounter in high school mathematics. The mathematics assessment is an adaptive assessment administered on tablet computer and taking approximately 30 minutes.

MIDDLE GRADE LONGITUDINAL SAMPLE SURVEY:

MGLS:2017 collects data from:

- Students
- Parents
- Teachers (Math and Special Education)
- School Administrators

The mathematics assessment is designed to capture four domains that are likely to be taught in middle school in preparation for high-school algebra. These domains are (1) the number system, (2) ratios and proportional relationships, (3) expressions and equations, and (4) functions. These topics align with the TIMSS grade 8 assessment of math. Approximately 30 percent of items focus on the Number System, 20 percent on Ratio and Proportional Relationships, 35 percent on Expression and Equations, and 15 percent on Functions.

To ensure that the mathematics assessment is sensitive to the variation in students' mathematics achievement, items were selected across a range of cognitive demand. The depths of knowledge (DOK) categories from the TIMSS 2011 Framework were adopted (knowing, applying, and reasoning). About 35 percent of the test will assess knowing, 45 percent will assess applying, and 20 percent will assess reasoning.

Student reading assessment. The MGLS:2017 reading assessment draws from the *Reading For Understanding* framework. It is designed to capture two inter-dependent reading skills: foundational reading component skills and higher level comprehension skills. Foundational skills enable readers to decode and recognize words, read fluently, and access grade-level vocabulary. Higher level comprehension is purpose driven, requiring text to be evaluated in light of goals.

The assessment is designed based on two instruments: the Study Aid and Reading Assistant (SARA) and the Global Integrated Scenario-based assessment (GISA). Drawing on these two instruments, the MGLS:2017 created a combined two-stage assessment that fits within the 25-minute window allotted for the reading assessment. Performance at both stages will be used to produce a single reading comprehension score that reflects a continuum of reading ability known as *Reading for Understanding*.

Student executive function assessment. Executive function permits individuals to self-regulate, engage in goal-directed behaviors, and has been shown to be associated with school performance and social skills. Given these associations, the MGLS:2017 will assess students' executive function in working memory, inhibition and cognitive flexibility.

Student questionnaire. The student questionnaire is a self-administered computerized questionnaire and takes approximately 20 minutes for students to complete.

Background information is collected from the students, including demographic information (such as sex, race/ethnicity, birth date, and native language) and the name, address, and phone number of a parent, guardian, or

person the student lives with that knows about the students' development, schooling, and home life.

Questions are also asked regarding students' academic expectations, academic engagement, identity formation, sleep quality, and health and physical well-being. To understand students' social relationships, questions ask about their perception of peer social support, perception of peer values, perception of belonging in school, and risk-taking behaviors. Data is also collected on students' activities, specifically regarding how much time they use on structured and unstructured activities, as well as how and how often they engage with technology at school and at home.

Questions are asked regarding students' home life. Students are asked about their relationships with their parent, such as how much autonomy the child has and how involved their parent is in monitoring the child's activity. Additional questions are asked regarding the students' perception of their community and risk factors in the community, such as crime exposure.

Finally, students' are asked about their perception of their teachers and schools. Specifically, data is collected regarding the student-teacher relationship, perception of support from teachers, perceptions of school climate, and problems at the school.

Parent questionnaire. The parent survey is a web-based questionnaire, taking approximately 40 minutes. For parents who wish to complete the survey via the telephone, a computer-assisted telephone interview (CATI) will be available.

The goal of the parent survey is to collect information about family involvement in their child's education and family characteristics that contribute to academic achievement and other student outcomes. The questionnaire will include items on parents' expectations of their children's achievement and career aspirations. Specifically, parents will be asked about conversations that they've had with their children about school coursework, college plans, and academic expectations. Parents will also be asked about whether students have skipped or repeated grades.

To better understand students' home life, parents will be asked about their household composition, family income, home language, parental education and occupation, the parents' monitoring and disciplining behaviors, and perception of poverty and crime in the community. Finally, parents will be asked about their involvement with the child's schooling, including being in contact with the school about behavior, knowing the child's school schedule, and assisting with homework.

Teacher questionnaire. All teachers who have an MGLS:2017 student in their math course are eligible for the teacher questionnaire. Teachers answer questions regarding their own demographic characteristics, educational history, certification, and teaching history. Additionally, they are asked to evaluate their departments, departmental colleagues, principal, and faculty.

To understand the teaching practices employed, there are questions about the curriculum, the textbook used, the content covered in the course, teacher efficacy, beliefs about the importance of direct instruction and autonomous behavior, availability of class resources, course sizes, and the classroom climate. Middle grades-specific practices such as common planning time and student advisory are included as well.

The teacher questionnaire also includes questions about classes generally and also about their MGLS students.

Special education teacher questionnaire. Special education teachers (or some other person who knows the most about the student’s individualized education program (IEP) are asked about students receiving special education instruction. The survey takes approximately 35 minutes and is self-administered and web-based.

The purpose and content of the survey are similar to that of the math teacher questionnaire. However, in this survey, the respondent is asked to provide details regarding study-specific students and their IEPs, specifically regarding the services the student receives, assistive technologies used, and the process used in order to guide the IEP.

School administrator questionnaire. To better understand school factors that influence student development, motivation, and mathematics learning, school administrators are asked about the school characteristics and staffing. The survey is web-based and self-administered, with the possibility of a telephone survey follow up, and takes approximately 40 minutes to complete.

Administrators are asked about information such as the grade span of the school, control (public or private), type (e.g., charter, magnet, single sex, religious), academic calendar, course scheduling, and the services that the school provides, such as health services and tutoring. Questions are also asked to get a general understanding of the student body, including questions about gender distribution, race distribution, percent eligible for free or reduced price lunch, and percent of students receiving IEPs. Administrators are also asked about the characteristics of the teaching staff, including how many teachers there are, the teachers’ status (full or part time), and how prepared teachers are to teach particular courses. The final section can only be answered by the school

administrator, and includes questions about the administrator’s background and evaluation of the school’s problems and challenges.

Facilities checklist. Field staff complete a checklist of facilities at the school. The checklist asks whether field staff observed or did not observe the facilities and the extent to which they viewed certain characteristics. Schools are observed on classrooms and classroom setup, general upkeep, school displays, signs, security, and school structures.

Periodicity

Baseline data (grade 6) for the MGLS:2017 is collected in the winter/spring of 2018. Follow up surveys will happen annually in the winter/spring.

The baseline collection is being conducted from January to June 2018.

2. USES OF DATA

The MGLS:2017 will provide information regarding a critical development period of students and children in the US and inform policies that can respond sensitively and creatively to the variety of circumstances middle grade students face. In addition, the MGLS:2017 enables researchers to study how a wide range of family, school, community, and child characteristics are associated with success in middle grades and development leading in to high school and adulthood. The longitudinal nature of the study will enable researchers to study children’s achievement in reading and mathematics, as well the trajectory of growth and socioemotional development through the middle grades.

3. KEY CONCEPTS

Contextual influences. The MGLS:2017 design acknowledges the importance of social context—families, teachers, peers, and the wider community—to students’ experiences. As such, information is collected from parents, teachers (math and special education), and school principals to provide contextual information that can be linked to students’ records for analysis.

Executive function. Middle grade youth develop cognitively during these critical years. Executive function, a set of capacities and processes originating in the prefrontal cortex of the brain, permits individuals to self-regulate, engage in purposeful and goal-directed behaviors, and conduct themselves in socially appropriate manner. Information on executive function provides a deeper understanding of the social and contextual factors related to students’ academic and non-academic outcomes.

Executive function constructs measured in MGLS are working memory, inhibition, and cognitive flexibility.

IDEA-defined disability groups. There is little information at the national level about the learning that occurs during grades 6-8 for differently-abled students who may experience diverse school environments and opportunities. The groups that MGLS focuses on include students with a specific learning disability, autism, and emotional disturbance.

4. SURVEY DESIGN

Target Population

The target population at the school level is defined as regular public schools, including public charter schools, and private schools in the 50 states and the District of Columbia, providing instruction in sixth grade. The target population of students was defined to include all sixth-grade students who attended the study-eligible schools in the fall 2017 term.

Sample Design

In fall and winter of the 2017–18 academic year, sixth-graders have been sampled within the selected schools. All sixth-grade students in the sampled school are classified as eligible for the study, including students with disabilities and English language learners who may not have been capable of completing the survey instrument. The base-year dataset will be nationally representative of sixth-graders in U.S. schools.

Base-year survey. In the base-year of MGLS:2017, students have been sampled through a two-stage process. Schools were selected in the first stage, using a sampling frame constructed from the 2013–14 Common Core of Data (CCD 2013–14) and the 2013–14 Private School Universe Survey (PSS 2013–14).

An estimated 45,528 schools were identified as being eligible for the MGLS:2017 sample frame. The schools are stratified, based on school type (public, Catholic, other private), region (Northeast, Midwest, South, and West), and prevalence of students with disabilities.

The national design calls for a sufficient sample of 900 participating schools (740 public, 80 Catholic, and 80 other private). To achieve this, the MGLS:2017 selected 3,710 schools using stratified probability proportional to size sampling. From these 3,710 schools, a simple random sample of 1,236 schools was selected and this subset has been used for recruitment. The remaining schools are part of a reserve sample to be used if the initial sample does not meet the required number of schools.

In the second stage of sampling, students have been stratified into seven categories (autism, specific learning

disability, emotional disturbance, Asian non-Hispanic, Hispanic, Black non-Hispanic, and other non-Hispanic). A simple random sample of students has been selected from each student sampling stratum. An average of 29 students are sampled from each of the 900 participating schools. This will yield a planned sample of 26,100 students.

Data Collection and Processing

Reference dates. For the base-year survey, recruitment of schools began in April 2017 and is expected to run through May 2018.

Data collection. Pre-recruitment activities for school districts and schools began with the solicitation of endorsement from state education agencies. Following initial contact, cooperation from school districts, dioceses, schools and parental consent has been obtained.

School recruitment. Schools were first sent a mailing about the study. A recruiter followed up the package with a phone call to answer any questions and to secure cooperation. Upon gaining access, recruiters identify a school coordinator to serve as a point of contact and provide logistical information.

Estimation Methods

Information on estimation methods will be provided after data collection has occurred.

Weighting. Information on weighting will be provided after data collection has occurred.

Imputation. Information on imputation will be provided after data collection has occurred.

Future Plans

The first follow-up of the MGLS:2017 will take place in the winter/spring of the 2018–19 academic year when most sample members will be in the seventh grade. A second follow-up is planned for the winter/spring 2019–20 when most sample members will be in the eighth grade.

5. DATA QUALITY AND COMPARABILITY

Information on data quality and comparability will be provided after data collection has occurred.

Sampling Error

Information on sampling error will be provided after data collection has occurred.

Nonsampling Error

Information on nonsampling error will be provided after data collection has occurred.

Coverage error. Information on coverage error will be provided after data collection has occurred.

Nonresponse error. Information on nonresponse error will be provided after data collection has occurred.

Unit nonresponse. Information on unit nonresponse will be provided after data collection has occurred.

Item nonresponse. Information on item nonresponse will be provided after data collection has occurred.

Measurement error. Information on measurement error will be provided after data collection has occurred.

6. CONTACT INFORMATION

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7. METHODOLOGY AND EVALUATION REPORTS

General

General references will be provided when available.

Survey Design

Survey design references will be provided when available.

Data Quality and Comparability

Data quality and comparability references will be provided when available.