

GEAR UP Starting Points Report

GEAR UP Middle Schools



Education Policy Initiative at Carolina
University of North Carolina at Chapel Hill

2021

The federal Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) grant is intended to provide support for interventions that increase college enrollment and success for low-income students. To meet the national goals, GEAR UP NC aims to address six common barriers to college entry and access in North Carolina. These barriers are:

1. Achievement gaps in middle school math
2. Inadequate rates of STEM readiness
3. Inadequate levels of college readiness
4. Minimal knowledge of and access to college advising resources and financial aid information
5. Disconnect between postsecondary intention and postsecondary enrollment
6. Retention in first-year of postsecondary enrollment

This report focuses on the first three goals which the GEAR UP NC program seeks to address beginning in middle school. The data in this report provides a baseline understanding of where students at GEAR UP middle schools stand at the beginning of the GEAR UP NC program. The purpose of this data is to assist in identifying areas of strength and weakness within the school to provide a strong base of knowledge for developing successful strategies to support students in developing the skills and knowledge to meet their post-secondary goals.

	All GEAR UP Students	Survey Respondents
Number	1574	889
Male	51.3%	40.1%
White	44.7%	50.7%
Black	22.0%	18.0%
Hispanic	28.3%	25.8%

Note: Demographic data is from the 2020-21 school year. Survey results are only representative of students who responded to the survey.

Topics Covered in this Report

- Attitudes and Intentions towards College
- Academic Readiness
- Focus on Science, Technology, Engineering, and Math (STEM)
- Focus on Math
- Focus on Computer Science

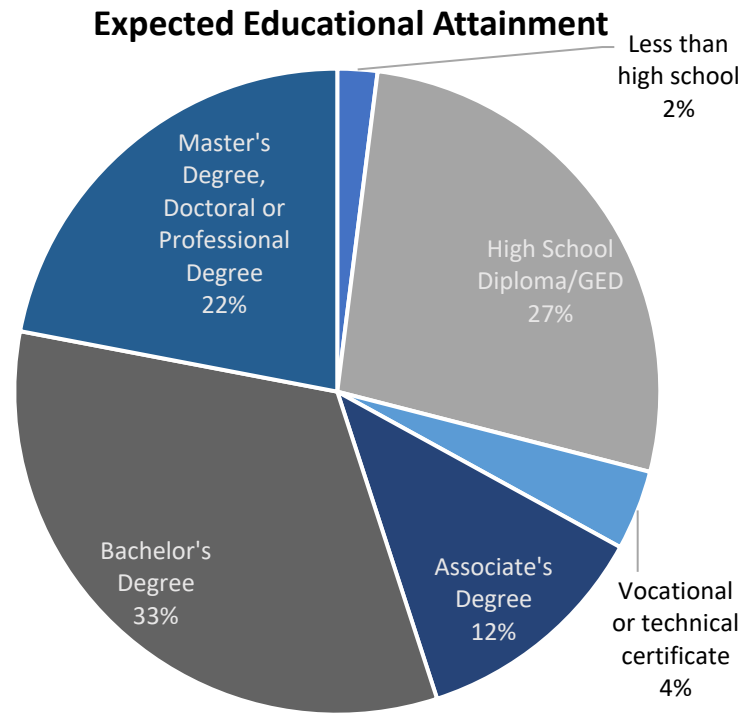
Data

Surveys – This report includes data from 889 surveys of 7th and 8th graders completed during November 2020. The surveys ask students about their post-secondary intentions, knowledge around preparation for college, and their attitudes towards and engagement with learning in different subject areas.

Administrative Data – This report also uses data from statewide tests, course taking, and course grades in the 2018-19 school year. In addition to data on students in GEAR UP middle schools, this report includes data on students attending 10 comparison schools that are similar in school size, demographics, and rurality as well as data on students statewide as points of comparison.

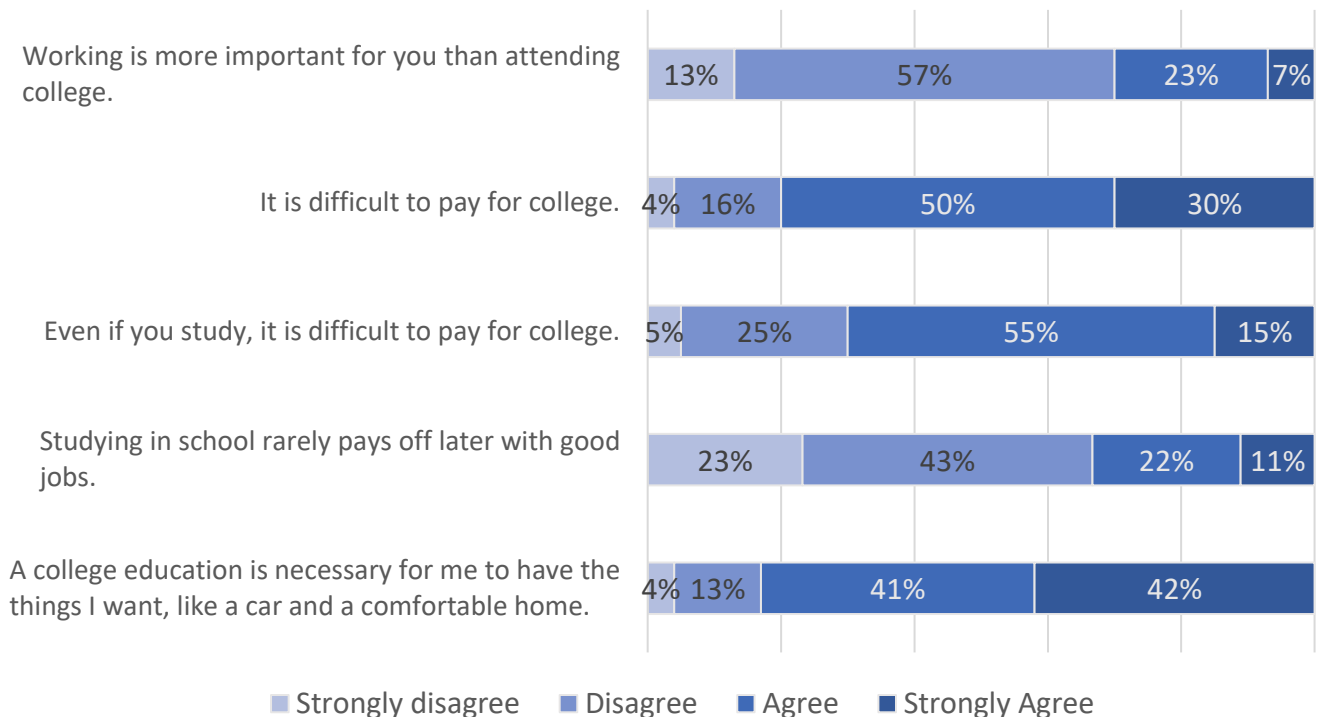
Attitudes and Intentions towards College

This section provides information on how students are thinking about post-secondary education. The figures on this page display information on expected educational attainment and attitudes towards college. Data drawn from survey responses show the expectations of students for their own educational attainment. In addition, data from these surveys shows the attitudes students hold around the role that college has in their life success and the difficulty of getting into and paying for college.



Note: N=813. This figure displays the responses to the survey question: "Which of the following do you expect to complete?"

Attitudes Towards College

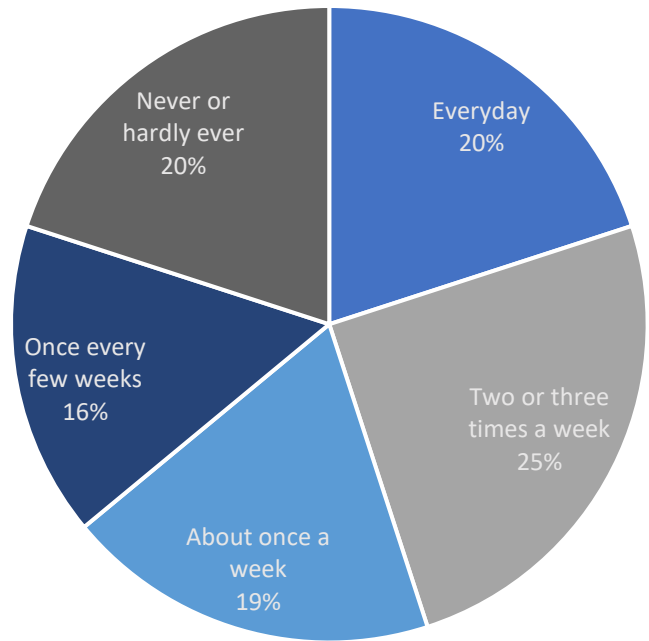


Note: N=810. This figure displays the responses to the survey question: "How much do you agree or disagree with the following statements?"

Academic Readiness

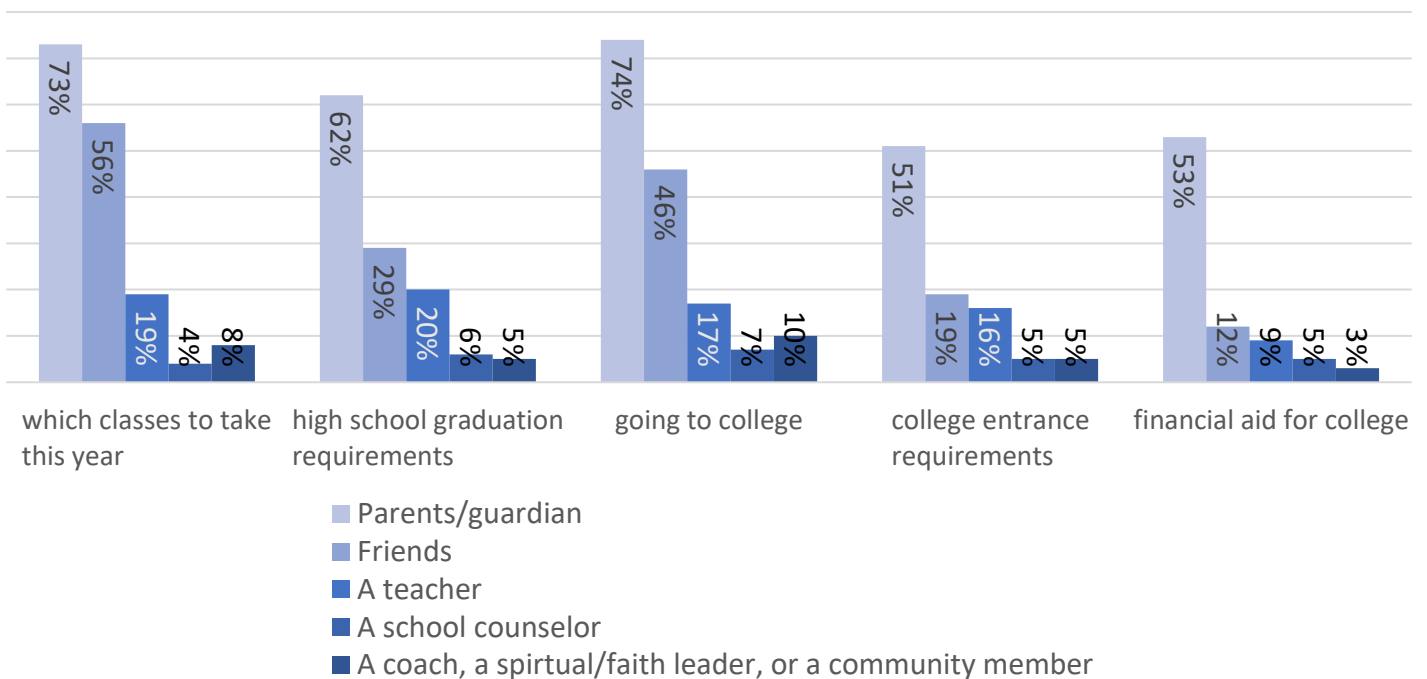
Data suggests that many students in North Carolina graduate from high school without adequate preparation to be successful in college. Recent data from the ACT show that only 18 percent of North Carolina high school graduates met all four college benchmarks in math, English, reading, and science. The purpose of this section is to present students' attitudes about academics, understanding of academic preparation for college, and academic performance across all subjects. The figures on this page display survey data on who students are talking to about what they study in school and requirements for going to college.

How often do you talk about things you have studied in school with family?



Note: N=827. This figure displays the responses to the survey question: "How often do you talk about things you studied in school with family?"

Who have you talked to about...

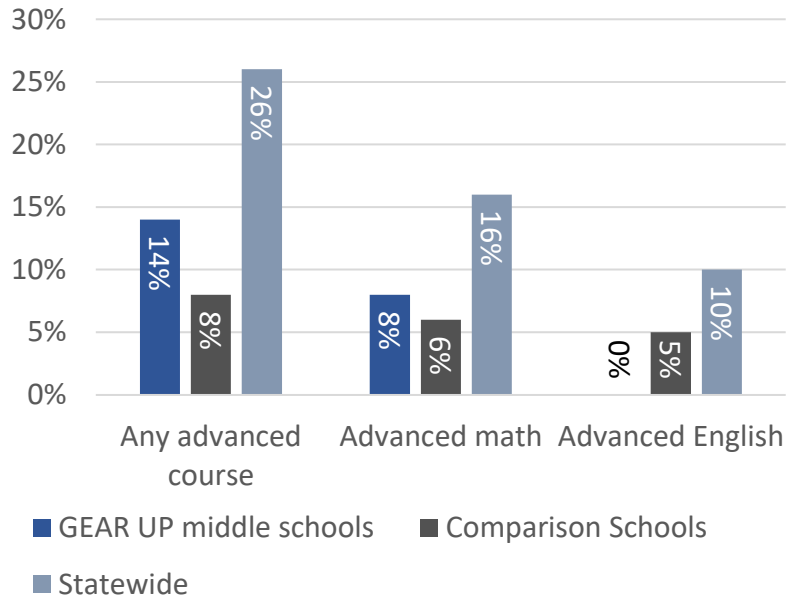


Note: N=889. This figure displays the responses to the survey question: "Who have you talked to about..."

Academic Readiness

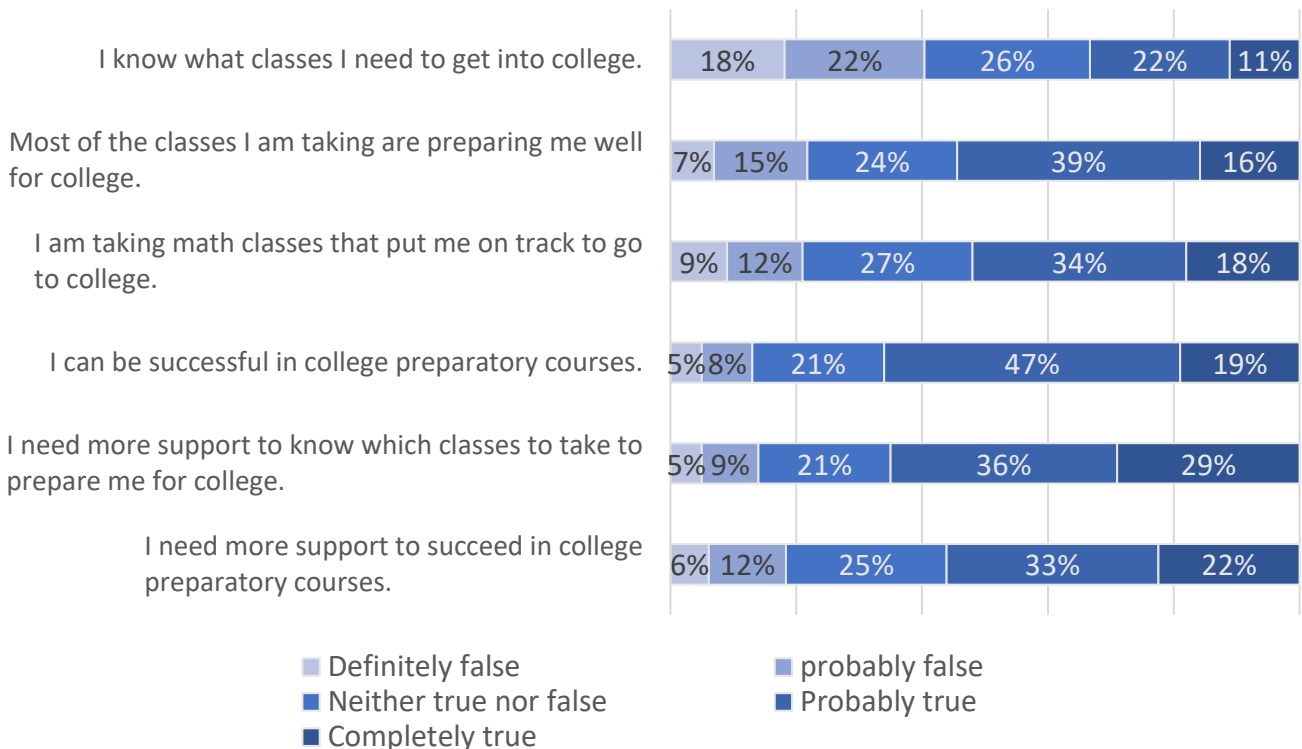
The figures on this page provide information on advanced course taking in middle school and students' knowledge of required courses. Administrative data on advanced course taking from the 2018-19 school year shows the percent of students taking any advanced course in any subject, advanced math, or advanced English in 7th or 8th grade relative to comparison schools and to students statewide. Data from surveys on students' knowledge of course taking reflects whether students feel confident in their knowledge around which courses to take to meet requirements and how well their courses are preparing them to be successful in college.

Advanced Course Taking in Middle School



Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools, 10 matched comparison schools per school, and all middle schools statewide. Advanced courses are defined as any advanced or honors course in any subject. A student is included if they took one or more advanced course in the relevant subject.

Knowledge of Required Courses

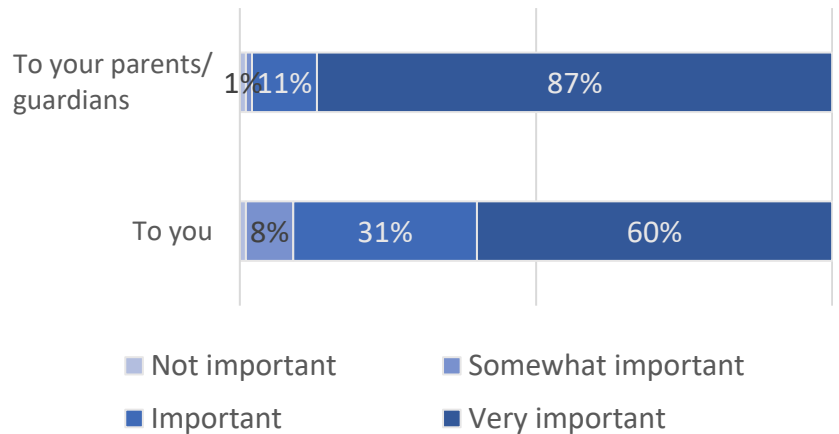


Note: N=812. This figure displays the responses to the survey question: "How true are the following statements for you?"

Academic Readiness

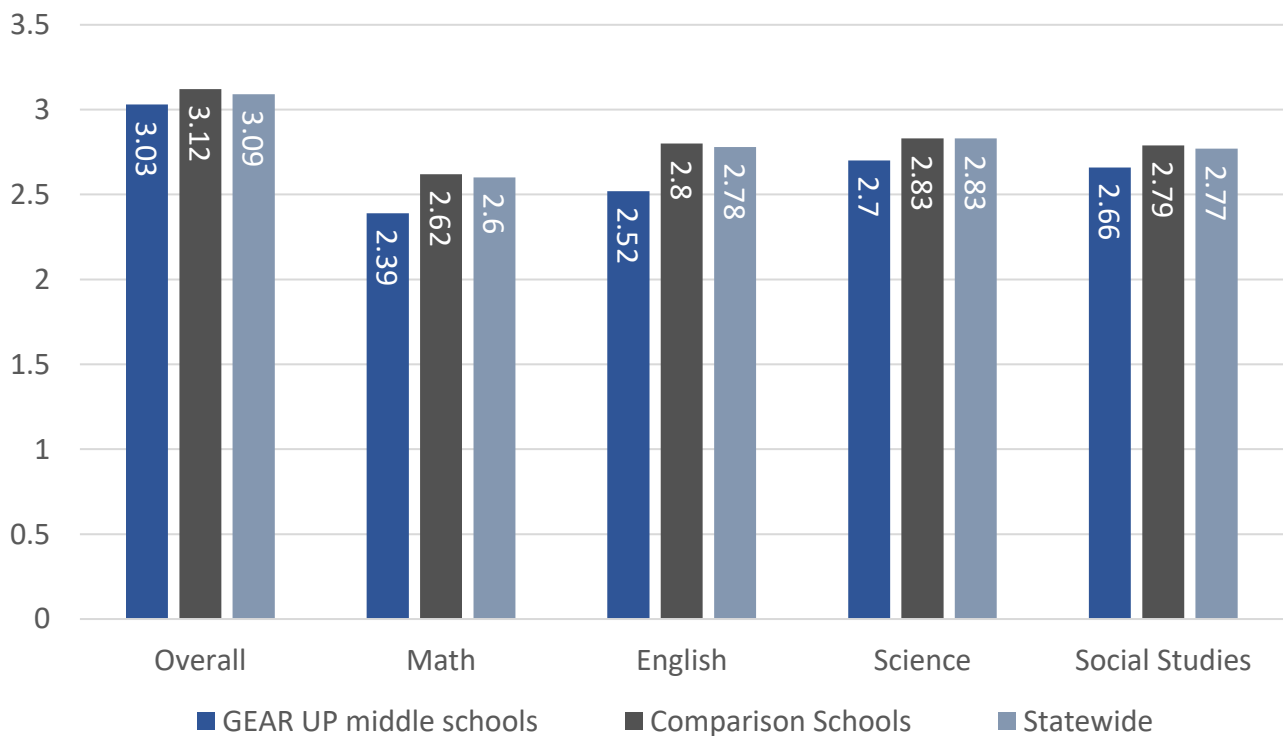
The figures on this page display students' feelings about the importance of good grades as well as actual course grades in 7th and 8th grade. Survey data reflects students' feelings about how important good grades are to their parents or guardians and to themselves. Administrative data on course grades are displayed on a four-point scale. Data on comparison schools and students statewide is also included.

Importance of Good Grades



Note: N=815. This figure displays the responses to the survey questions: "How important to you is it to get good grades?" and "How important to your parents or guardians is it for you to get good grades?"

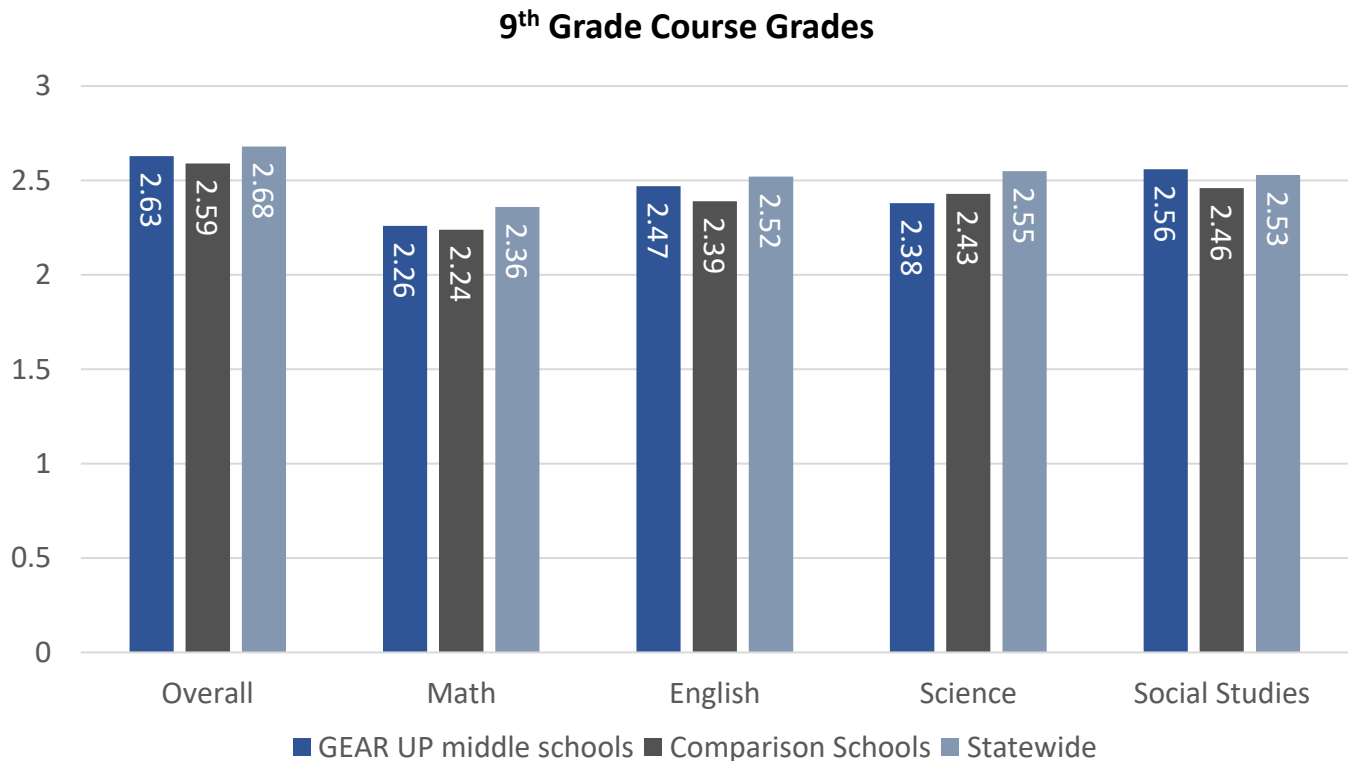
Middle School Course Grades



Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools, 10 matched comparison schools per school, and all middle schools statewide. Middle school course grades are measured on a 4-point scale with 4 represents an A, 3 represents a B, 2 represents a C, 1 represents a D, and 0 represents a failing grade.

Academic Readiness

The figure on this page shows 9th grade course grades of students graduating from this middle school. Course grades in 9th grade represent the high school success of students who completed middle school at this school. Data on comparison schools and students statewide are also include as reference point.

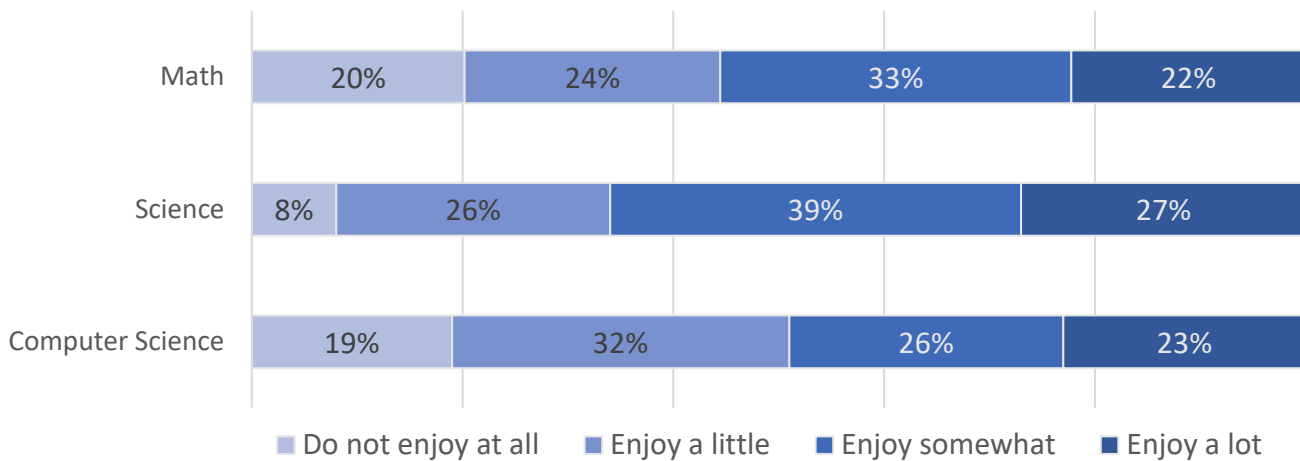


Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools, matched comparison schools, and all middle schools statewide. Ninth grade course grades are measured on a 4-point scale with 4 represents an A, 3 represents a B, 2 represents a C, 1 represents a D, and 0 represents a failing grade.

Focus on Science, Technology, Engineering, and Math (STEM)

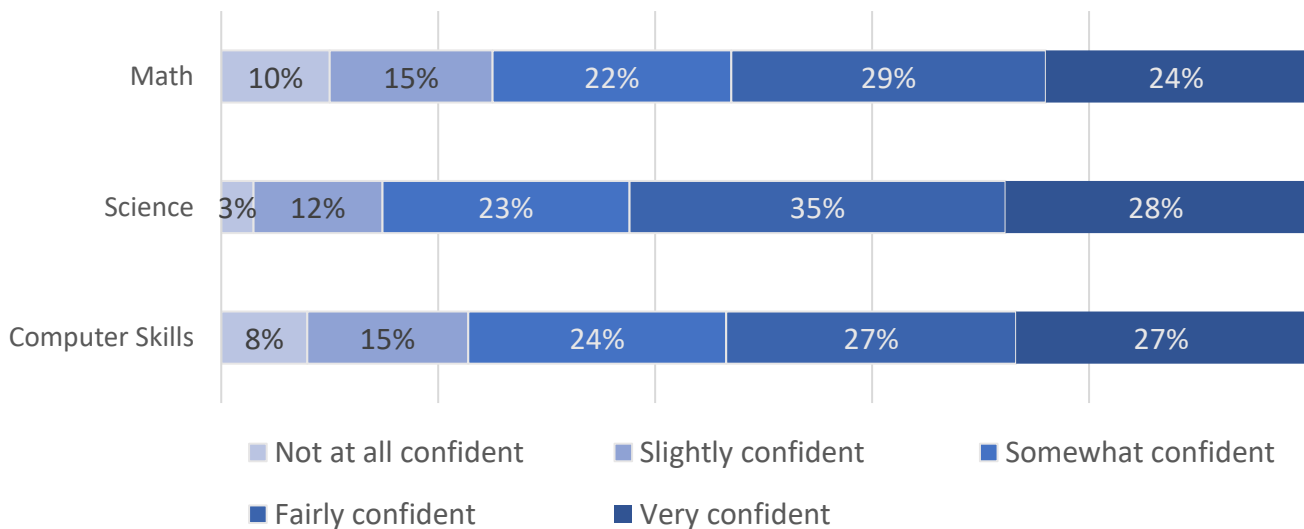
Careers in STEM fields are highly paid and many fields have more STEM jobs than qualified individuals to fill them. Preparation for STEM fields and confidence in STEM subjects begins early. This section represents the attitudes of students towards STEM subjects and enrollment in STEM electives. The figures on this page display survey data on students' enjoyment of STEM subjects and confidence in learning STEM subjects. The surveys asked about enjoyment of math, science, and computer science as well as confidence in their ability to learn math, science, and new computer skills.

Enjoyment of Learning STEM Subjects



Note: N=869. This figure displays the responses to the survey question: "How much do you enjoy learning the following subjects in school?"

Confidence in Learning STEM Subjects

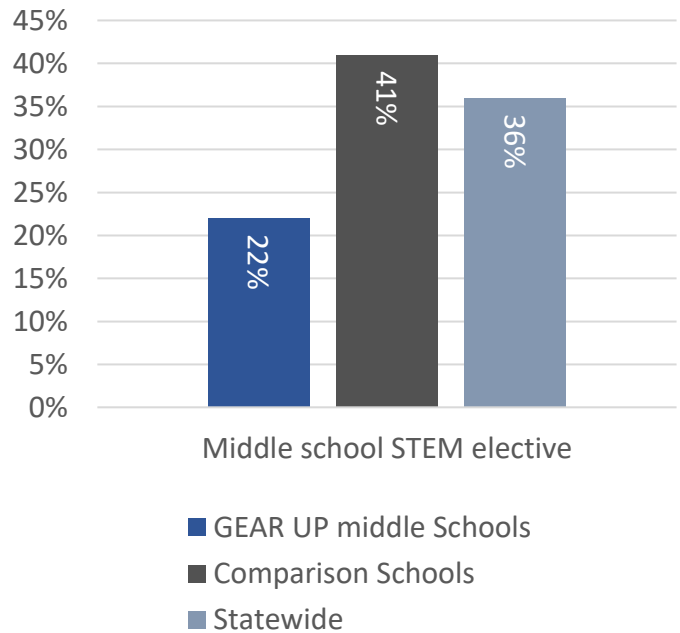


Note: N=872. This figure displays the responses to the survey question: "How confident do you generally feel about your ability to learn..."

Focus on Science, Technology, Engineering, and Math (STEM)

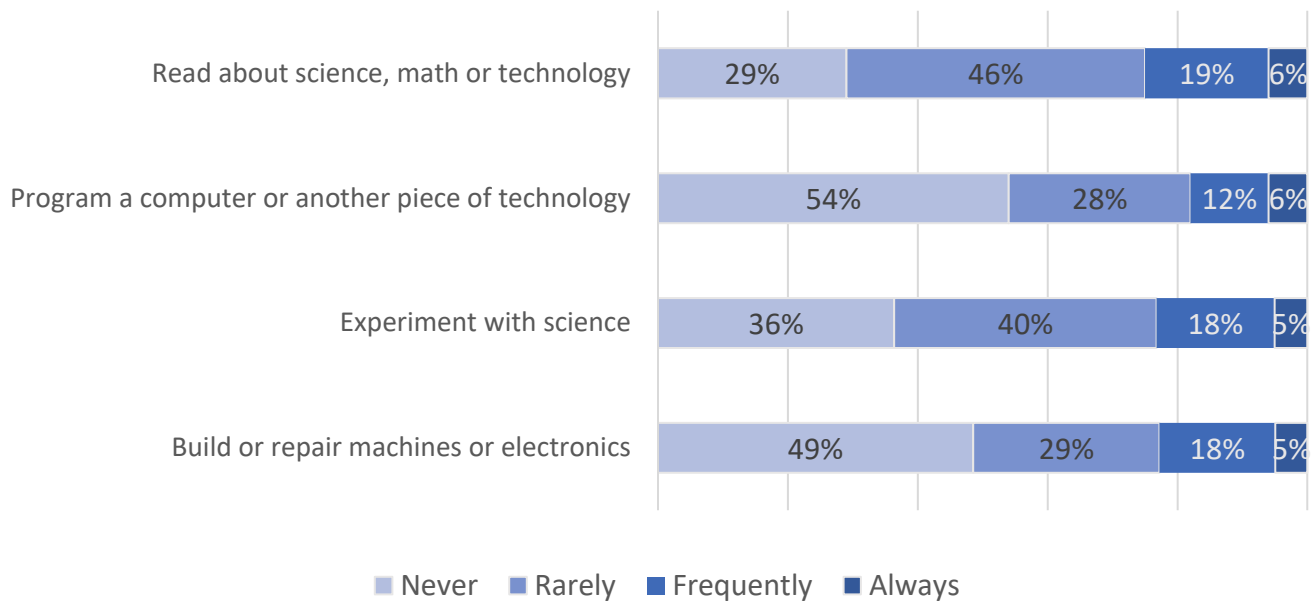
The figures on this page display data on the percent of students enrolled in STEM electives and the frequency with which students participate in STEM activities in their spare time. Administrative data from the 2018-19 school year reflects the percent of students who were enrolled in a STEM elective (more than 1 math or science course or any other STEM related course) in 7th and 8th grade. Survey data displays how frequently students report that they engage in STEM related hobbies in their spare time. These activities provide additional information on students’ interest in STEM as well as their access to STEM related materials outside of school.

STEM Electives



Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools, matched comparison schools, and all middle schools statewide. Students are defined as taking a STEM elective if they take a second math or science course or any course in engineering, computers, or technology.

Frequency of STEM Activities in Spare Time

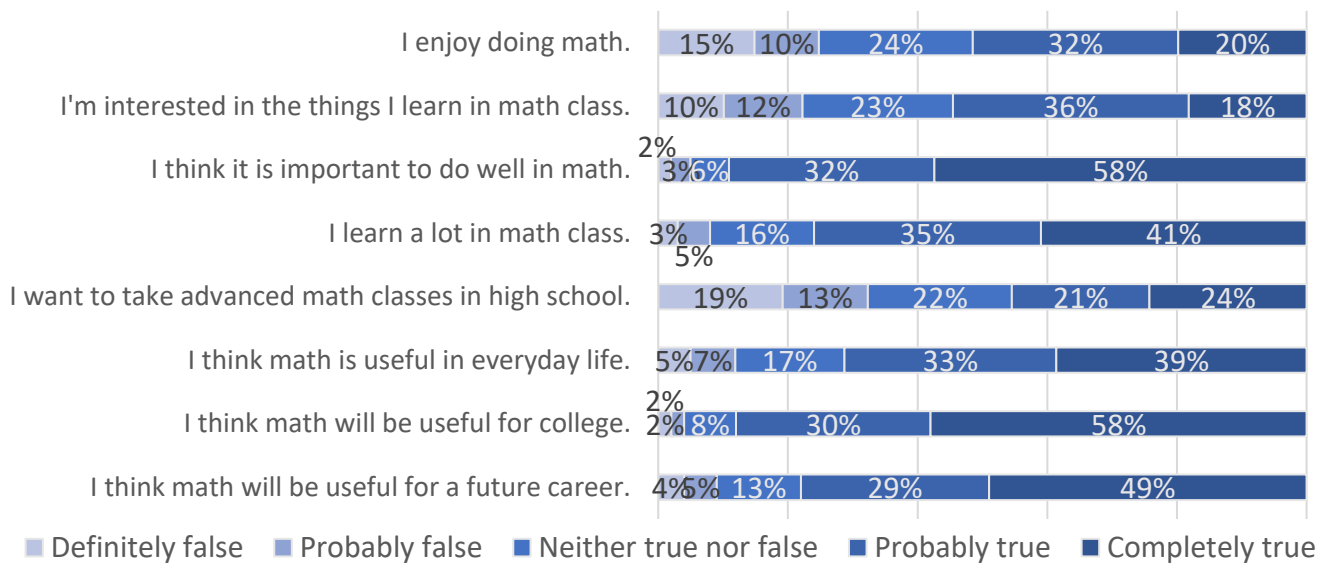


Note: N=821. This figure displays the responses to the survey question: “How frequently do you do the following in your spare time (that is, not for school)?”

Focus on Math

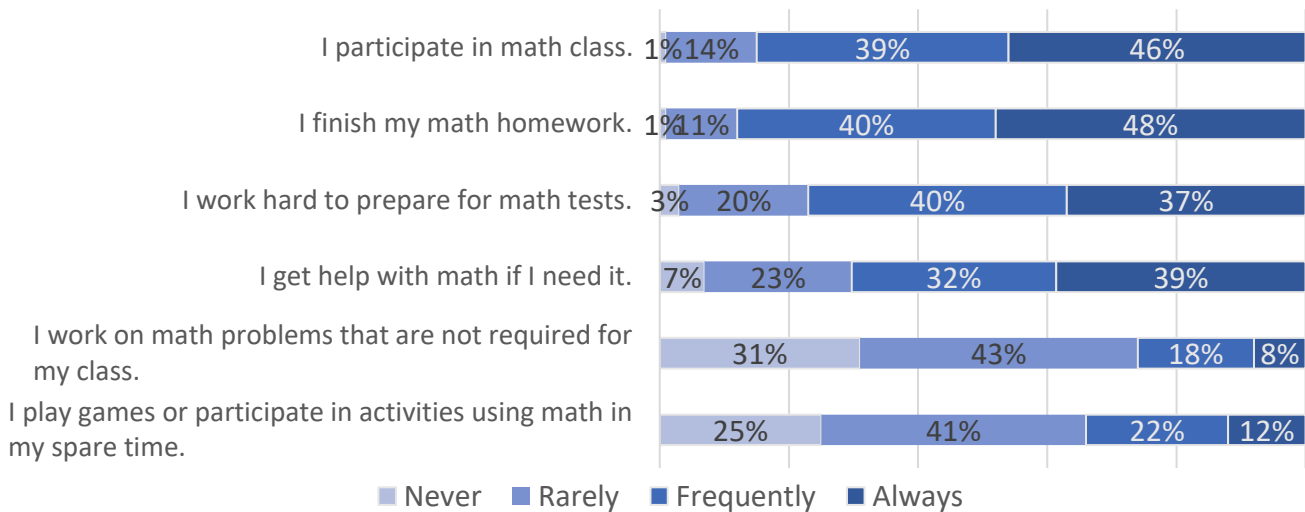
Research shows that academic achievement in middle school math is a strong predictive for high school success. Higher level math is required as a minimum admission standard for the University of North Carolina System, and students who take Math 1 early (during middle school) or on time (9th grade) are much more likely to complete the required math sequence and move on to college. This section presents data on attitudes towards math, math achievement in middle school, advanced math taking, and taking and passing Math 1. The figures on this page display survey data on attitudes towards math and reported math engagement of students.

Attitudes Towards Math



Note: N=866. This figure displays the responses to the survey question: "How true are the following statements about your thoughts about math?"

Math Engagement

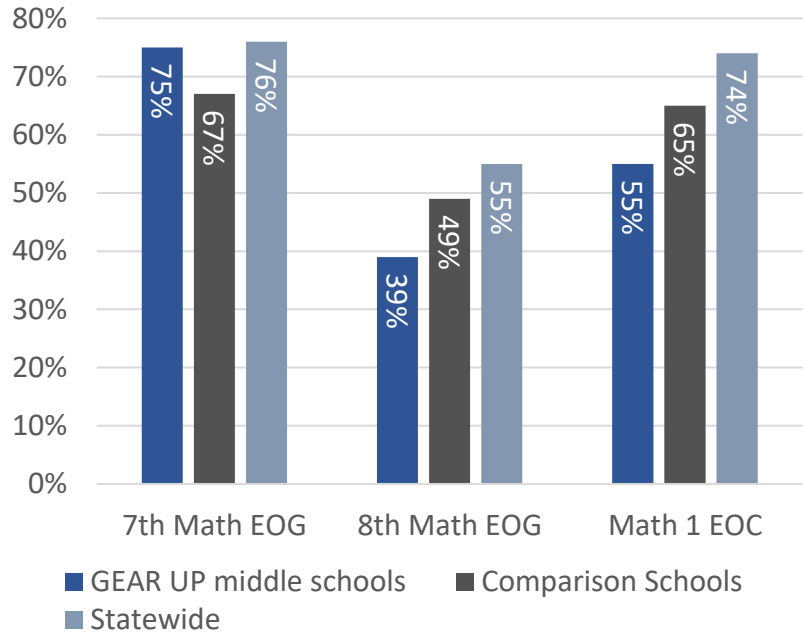


Note: N=865. This figure displays the responses to the survey question: "How frequently do you do the following math activities?"

Focus on Math

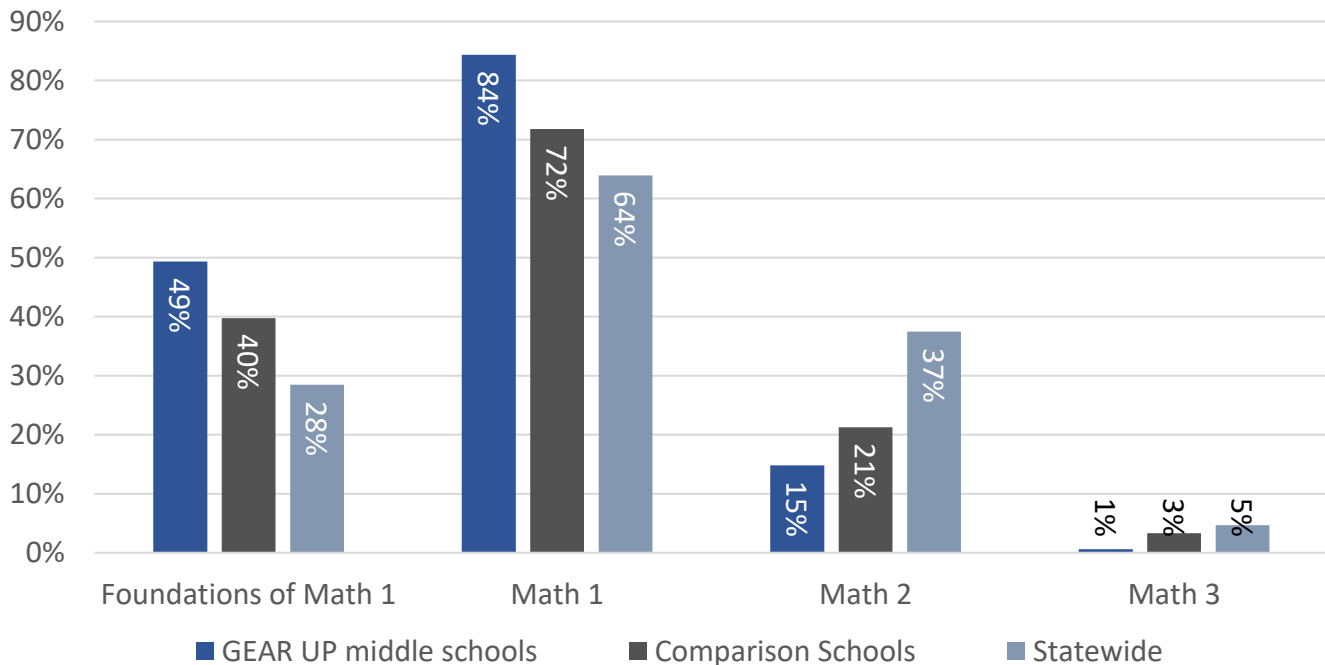
The figures on this page display data on the percent of students who pass standardized math tests and math course taking among 9th graders who previously attended this school. Data from the 2018-19 school year shows the rates at which students are College and Career Ready on the end of grade (EOG) tests in 7th and 8th grade math and the Math 1 end of course (EOC) test. Data on 9th graders shows the first high school math courses taken by students who completed middle school at this school. Data on comparison schools and students statewide is also included.

Students Passing Math EOGs and EOC



Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools, matched comparison schools, and all middle schools statewide. Students are defined as College or Career Ready on the EOG if they reach achievement levels 4 or 5.

9th Grade Math Course Taking

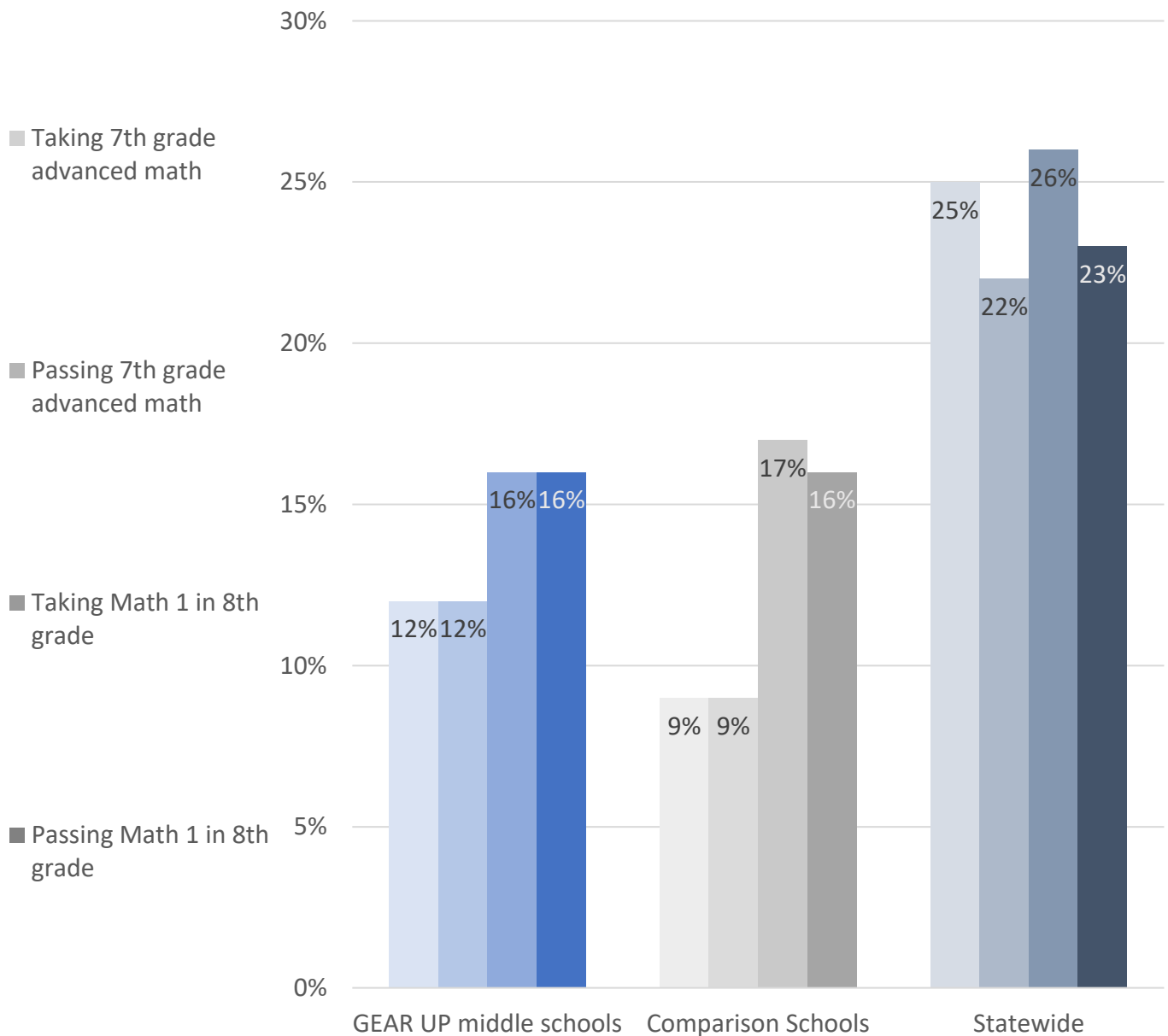


Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools, matched comparison schools, and all middle schools statewide. This chart displays the 9th grade math courses of students who completed 8th grade at GEAR UP middle schools.

Focus on Math

The figure on this page shows the progress students make towards completing Math 1 in middle school. Early completion of Math 1 allows students to proceed towards completion of higher-level math in high school. This data reflects the percent of students in the 2018-19 school year who took and passed 7th grade advanced math and took and passed Math 1 in 8th grade.

Advanced Math Progress in Middle School

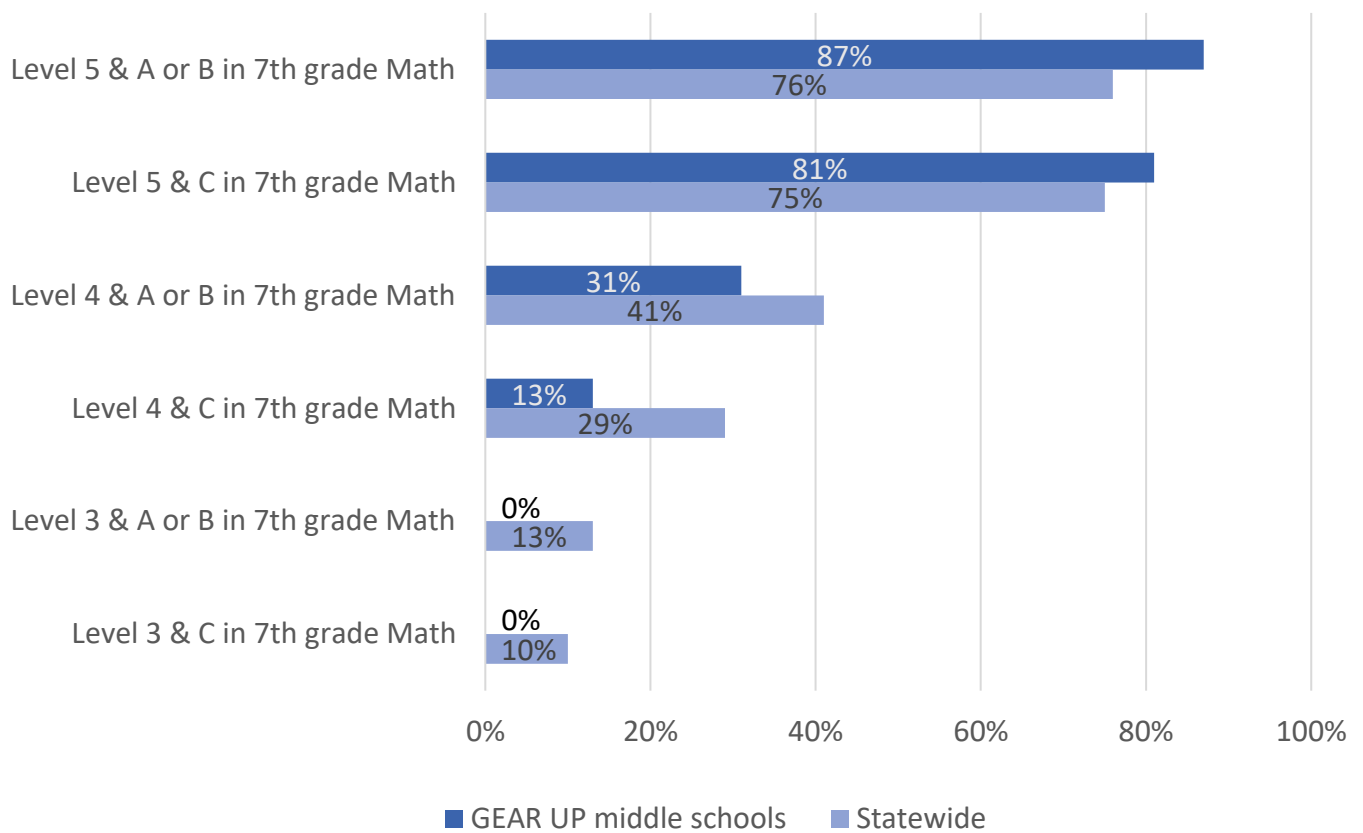


Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools, 10 matched comparison schools, and all middle schools statewide. The data in this figure tracks the number of students following the advanced math track from 7th grade advanced math through Math 1 in 8th grade.

Focus on Math

The figure on this page shows the percent of students at this school who take Math 1 at different levels of preparation. Students are divided by their achievement level on the 7th grade math EOG and their course grade in 7th grade math. For each student level, the statewide percent who take Math 1 is displayed as a reference for how many students at this performance level generally are in Math 1. This information shows whether students who are well prepared are likely to enroll in in Math 1 at this school.

Students Taking Math 1 by Prior Performance Level

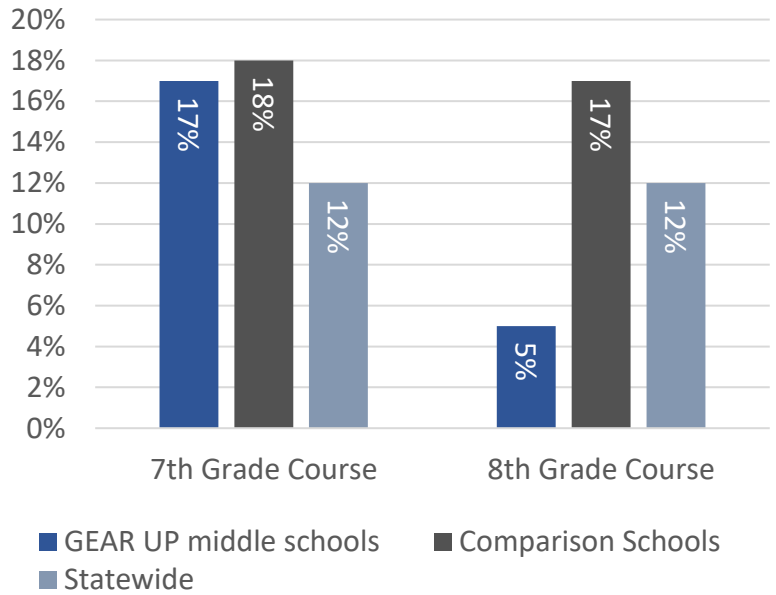


Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools. This figure identifies the percent of students taking Math 1 based on categories of 7th grade math achievement and EOG proficiency level.

Focus on Computer Science

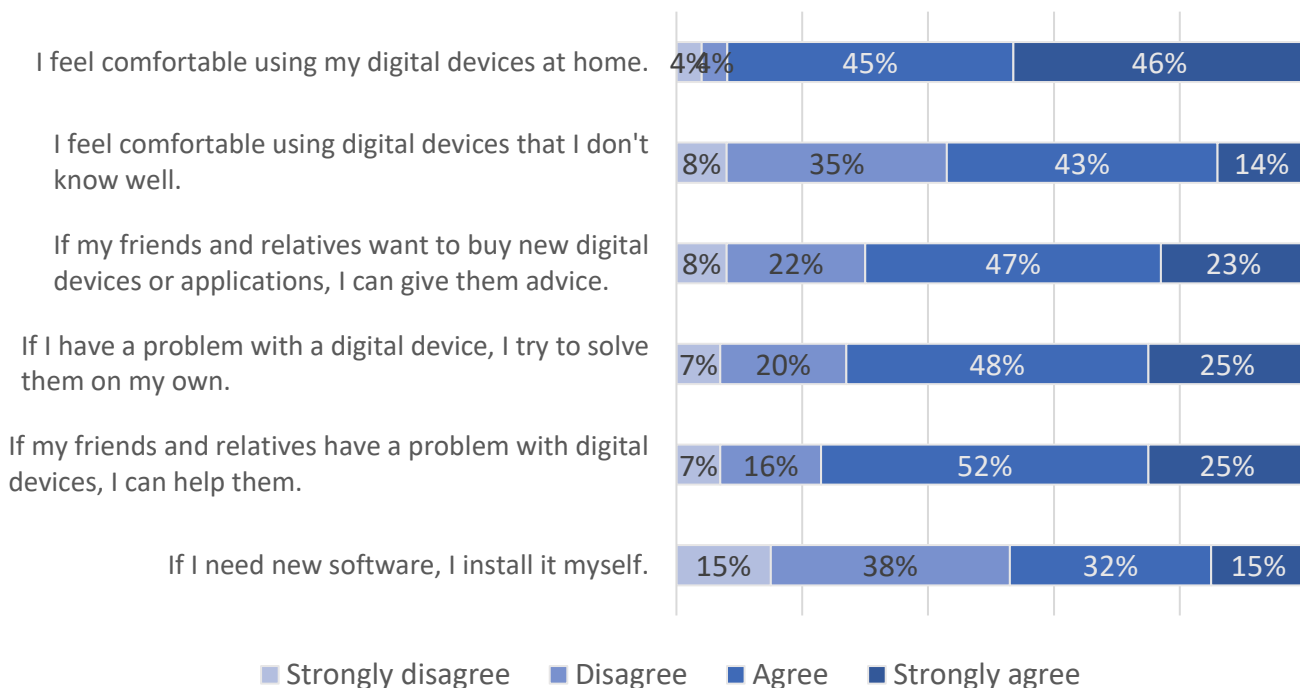
Computational thinking and computer science are key 21st century skills. With the adoption of new statewide standards in computer science, North Carolina schools aim to increase the preparation of students in this important area of study. This section displays data on computer skills/computer science related course taking as well as students' comfort with computers and their ability to complete specific computer related tasks. The figures on this page display computer related course taking in 7th and 8th grade as well as students' reported comfort with computers and related digital devices.

Computer Skills/Computer Science Course Taking



Note: This figure includes administrative data from the 2018-19 school year for GEAR UP middle schools, matched comparison schools, and all middle schools statewide. Students are identified as taking a computer course based on course codes and titles.

Comfort with Computers and Other Digital Devices

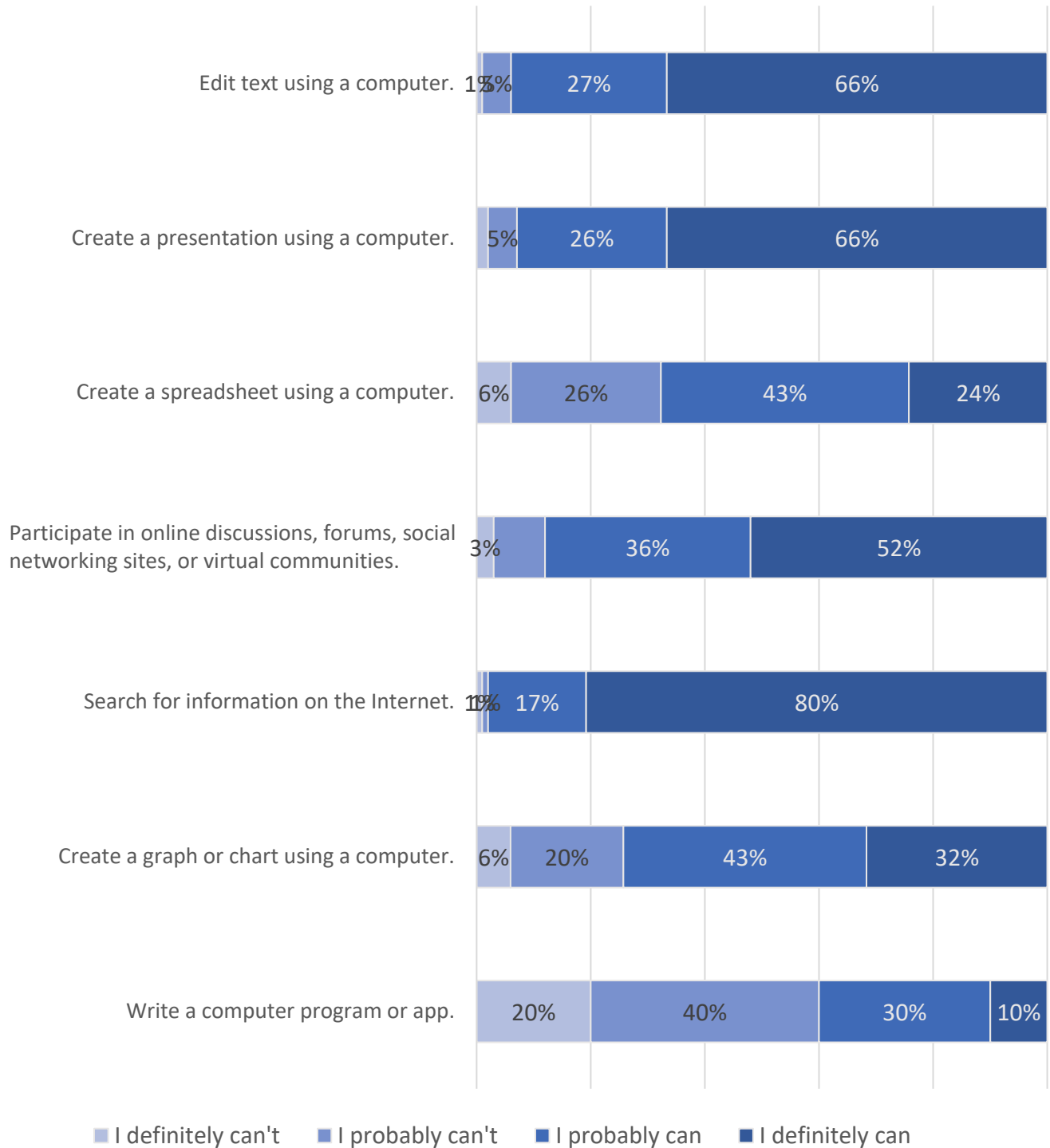


Note: N=836. This figure displays the responses to the survey question: "Thinking about your experience with digital media and digital devices, to what extent do you agree or disagree with the following statements?"

Focus on Computer Science

The figure on this page displays survey data on whether students consider themselves able to perform specific tasks on a computer.

Specific Computer Skills



Note: N=833. This figure displays the responses to the survey question: "Do you think you would be able to do each of these computer tasks?"

Highlights

This section highlights particular strengths and areas of growth for GEAR UP middle schools. Strengths identify places where these schools perform well and where there is a potential to build on a strong existing foundation. Areas for growth identify places where this school lags behind other similar schools, and students may benefit from focused support.

Strengths

- A large majority (71%) of survey students expect to continue their education after high school, and overall, students have positive views of college.
- Compared to similar schools, GEAR UP middle school students perform similarly on EOGs and receive similar grades in 9th grade.
- Most students report that they enjoy and are confident in math (55% enjoy math, 53% are somewhat confident in math) and science (66% enjoy science, 63% are somewhat confident in science)
- Students have a high level of confidence in basic computer skills, and 49% enjoy computer science.

Areas for Growth

- Few students (less than 25%) report that they have spoken to a teacher or counselor about classes to take or high school graduation requirements.
- Although students report enjoying math and STEM, relatively few students participate in these activities in their spare time.
- Most students view math as important for success in college and careers, but less than half want to take advanced math courses in high school (45%). In addition, compared to statewide, few students from this middle school complete Math 1 in middle school or enroll in a course beyond Math 1 in 9th grade.

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EPIC is an interdisciplinary team that conducts rigorous research and evaluation to inform education policy and practice. We produce evidence to guide data-driven decision-making using qualitative and quantitative methodologies tailored to the target audience. By serving multiple stakeholders, including policy-makers, administrators in districts and institutions of higher education, and program implementers we strengthen the growing body of research on what works and in which context. Our work is ultimately driven by a vision of high quality and equitable education experiences for all students, and particularly students in North Carolina.

For more information about this report, email Sarah Fuller (sarah.fuller@unc.edu).



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