

Examining the Impact of Excel Beyond The Bell's Elementary and Middle School Programs

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Prepared by:

Julie Wade, M.S.

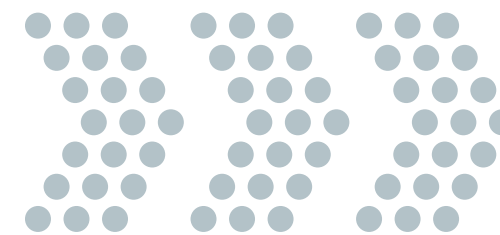
Daniel Princiotta, Ph.D.

Natalie Wolanin, M.Ed.

Shared Accountability

Applied Research and Evaluation





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Evaluation Scope

Background

The Excel Beyond the Bell (EBB) Collaborative brings together a large community of stakeholders, convened by the Montgomery County Collaboration Council, with a major focus on creating and sustaining high-quality out-of-school time programs using positive youth development practices. Students participating in EBB have access to recreational and social programs, academic support, nutritious meals, and bus transportation to get home.

Purpose of Evaluation



To provide a snapshot of how the EBB Elementary and Middle School programs affected students' school attendance and academic performance during the 2021–2022 school year.

Research Questions

1

What were the characteristics of participating EBB students?

2

To what extent did students who participated in the EBB program have a greater school attendance rate than students who did not participate in EBB and did difference vary by student groups?

3

To what extent did students who participated in the EBB program improve their math and reading performance to a greater extent than students who did not participate in EBB and did differences vary by student groups?

4

To what extent did middle school students who participated in the EBB program have a greater 4th marking period average than students who did not participate in EBB?





Program Description

Overview

Excel Beyond the Bell Elementary is a comprehensive, high-quality after-school program that provides opportunities for academic and recreational enrichment. Excel Beyond the Bell (EBB) Middle gives students the chance to try new activities like creative arts, STEM, sports, or leadership, while also having an opportunity to receive support for the subjects they are taking in school.

Montgomery County Recreation, Montgomery County Public Schools (MCPS), Montgomery County Collaboration Council for Children Youth and Families, and Action In Montgomery have partnered to create this program for MCPS students and families.

Elementary

Programs like **Speak Agent** meet the precise vocabulary needs of English and Spanish language learners.

Programs like **Junior Achievement** inspire the next generation with relevant, experiential, hands-on education for the real world.

Activities like **OrganWise Guys** empower kids to be healthy through an evidence-based program shown to improve children's health and academic performance.

Middle

A wide range of activities are available in EBB Middle, including:

- Leadership and Civic Engagement
- Science, Technology, Engineering, and Math (STEM)
- Creative Arts
- Sports and Physical Activity

Participating Schools

Elementary

- Burnt Mills
- Cresthaven
- Gaithersburg
- Harmony Hills
- JoAnn Leleck at Broad Acres
- Roscoe R. Nix
- New Hampshire Estates
- Oak View
- South Lake
- Weller Road
- Wheaton Woods
- Whetstone

Middle

- Argyle
- Roberto W. Clemente
- Forest Oak
- Francis Scott Key
- A. Mario Loiederman
- Montgomery Village
- Neelsville
- Odessa Shannon



A non-experimental design was used to examine the impact of EBB on attendance and academic achievement for elementary and middle school student participants and a comparison group of students.

Outcome Methods



Data & Measures

The EBB participants and the non-participants were compared on school attendance as well as on multiple measures of achievement.



Engagement

Average school attendance rate for 2021-2022 school year



Reading

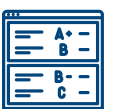
Average spring 2022 MAP-R RIT Score



Math



Average spring 2022 MAP-M RIT Score



Report card grade average

Fourth marking period grade average (middle school)



Sample

- Students who participated in EBB any number of days comprised the elementary (N=908) and middle school (N=819) participant groups.
- Comparison groups were constructed using a matching procedure to identify students who were similar to the EBB participants on demographic characteristics and previous performance.
- Students were selected for the comparison group from within the EBB schools and additional schools that were similar in the percentage of students receiving Free and Reduced-price Meals System (FARMS) and special education services, and Emergent Multilingual Learners (EML).



Analysis

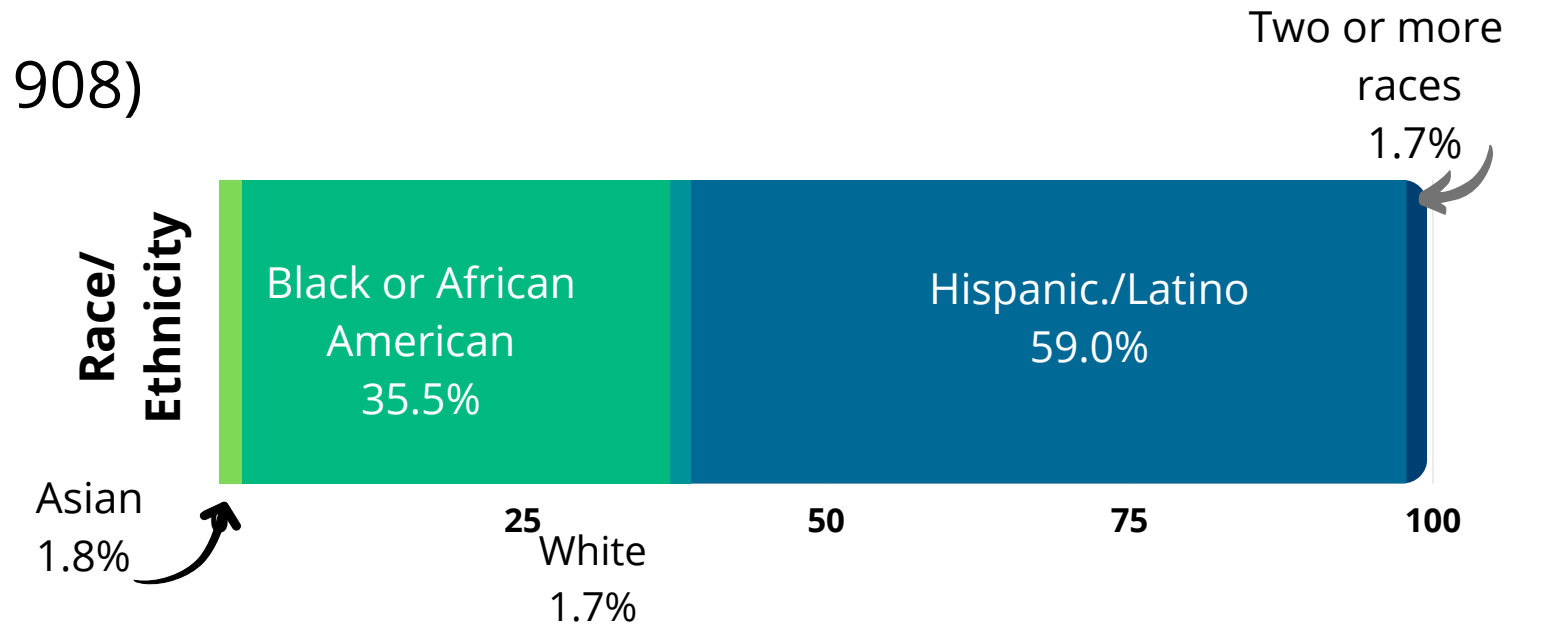
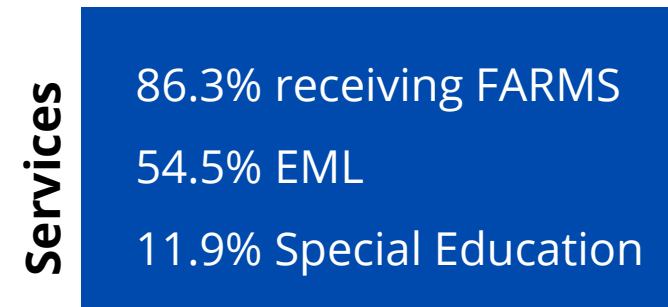
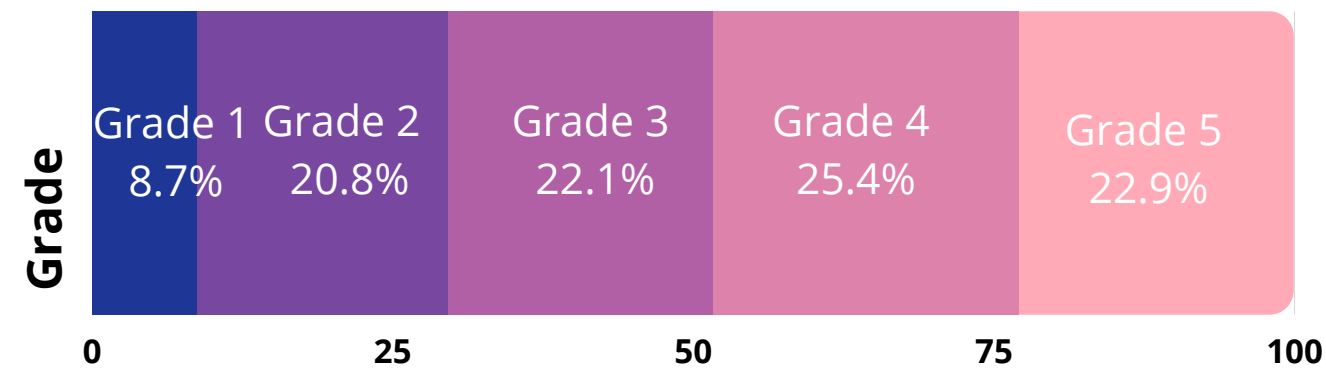
- Descriptive statistics were used to compare attendance and academic progress between the two groups. Differences which were statistically significant were highlighted, and effect sizes (Hedge's *g*) were provided for statistically significant differences.
- The middle school EBB group was divided into high and low program attendance groups to examine the impact of program attendance on student outcomes.



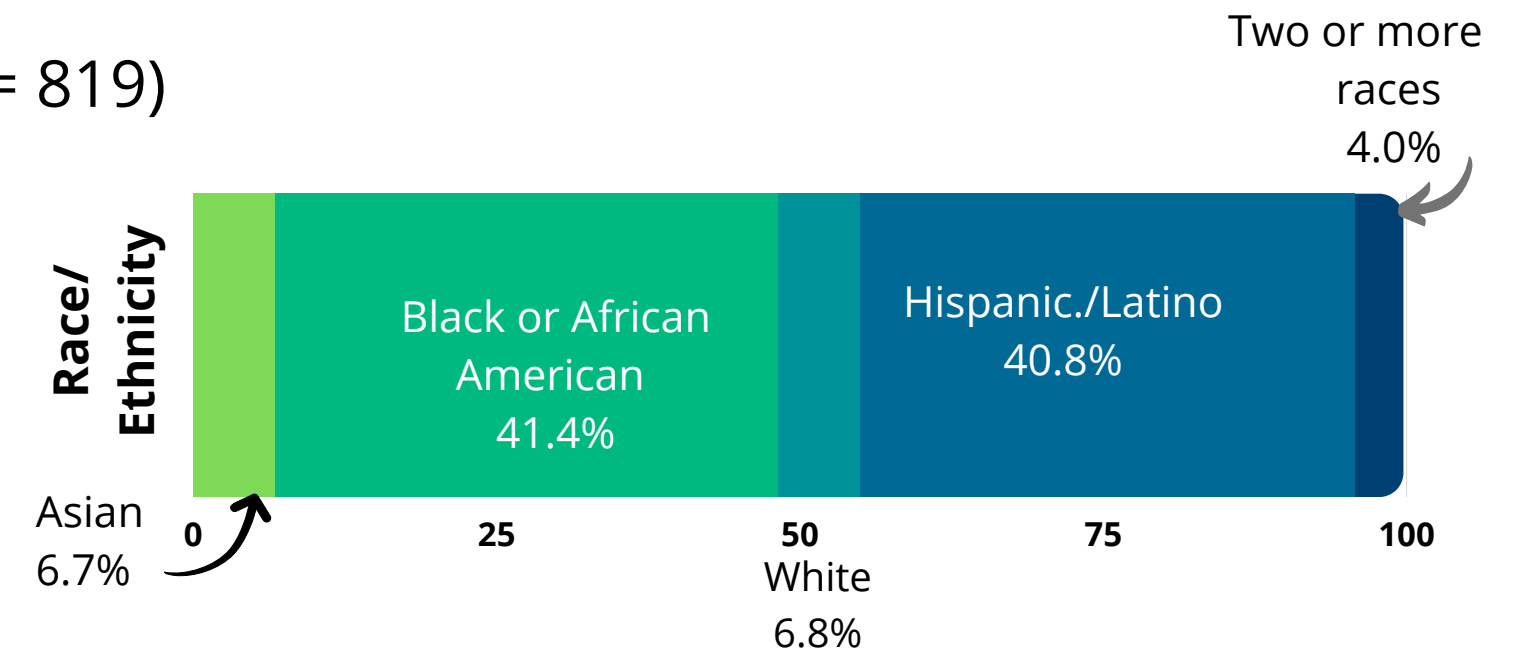
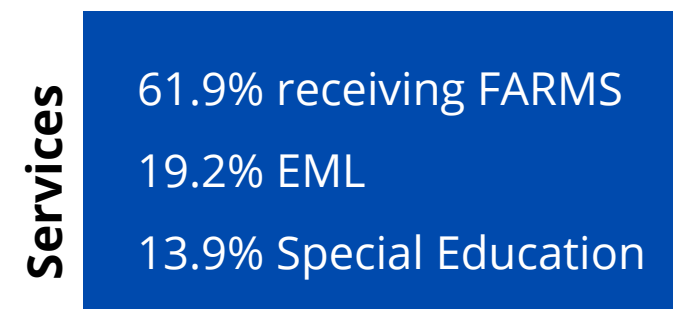
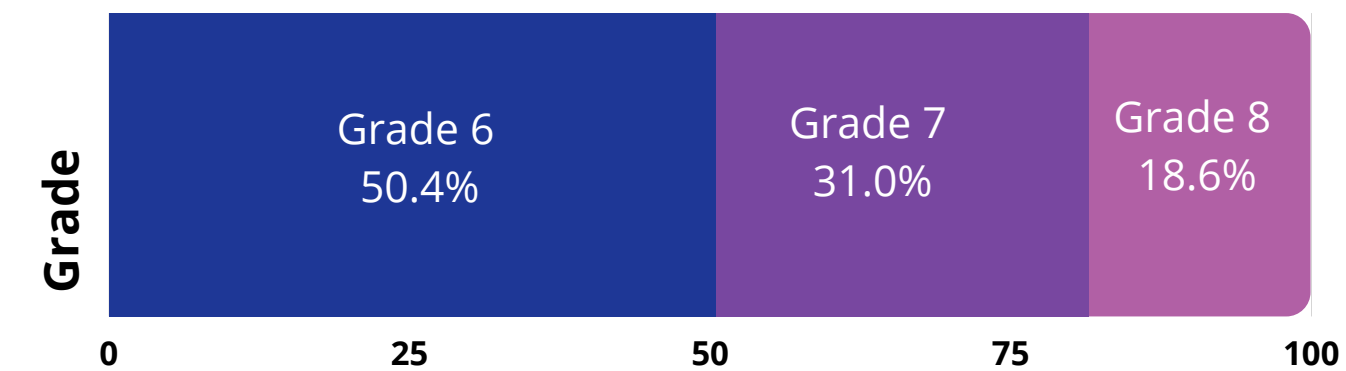
EBB Participant Characteristics

Grade levels and demographic characteristics of EBB participants

EBB Elementary students (N = 908)



EBB Middle School students (N = 819)



Findings

In elementary EBB, participants were evenly distributed across Grades 2 through 5, with a smaller percentage in Grade 1, which only two sites enrolled. In middle school EBB, Grade 6 students made up half of enrollees. The percentages of students receiving services and the race/ethnicity of enrolled students were similar to the overall populations of the participating schools.

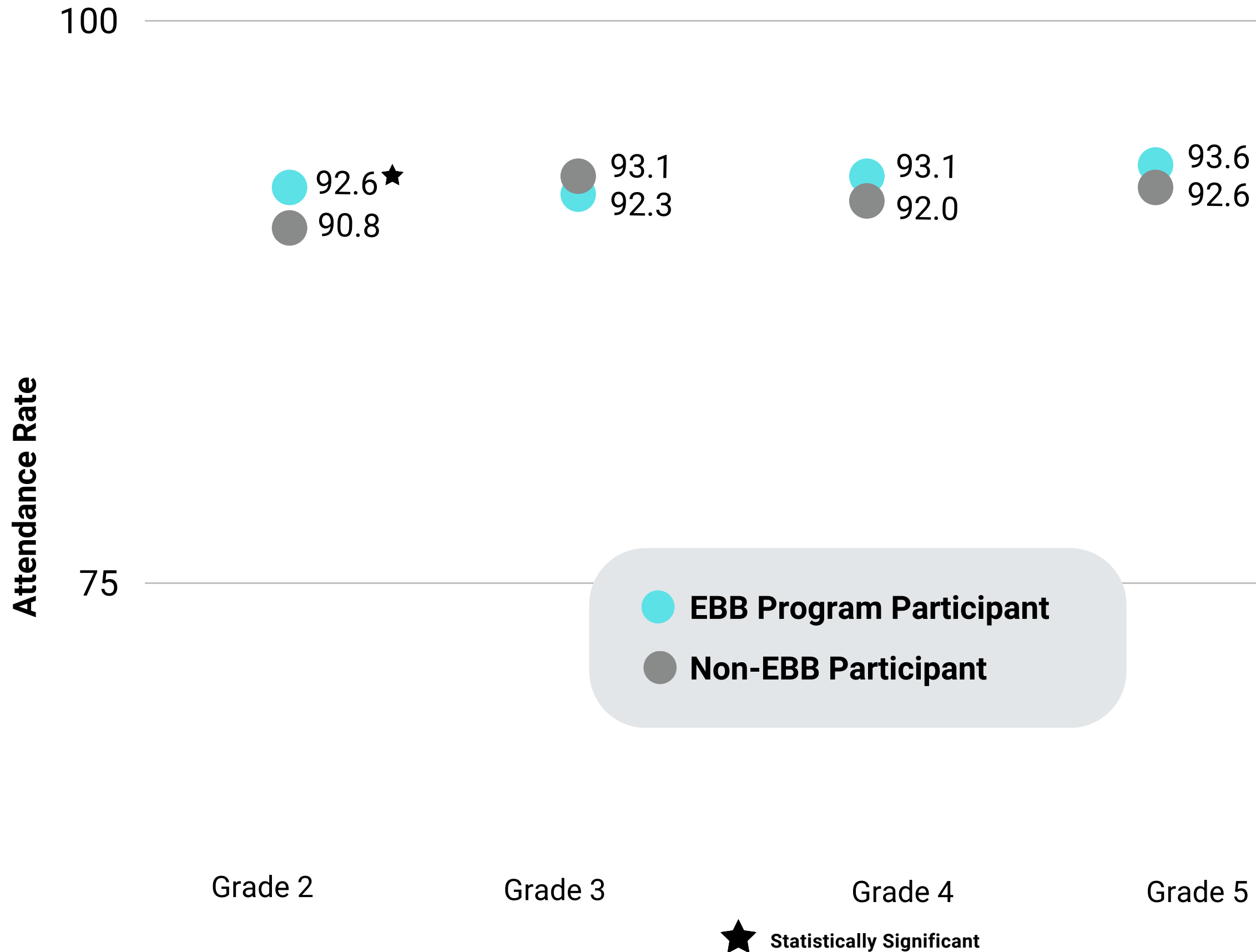


Elementary Attendance

Elementary Attendance by Student Grade



Findings



In Grade 2, EBB participants had an attendance rate that was 1.8 percentage points greater than their non-EBB peers, a statistically significant difference ($p < 0.05$). The effect size was small ($g = 0.25$) but practically significant, translating to 3 school days.

No other statistically significant differences between EBB participants and the comparison group with respect to elementary attendance were detected within grade.

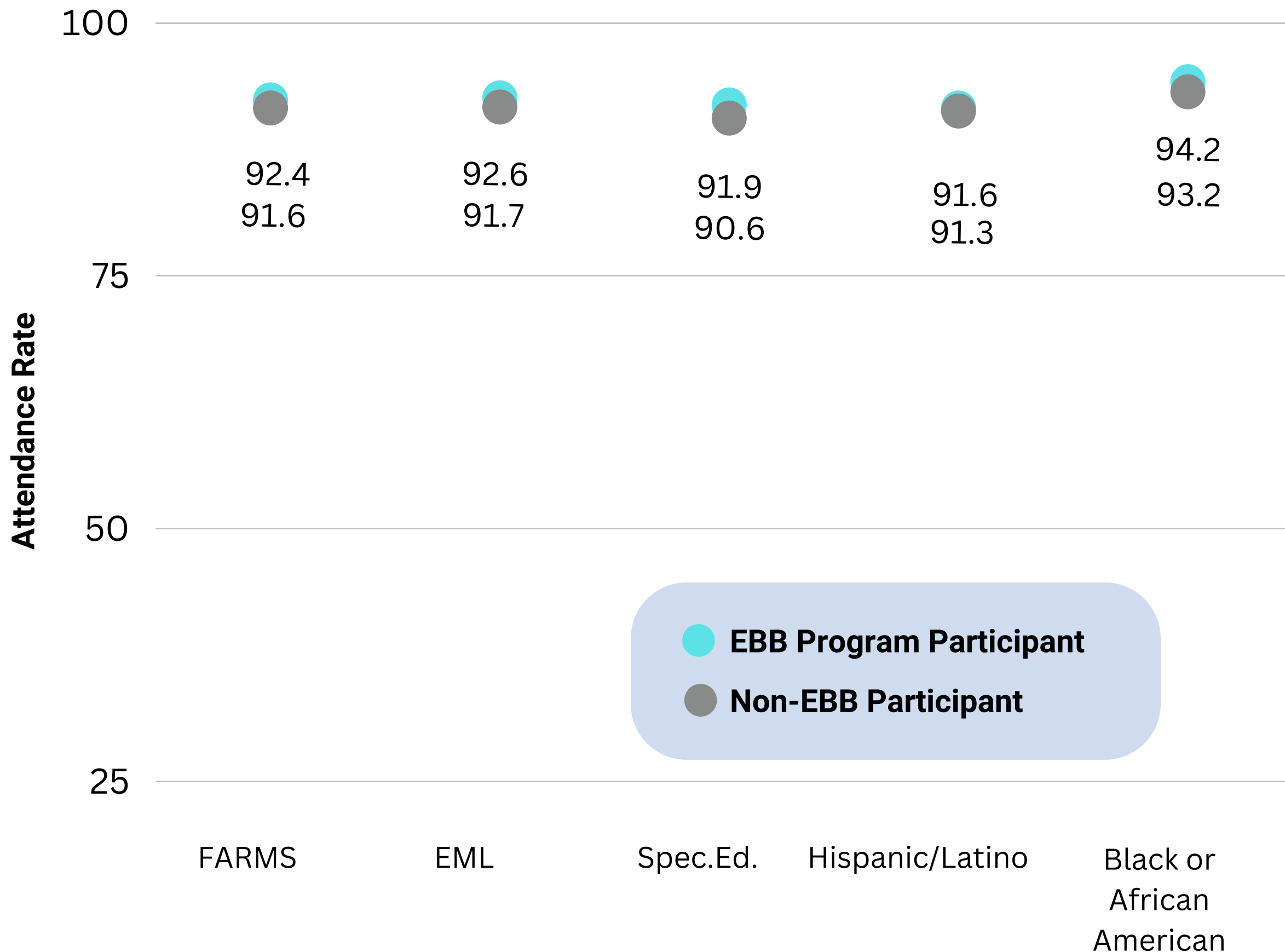


Elementary Attendance

Elementary Attendance by Student Group



Findings



In each of the student groups examined, students participating in EBB had slightly higher attendance rates than a group of comparison students who did not participate (differences ranged from 0.3% for Hispanic/Latino students to 1.3% for students receiving Special Education services), but none of the differences were statistically significant.

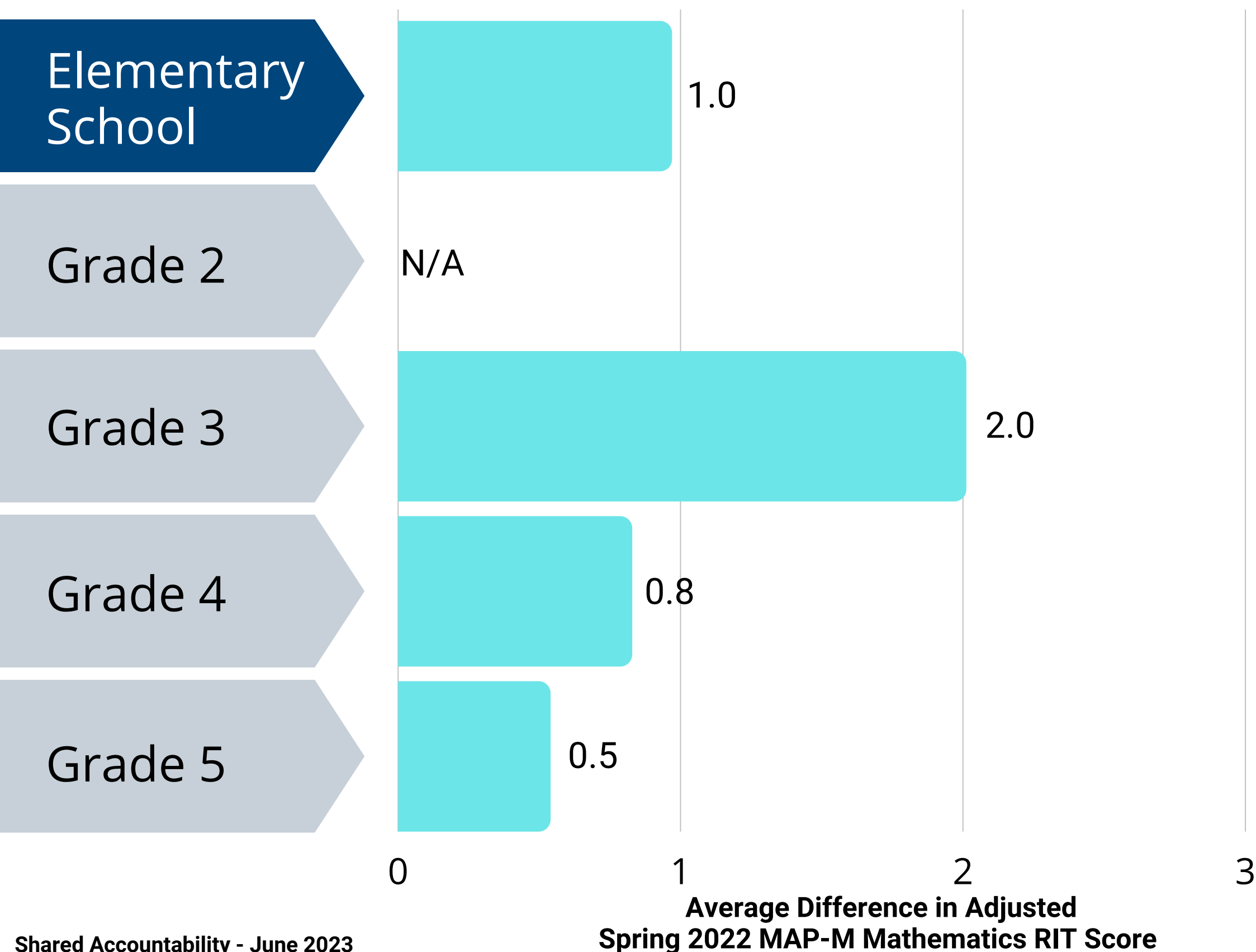
Note: Attendance within student groups was compared across all grades. Among race/ethnic groups, only Hispanic/Latino and Black or African American student groups were large enough for comparison.



Elementary School Reading

EBB participant reading performance relative to comparison students

● EBB vs. Non-EBB ★ Statistically Significant



Findings

No statistically significant differences in Spring 2022 reading scores were detected between EBB elementary school students and matched comparison students, after accounting statistically for grade, prior performance, gender, race/ethnicity, and service receipt. The 1.0 point overall and the 2.0 point Grade 3 differences in favor of EBB participants approached but did not meet statistical significance ($p=0.095$ and $p=0.054$).

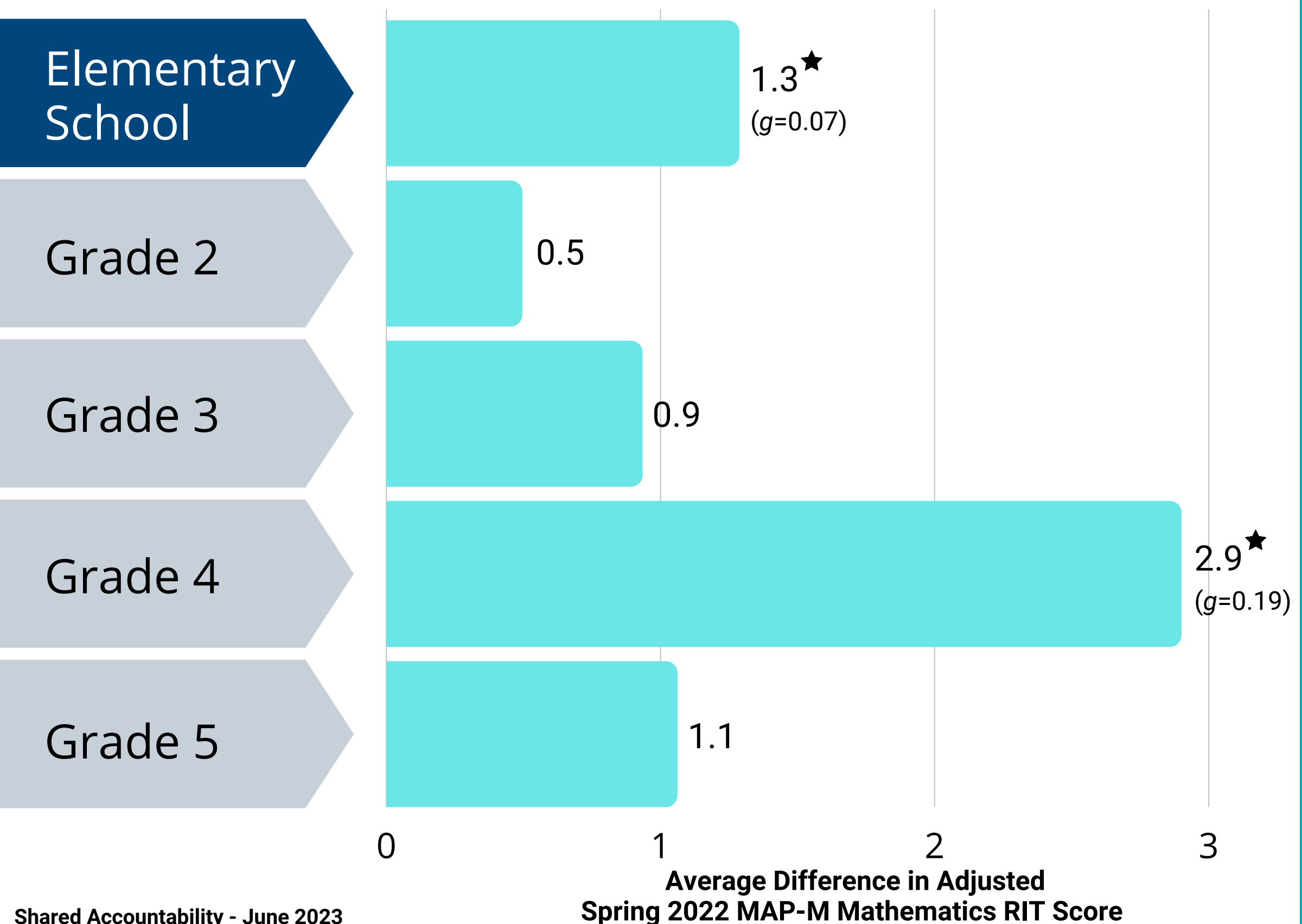
Note: Separate statistical models were run overall and by grade.



Elementary School Math

EBB participant math performance relative to comparison students

● EBB vs. Non-EBB ★ Statistically Significant



Findings

On average, EBB elementary school students had higher spring math scores than matched comparison students, after accounting statistically for grade, prior performance, gender, race/ethnicity, and service receipt. On average, EBB students scored an adjusted 1.3 points higher on the spring MAP-M than did comparison students ($p=0.003$). This represented an extremely small effect ($g=0.07$), corresponding to a 2.9 percentile point increase relative to an average (50th percentile) comparison student. Given its magnitude, this effect may not be of practical educational significance.

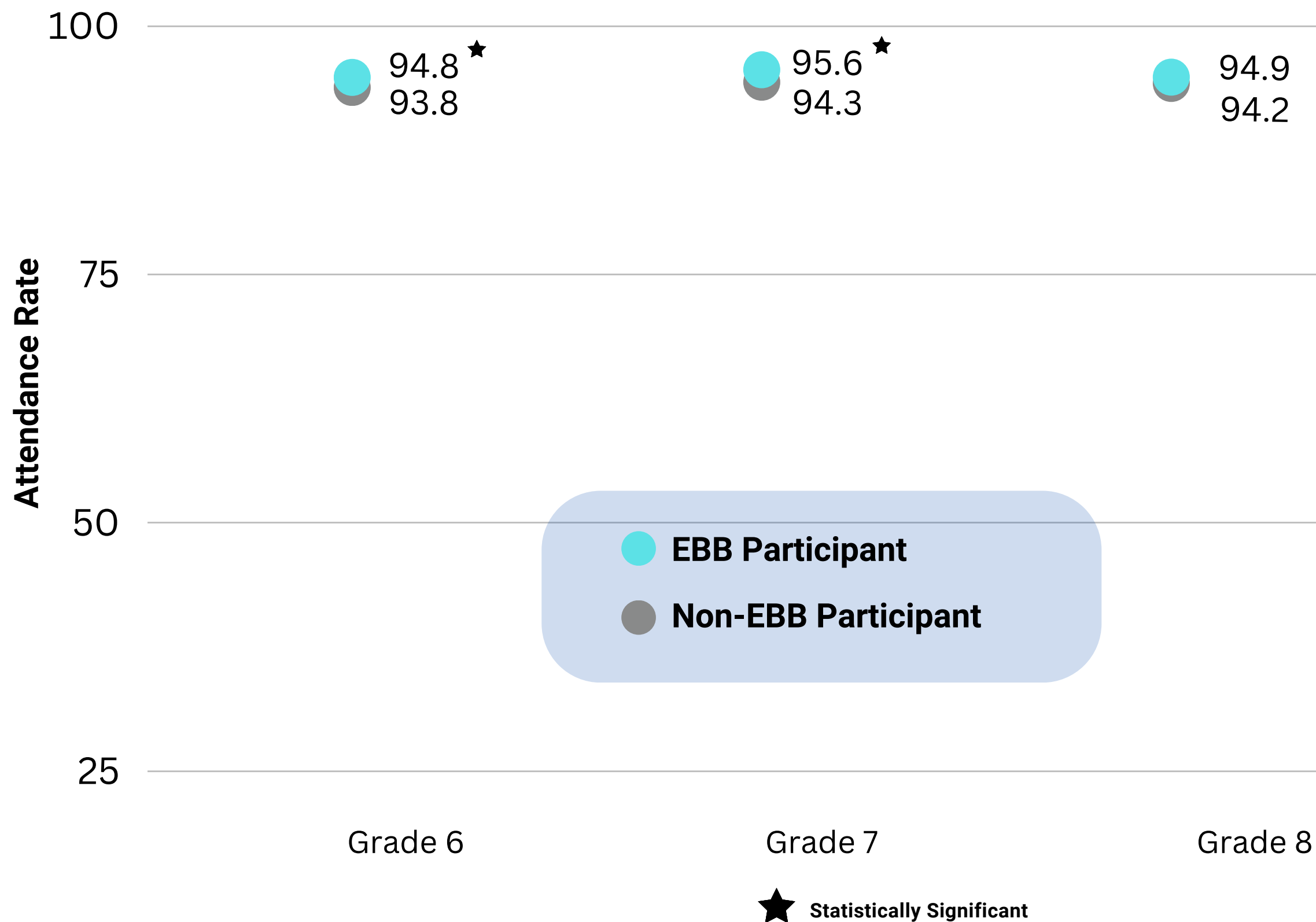
By grade, the largest and only statistically significant difference was evident in Grade 4. Among Grade 4 students, EBB participants scored an adjusted 2.9 points higher on the spring MAP-M than did comparison students ($p<0.001$). This represented a very small, bordering on small effect, corresponding to a 7.5 percentile point increase relative to an average comparison student. This is a practically meaningful effect in education contexts.

Note: Separate statistical models were run overall and by grade.



Middle School Attendance

Middle School Attendance by Student Grade

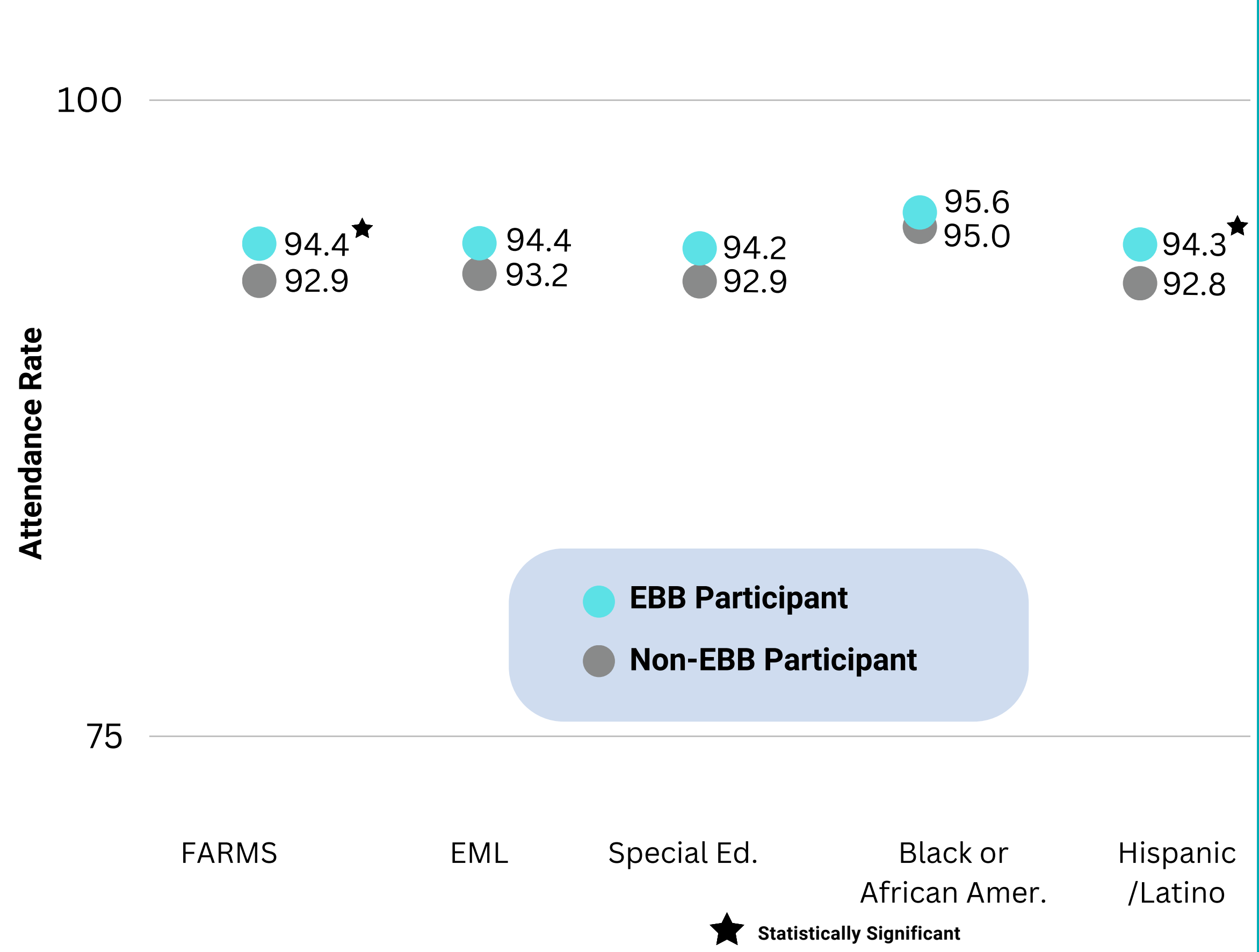


Findings

In each of the middle school grades, the students with high EBB program attendance had the greatest school attendance rates for the year. In Grades 6 and 7, the differences between attendance rates of EBB students and students not attending EBB were statistically significant ($p=0.04$ and $p=0.04$, respectively). The effect sizes were very small ($g=0.14$ and $g=0.17$, respectively), and corresponded to about 1.7 additional days of attendance.

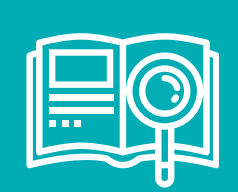
Note: Unadjusted attendance rates are presented. Statistical significance was tested in a model accounting for baseline student performance, gender, Individualized Education Plan status, receipt of English Language Development services, receipt of Free and Reduced-Price Meals System services, and race/ethnicity variables.

Findings



Among both students receiving FARMS and students identifying as Hispanic/Latino, EBB participants had statistically significantly higher attendance rates than did non-participants ($p=0.001$ and $p=0.009$, respectively). The effect sizes were small ($g=0.20$ each), and corresponded to about 2.3–2.5 additional days of attendance.

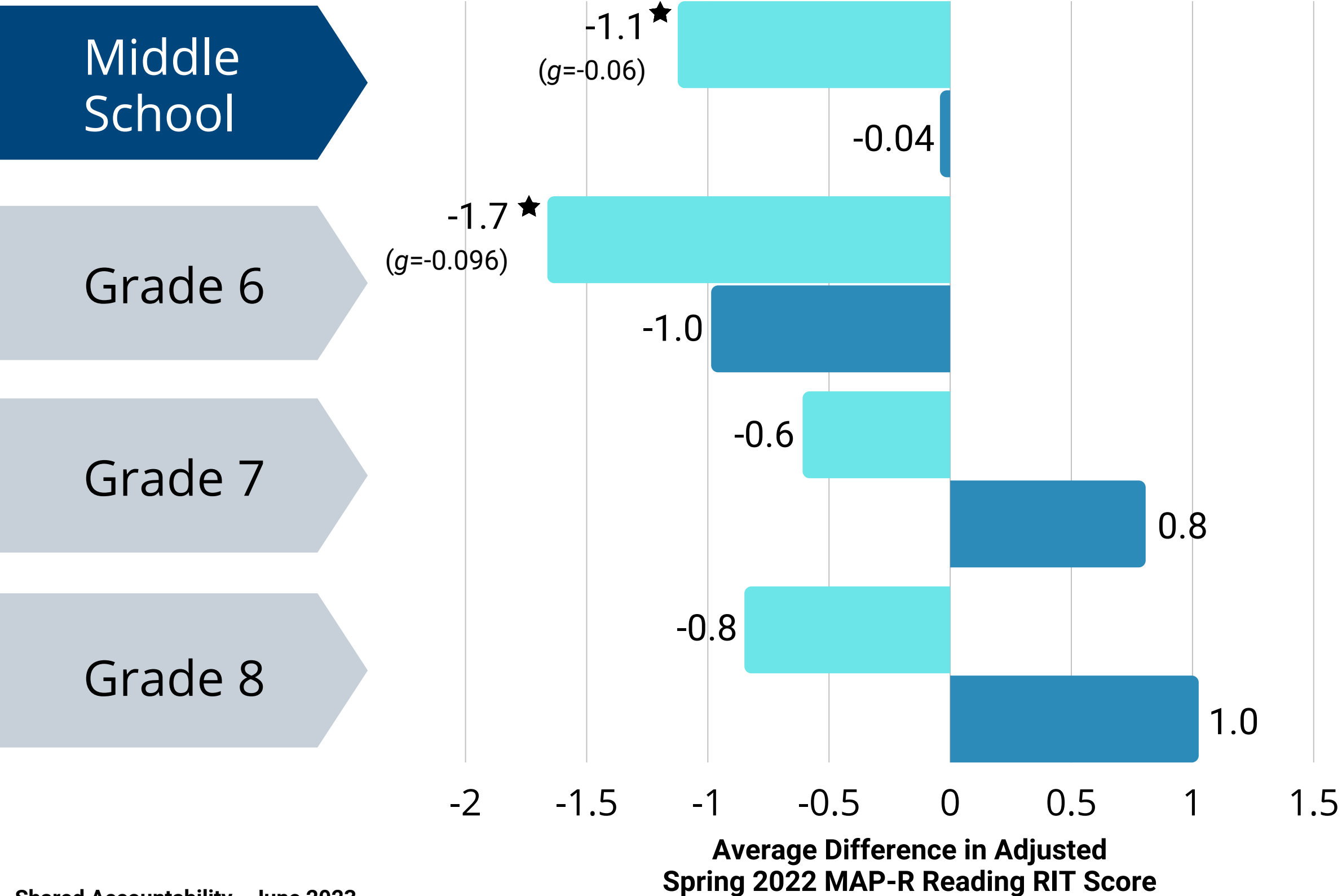
Note: Attendance within student groups was compared across all grades. Among racial/ethnic groups, only Hispanic/Latino and Black or African American student groups were large enough for comparison. Unadjusted attendance rates are presented. Statistical significance was tested in models accounting for baseline student performance, gender, Individualized Education Plan status, receipt of English Language Development services, receipt of Free and Reduced-Price Meals System services, and race/ethnicity variables.



Middle School Reading

EBB participant reading performance relative to comparison students

★ Statistically Significant ● EBB vs. Non-EBB ● EBB High Attendance vs. Non-EBB



Findings

On average, EBB middle school students had lower spring reading scores than matched comparison students, after accounting statistically for grade, prior performance, gender, race/ethnicity, and service receipt. On average, EBB students scored an adjusted 1.1 points lower on the spring MAP-R than did comparison students ($p=0.015$). This relationship was driven primarily by Grade 6 student results, as 50% of middle school EBB students were enrolled in Grade 6 and, on average, grade 6 EBB students scored an adjusted 1.7 points lower on the spring MAP-R than did comparison students ($p=0.012$). The overall and Grade 6 effects were extremely small ($g=-0.06$ and $g=-0.096$, respectively), corresponding to 2.6 and 3.8 percentile point declines relative to an average comparison student, and thus may not be of practical educational significance.

No statistically significant differences were detected between EBB students with high program attendance and comparison students overall or by grade.

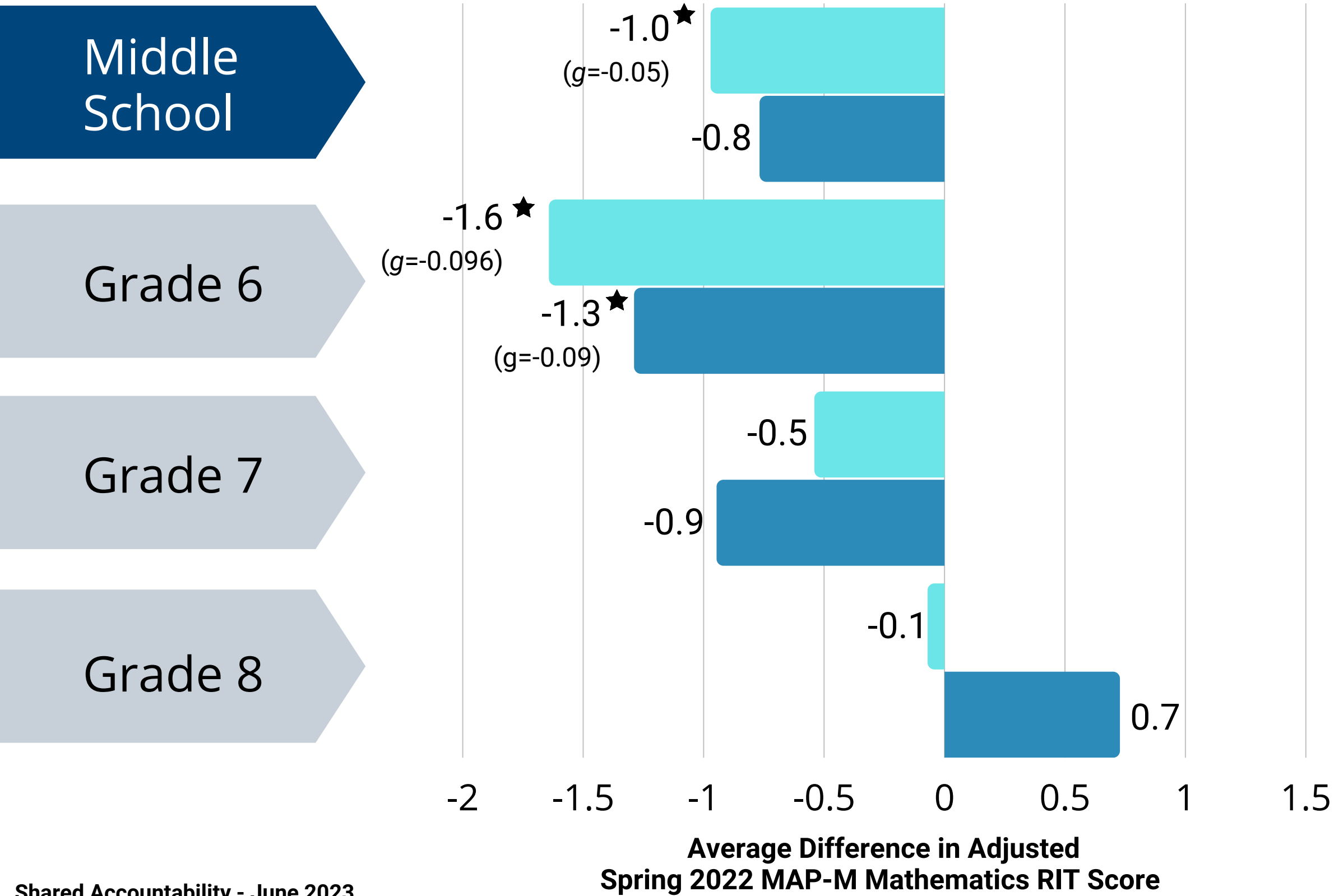
Note: Students with program attendance above the median were classified as high attendance EBB and students with program attendance below the median were classified as low attendance EBB. Separate statistical models were run overall and by grade for any EBB participation and for EBB participation with low or high attendance.



Middle School Math

EBB participant math performance relative to comparison students

★ Statistically Significant ● EBB vs. Non-EBB ● EBB High Attendance vs. Non-EBB



Findings

On average, EBB middle school students had lower spring math scores than matched comparison students, after accounting statistically for grade, prior performance, gender, race/ethnicity, and service receipt. On average, EBB students scored an adjusted 1.0 points lower on the spring MAP-M than did comparison students ($p=0.010$). This relationship was driven primarily by Grade 6 student results, as 50% of middle school EBB students were enrolled in Grade 6 and, on average, grade 6 EBB students scored an adjusted 1.6 points lower on the spring MAP-M than did comparison students ($p=0.002$). The overall and Grade 6 effects were extremely small ($g=-0.05$ and $g=-0.096$, respectively), corresponding to 2.1 and 3.7 percentile point declines relative to an average comparison student, and thus may not be of practical educational significance.

Grade 6 EBB students with high program attendance also had adjusted spring math scores that were lower, on average, than matched comparison students; the average difference was -1.3 points, corresponding to a 2.9 percentile point decline relative to an average Grade 6 comparison student. This decline may not be of practical educational significance.

Note: Students with program attendance above the median were classified as high attendance EBB and students with program attendance below the median were classified as low attendance EBB. Separate statistical models were run overall and by grade for any EBB participation and for EBB participation with low or high attendance.