

## Appendix A-2. Outcome Measures Used in the Meta-Analysis

Measure	Type	Source
Took Calculus/Pre-Calculus	Dichotomous variable (1 for checking “Other advanced courses such as Pre-Calculus or Calculus”)	Response to survey item: Which of these best describe the MATH courses you have taken during high school (including those you are currently taking?)
Took Chemistry	Dichotomous variable (1 for checking “Chemistry I” or “Advanced Chemistry such as Chemistry II, AP or IB”)	Response to survey item: Which of these best describe the MATH courses you have taken during high school (including those you are currently taking?)
Took Physics	Dichotomous variable (1 for checking “Physics I” or “Advanced Physics such as Physics II, AP or IB”)	Response to survey item: Which of these best describe the MATH courses you have taken during high school (including those you are currently taking?)
Took a Technology Course	Dichotomous variable	Response to survey item: Have you taken any elective courses in Technology (including Computer Science) in high school?
Took an Engineering Course	Dichotomous variable	Response to survey item: Have you taken any elective courses in Engineering while in high school?
Number of extracurricular STEM activities participated in	Count of activities (Never to 0, all other choices to 1): Never to Almost every day	Response to survey item: In your junior year, did you participate in any of the following types of extra-curricular activities? School math, science or technology club (for example, math club or robotics club) Math or science competition Math, science, or computer camp Environmental projects (for example, monitoring water quality)
Number of informal STEM activities outside of school	Count of activities (0 for Never to no, all other choices to 1 for each activity)	Response to survey item: In the PAST TWO YEARS, how often have you done the following activities outside of school? (Options: Never to Almost every day) Read science books and magazines Made up your own experiment Designed (thought up) and built something on your own Taken apart a toy or appliance to see how it worked Accessed websites for computer technology information Visited a science museum, planetarium or environmental center
Science identity	Average of 4-point scale survey items	Response to survey items: (Options: Strongly disagree [1] to Strongly agree [4]) You see yourself as a science person Others see you as a science person
Math identity	Average of 4-point scale survey items	Response to survey items: (Options: Strongly disagree [1] to Strongly agree [4]) You see yourself as a math person Others see you as a math person

Measure	Type	Source
Favorite course was STEM	Dichotomous variable (1 for responding science, mathematics, engineering, or computer education/computer science)	Response to survey item: Not including lunch or study periods, what has been your MOST FAVORITE subject in high school? (11 subject options)
Science self efficacy	Average of 4-point scale survey items: strongly disagree [1] to strongly agree [4])	How much do you agree or disagree with the following statements about that SCIENCE course? You did well on tests in this course. You understood the most difficult material presented in the textbook used in this course.
Math self efficacy	Average of 4-point scale survey items: strongly disagree [1] to strongly agree [4])	How much do you agree or disagree with the following statements about that MATH course? You did well on tests in this course. You understood the most difficult material presented in the textbook used in this course.
Got mostly As or As and Bs in Science	Dichotomous variable (1 for “Mostly As” or “A mix of As and Bs”; all others to 0)	Response to survey item with 7-point scale: How are your grades in the following subjects? Science
Got mostly As or As and Bs in Science	Dichotomous variable (1 for “Mostly As” or “A mix of As and Bs”; all others to 0)	Response to survey item with 7-point scale: How are your grades in the following subjects? Math
Science Achievement Test Score	Continuous variable	North Carolina and Ohio: ACT Science score from state records Texas: Grade 11 TAKS Science score from state records
Mathematics Achievement Test Score	Continuous variable	North Carolina and Ohio: ACT Mathematics score from state records Texas: Grade 11 TAKS Mathematics score from state records
Plan to attend a 4-year college next year	Dichotomous variable (1 for “Enroll in a bachelor’s degree program in a college or university”; all others to 0)	Response to survey item: What do you plan to do your first year after high school? (10 response options including “not sure”)
Plan to earn a master’s or higher degree	Dichotomous variable (1 for Master’s degree, Ph.D., M.D. law degree of other high level professional degree after at least a Bachelor’s degree; all others to 0)	Response to survey item: As things stand now, how far in school do you think you will get? (5 response options)
Very interested in a STEM career	Dichotomous variable (1 if selected “Very interested” for one or more STEM options)	Response to survey item: How interested are you in jobs related to the following subjects? (Not interested, Somewhat interested, Very interested, Not sure yet)