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WWC Review of the Report "High School Students as Mentors: Findings from the Big Brothers Big Sisters School-Based Mentoring Impact Study"[1]

The findings from this review do not reflect the full body of research evidence on school-based mentoring.

What is this study about?

The study examined the effects of Big Brothers Big Sisters (BBBS) school-based mentoring programs on students in grades 4–9 from 71 schools working with ten BBBS agencies across the country.

Within each of the 71 schools, students were randomly assigned to either an intervention group that received help from volunteer mentors in the 2004–05 school year, or to a comparison group that received mentoring services a year later, in the 2005–06 school year.

Thirty of the 71 schools used youth mentors (high school students), 24 schools used adult mentors, and the remaining 17 schools used a combination of youth and adult mentors. This review is based on the 54 schools that used either youth or adult mentors (but not both).

In schools that used youth mentors, the study sample included 418 students (212 intervention, 206 comparison). In schools that used adult mentors, the sample included 514 students (258 intervention, 256 comparison). Analysis sample sizes ranged from 148 to 257 students per condition, depending on the outcome measure and groups being compared.

Study authors examined the effects of BBBS school-based mentoring by comparing students on 31 outcomes covering the school engagement and behavior domain. Nineteen of the 31 outcomes were eligible to be reviewed by the WWC and are included in this WWC report.[2]

Features of Big Brothers Big Sisters (BBBS) School-Based Mentoring

BBBS school-based mentoring programs are designed to foster relationships between volunteer community mentors and students (mentees). The programs use both youth and adult mentors. During regularly scheduled meetings with mentors, mentees could determine how to spend their time together or choose from a variety of activities provided in the BBBS program guidelines. Activities were primarily non-academic and varied widely, including indoor games, tutoring, field trips and community service. Most mentors spent time having casual conversations with their mentees. Meetings typically took place after school on a weekly basis, though some meetings occurred less frequently and/or during school.

What did the study find?

The study authors reported that intervention group students in the 24 schools that used adult mentors showed statistically significantly greater improvement in school engagement and behavior than comparison group students (on eight different measures). However, the WWC found that these effects were not statistically significant after adjusting for multiple comparisons. The study did not report any statistically significant impacts on intervention group students in the other 30 schools that used youth mentors.

The study reported that across all 54 schools, intervention group students who worked with an adult mentor showed significantly greater improvement than students who worked with a youth mentor in school engagement and behavior (based on two statistically significant findings). However, the WWC found that these effects were not statistically significant after adjusting for multiple comparisons.

WWC Rating

The research described in this report meets WWC evidence standards without reservations

Strengths: The study is a well-implemented randomized controlled trial that demonstrates the effectiveness of BBBS mentoring relative to a business-as-usual comparison group. This part of the study meets WWC standards without reservations.

Cautions: The study also examined the effects of using youth mentors versus adult mentors for BBBS school-based mentoring. Because schools were not randomly assigned to use youth or adult mentors, the WWC considers the analysis between the outcomes of students who received different types of mentoring to be based on a quasi-experimental design. The comparison of the effects of adult mentors versus youth mentors provides evidence that meets WWC standards with reservations for a subset of the outcomes shown in this WWC report.

Appendix A: Study details

Herrera, C., Kauh, T. J., Cooney, S. M., Grossman, J. B., & McMaken, J. (2008). *High school students as mentors: Findings from the Big Brothers Big Sisters school-based mentoring impact study*. Philadelphia: Public/Private Ventures.

Additional source:

Herrera, C., Grossman, J. B., Kauh, T. J., Feldman, A. F., McMaken, J., & Jucovy, L. Z. (2007). *Making a difference in schools: The Big Brothers Big Sisters school-based mentoring impact study.* Philadelphia: Public/Private Ventures.

Setting	This study was conducted in 71 schools that worked with Big Brothers Big Sisters (BBBS) organizations in ten states across the country. This WWC report (and the study report cited above) focuses on the subset of 54 schools in which either youth mentors or adult mentors were available (but not both types of mentors within a given school).
Study sample	Thirty of the 71 study schools used youth mentors (high school students), 24 of the study schools used adult mentors, and 17 of the study schools used a combination of youth and adult mentors. Within each school, students were randomly assigned either to an intervention group that received mentoring services during the 2004–05 school year or to a comparison group that was put on a waitlist to receive mentoring services a year later, in the 2005–06 school year. The study sample in the 30 schools that used youth mentors included 212 intervention students and 206 comparison students. The study sample in the 24 schools that used adult mentors included 258 intervention students and 256 comparison students. Analysis sample sizes ranged from 148 to 257 students per condition, depending on the outcome measure and groups being compared.
Intervention group	Volunteer youth and adult mentors met with their mentees approximately once per week during or after school. Activities during these meetings were primarily selected by the mentor and/or the mentees within the guidelines of the program and included indoor games, casual conversation, tutoring, field trips, and community service.
Comparison group	Comparison students were placed on a waitlist for participation in the mentoring program during the following school year (2005–06). There was no additional information provided about the experiences of the students on the waitlist.
Outcomes and measurement	Surveys were administered at three time points: fall 2004 (baseline), the end of 2004–05 school year (follow-up 1), and late fall 2005 (follow-up 2); however, the report included results only for the baseline and follow-up 1 periods. Thirty-one outcomes were included in the report. Of the 31 outcomes, 19 were eligible to be reviewed by the WWC and examined a single domain: school engagement and behavior. The school engagement and behavior domain included the following outcomes: absence without an excuse, academic self-esteem, assertiveness, classroom effort, college expectations, connectedness to school, difficulty in class, engaging in serious school misconduct, misconduct outside of school, number of assignments completed, positive classroom affect, prosocial behavior, quality of class work, scholastic efficacy, school preparedness, skipping school, social acceptance, substance use, and task orientation. For a more detailed description of these outcome measures, see Appendix B.

Support for implementation

Although several references are made regarding training on the BBBS program in the 2007 and 2008 reports (e.g., training was provided before and during match meetings), detailed descriptions of training and support were not provided.

Reason for review

This study was identified for review by the WWC because it was suggested as a promising intervention through the WWC website's help desk.

Appendix B: Outcome measures for the school engagement and behavior domain

School engagement and behavior	
Absence Without Excuse, Teacher Report	The teacher reports the number of times the student had been absent from class without an excuse. The source of this measure was not provided, nor was the internal consistency of the measure.
Academic Self-Esteem, Child Report	Academic self-esteem was reported by the student across four items (e.g., "I am as good a student as I would like to be.") using the Self-Esteem Questionnaire (SEQ), short form (Dubois, Feiner, Brand, Phillips, & Lease, 1996). Internal consistency for the current sample was 0.78.
Assertiveness, Teacher Report	The teacher rates the student across eight items reflecting assertiveness on the Teacher–Child Rating Scale (TCRS) developed by Hightower et al. (1986). Internal consistency for the current sample was 0.83.
Classroom Effort, Teacher Report	The teacher rates the student on six items (such as "This child works hard in my class.") using the Research Assessment Package for Schools–Teachers (RAPS-T) created by the Institute for Research and Reform in Education (IRRE) (1998). Internal consistency for the current sample was 0.90.
College Expectations, Child Report	The student reports college expectations across two items (such as "How sure are you that you will go to college?"). The unnamed measure was developed by Dynarski et al. (2001) and was adapted by Vandell (2003). Internal consistency for the current sample was 0.84.
Connectedness to School, Child Report	The student reports on connectedness to school using the School Connectedness measure (Karcher, 2003), as well as three items adapted from the School Liking Scale (Eccles, n.d.). Internal consistency for the current sample was 0.84.
Difficulty in Class, Teacher Report	The teacher reports on 13 items reflecting classroom misbehavior using the TCRS (Hightower et al., 1986). The 13 items stem from the Classroom Misbehavior and Behavior Control subscales. Internal consistency for the current sample was 0.94.
Engaging in Serious School Misconduct, Teacher Report	The teacher reports whether (and the number of times) the student has been referred to the principal's office, suspended, or engaged in physical fighting. This outcome measure was dichotomized. The unnamed measure was developed by Herrera (2004). Internal consistency was not provided for this measure.
Misconduct Outside of School, Child Report	The student reports misconduct outside of school across 10 items using statements such as, "In the last 3 months, have you taken something on purpose that didn't belong to you?" The measure is unnamed and was developed by Brown, Clasen, and Eicher (1986) and adapted by Posner and Vandell (1994). Internal consistency was not provided for this measure.
Number of Assignments Completed, Teacher Report	The teacher rates the student's classwork on the number of homework assignments and in-class work completed using a 5-point scale ranging from well below average (1) to well above average (5). The source of this measure was not provided. Internal consistency for the current sample was 0.94.
Positive Classroom Affect, Teacher Report	The teacher rates classroom affect across three items (such as "In my class, this child appears angry.") on an unnamed measure by Herrera (2004). Internal consistency for the current sample was 0.77.
Prosocial Behavior, Teacher Report	The teacher rates the student's prosocial behavior (e.g., "This child compromises in conflicts with classmates.") across eight items using the Child Behavior Scale (Ladd & Profilit, 1996). Internal consistency for the current sample was 0.92.
Quality of Class Work, Teacher Report	The teacher rates the student's classwork on completeness, neatness, and correctness over a 4-week period. The source of this measure was not provided. Internal consistency for the current sample was 0.90.
Scholastic Efficacy, Child Report	The student reports across six items (e.g., "I do very well at my classwork.") adapted from the Manual for the Self-Perception Profile for Children (Harter, 1985). Internal consistency for the current sample was 0.72.
School Preparedness, Teacher Report	The teacher rates the student's preparedness for school across four items, such as displaying age-appropriate attention span. The source of this measure was not provided. Internal consistency for the current sample was 0.85.
Skipping School, Child Report	The student reports whether or not they have skipped school without permission in the last 3 months. The author and title of the measure were not provided, nor was the internal consistency of the measure.
Social Acceptance, Teacher Report	The teacher rates the student across three items adapted from the Self-Perception Profile for Children (Harter, 1985). Internal consistency for the current sample was 0.92.
Substance Use, Child Report	The student reports use of alcohol, tobacco, marijuana, and other drugs, using statements such as, "In the last 3 months, have you drunk alcohol without your parents knowing?" This measure was developed by Policy Studies Association (2003) and was reported as a dichotomous variable indicating whether they had ever engaged in any of the behaviors. Internal consistency was not provided for this measure.

Task Orientation, Teacher Report	The teacher rates the student's task orientation across 13 items on the TCRS (Hightower et al., 1986). Internal consistency for the current sample was 0.93.

Table Notes: Description of outcome measures derive from the Herrera et al. (2007) report. Seven outcomes in the Academic Performance domain, including overall academic performance, five subdomains of Academic Performance (written and oral language, reading, science, social studies, and math), and GPA were not considered eligible for this WWC report because they were teacher- and child-reported scores. Five additional outcomes in the School Engagement and Behavior domain measured attitudes and were therefore not eligible for inclusion: teacher-student relationship quality (both teacher- and child-reported), sense of emotional support from peers, self-worth, and relationship with parent.

Appendix C: Study findings for the school engagement and behavior domain

Domain and outcome measure	Study sample	Sample size	Mean (standard deviation)		WWC calculations			*p*-value
			Intervention group	Comparison group	Mean difference	Effect size	Improvement index	
School engagement and behavior: Adult mentor group vs. comparison group								
Absence Without Excuse, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 344 students	0.12 (0.33)	0.20 (0.40)	–0.08	–0.22	–9	< 0.05
Academic Self-Esteem, Child Report	Adult mentor group vs. comparison group	24 schools/ 475 students	3.22 (0.70)	3.18 (0.70)	0.04	0.06	+2	> 0.05
Assertiveness, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 385 students	3.39 (0.72)	3.47 (0.70)	–0.08	–0.11	–4	> 0.05
Classroom Effort, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 383 students	2.90 (0.74)	2.76 (0.83)	0.14	0.18	+7	< 0.01
College Expectations, Child Report	Adult mentor group vs. comparison group	24 schools/ 469 students	3.27 (0.88)	3.17 (1.01)	0.10	0.11	+4	< 0.05
Connectedness to School, Child Report	Adult mentor group vs. comparison group	24 schools/ 510 students	3.06 (0.61)	3.10 (0.63)	–0.04	–0.06	–3	> 0.05
Difficulty in Class, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 387 students	2.23 (0.73)	2.33 (0.81)	–0.10	–0.13	–5	< 0.05
Engaging in Serious School Misconduct, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 378 students	0.15 (0.35)	0.20 (0.40)	–0.05	–0.13	–5	> 0.05
Misconduct Outside of School, Child Report	Adult mentor group vs. comparison group	24 schools/ 475 students	0.90 (0.31)	0.91 (0.29)	–0.01	–0.03	–1	> 0.05
Number of Assignments Completed, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 383 students	3.07 (0.99)	2.87 (1.10)	0.20	0.19	+8	< 0.01
Positive Classroom Affect, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 382 students	3.19 (0.69)	3.21 (0.71)	–0.02	–0.03	–1	> 0.05
Prosocial Behavior, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 384 students	3.16 (0.59)	3.08 (0.66)	0.08	0.13	+5	< 0.05
Quality of Class Work, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 383 students	3.03 (0.93)	2.86 (0.98)	0.17	0.18	+7	< 0.01
Scholastic Efficacy, Child Report	Adult mentor group vs. comparison group	24 schools/ 474 students	2.76 (0.61)	2.72 (0.60)	0.04	0.07	+3	> 0.05
School Preparedness, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 381 students	3.49 (0.97)	3.41 (0.95)	0.08	0.08	+3	> 0.05
Skipping School, Child Report	Adult mentor group vs. comparison group	24 schools/ 440 students	0.12 (0.33)	0.19 (0.39)	–0.07	–0.19	–8	< 0.05
Social Acceptance, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 386 students	2.89 (0.66)	2.91 (0.69)	–0.02	–0.03	–1	> 0.05
Substance Use, Child Report	Adult mentor group vs. comparison group	24 schools/ 474 students	0.24 (0.38)	0.19 (0.39)	0.05	0.13	+5	> 0.05
Task Orientation, Teacher Report	Adult mentor group vs. comparison group	24 schools/ 385 students	3.10 (1.00)	3.06 (1.00)	0.04	0.04	+2	> 0.05

School engagement and behavior: Youth mentor group vs. comparison group								
Absence Without Excuse, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 305 students	0.11 (0.29)	0.11 (0.32)	0.00	0.00	0	> 0.05
Academic Self-Esteem, Child Report	Youth mentor group vs. comparison group	30 schools/ 397 students	3.13 (0.71)	3.13 (0.79)	0.00	0.00	0	> 0.05
Assertiveness, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 331 students	3.34 (0.69)	3.26 (0.71)	0.08	0.11	+5	> 0.05
Classroom Effort, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 331 students	2.67 (0.78)	2.70 (0.79)	–0.03	–0.04	–2	> 0.05
College Expectations, Child Report	Youth mentor group vs. comparison group	30 schools/ 394 students	3.30 (0.87)	3.40 (0.86)	–0.10	–0.12	–5	> 0.05
Connectedness to School, Child Report	Youth mentor group vs. comparison group	30 schools/ 416 students	3.01 (0.63)	3.05 (0.69)	–0.04	–0.06	–2	> 0.05
Difficulty in Class, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 331 students	2.34 (0.73)	2.30 (0.75)	0.04	0.05	+2	> 0.05
Engaging in Serious School Misconduct, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 324 students	0.15 (0.37)	0.18 (0.38)	–0.03	–0.08	–3	> 0.05
Misconduct Outside of School, Child Report	Youth mentor group vs. comparison group	30 schools/ 397 students	0.95 (0.25)	0.91 (0.28)	0.04	0.15	+6	> 0.05
Number of Assignments Completed, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 327 students	2.99 (1.07)	2.95 (0.93)	0.04	0.04	+2	> 0.05
Positive Classroom Affect, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 331 students	3.15 (0.61)	3.11 (0.68)	0.04	0.06	+2	> 0.05
Prosocial Behavior, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 331 students	3.08 (0.62)	3.10 (0.61)	–0.02	–0.03	–1	> 0.05
Quality of Class Work, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 327 students	2.92 (0.97)	2.84 (0.89)	0.08	0.04	+3	> 0.05
Scholastic Efficacy, Child Report	Youth mentor group vs. comparison group	30 schools/ 397 students	2.77 (0.58)	2.72 (0.66)	0.05	0.08	+3	> 0.05
School Preparedness, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 331 students	3.28 (1.00)	3.29 (0.92)	–0.01	–0.01	0	> 0.05
Skipping School, Child Report	Youth mentor group vs. comparison group	30 schools/ 384 students	0.10 (0.28)	0.10 (0.30)	0.00	0.00	0	> 0.05
Social Acceptance, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 330 students	2.67 (0.76)	2.57 (0.76)	0.10	0.13	+5	> 0.05
Substance Use, Child Report	Youth mentor group vs. comparison group	30 schools/ 396 students	0.20 (0.37)	0.13 (0.34)	0.07	0.20	+8	> 0.05
Task Orientation, Teacher Report	Youth mentor group vs. comparison group	30 schools/ 331 students	2.93 (0.94)	2.87 (0.87)	0.06	0.07	+3	> 0.05
School engagement and behavior: Adult mentor group vs. youth mentor group								
Absence Without Excuse, Teacher Report	Adult mentor group vs. youth mentor group	54 schools/ 329 students	0.12 (0.33)	0.09 (0.29)	0.03	0.10	+4	> 0.05
Academic Self-Esteem, Child Report	Adult mentor group vs. youth mentor group	54 schools/ 445 students	3.19 (0.70)	3.16 (0.71)	0.03	0.04	+2	> 0.05

Classroom Effort, Teacher Report	Adult mentor group vs. youth mentor group	54 schools/ 360 students	2.87 (0.74)	2.70 (0.78)	0.17	0.22	+9	< 0.05
College Expectations, Child Report	Adult mentor group vs. youth mentor group	54 schools/ 443 students	3.29 (0.88)	3.35 (0.87)	–0.06	–0.07	–3	> 0.05
Difficulty in Class, Teacher Report	Adult mentor group vs. youth mentor group	54 schools/ 361 students	2.23 (0.73)	2.31 (0.73)	–0.08	–0.11	–4	> 0.05
Engaging in Serious School Misconduct, Teacher Report	Adult mentor group vs. youth mentor group	54 schools/ 351 students	0.14 (0.35)	0.16 (0.37)	–0.02	–0.06	–2	> 0.05
Number of Assignments Completed, Teacher Report	Adult mentor group vs. youth mentor group	54 schools/ 356 students	3.17 (0.99)	3.11 (1.07)	0.06	0.06	+2	> 0.05
School Preparedness, Teacher Report	Adult mentor group vs. youth mentor group	54 schools/ 358 students	3.31 (0.97)	3.23 (1.00)	0.08	0.08	+3	> 0.05
Skipping School, Child Report	Adult mentor group vs. youth mentor group	54 schools/ 420 students	0.12 (0.33)	0.08 (0.28)	0.04	0.13	+5	> 0.05
Task Orientation, Teacher Report	Adult mentor group vs. youth mentor group	54 schools/ 360 students	2.99 (1.00)	2.94 (0.94)	0.05	0.05	+2	> 0.05

Table Notes: For mean difference, effect size, and improvement index values reported in the table, a positive number favors the intervention group and a negative number favors the comparison group. The effect size is a standardized measure of the effect of an intervention on student outcomes, representing the change (measured in standard deviations) in an average student's outcome that can be expected if the student is given the intervention. The improvement index is an alternate presentation of the effect size, reflecting the change in an average student's percentile rank that can be expected if the student is given the intervention.

Study Notes: The WWC calculated the intervention group mean by adding the difference-in-differences adjusted estimate of the average impact of the program (i.e., difference in mean gain between the intervention and comparison groups) to the unadjusted comparison group posttest mean. Please see the WWC Handbook for more information. A correction for multiple comparisons was needed and resulted in significance levels that differ from those in the original study. The *p*-values presented in this WWC report were reported in the Herrera et al. (2008) study. Because the analysis reported in the study uses an approach for missing data that is not endorsed by the WWC (mean imputation), all *p*-values were re-calculated by the WWC in an attempt to verify the authors' findings, based on unadjusted pretest and posttest means, standard deviations, and sample sizes provided by the authors in an email request. None of the reported *p*-values < 0.05 were found to be statistically significant after adjusting for multiple comparisons. In addition, the WWC determined one other contrast to have a statistically significant difference after adjusting for multiple comparisons that the authors did not report: The comparison of *Misconduct Outside of School, Teacher Report* for the adult mentor vs. youth mentor sample.

The following outcomes are excluded from the summary of the results for the adult mentor vs. youth mentor contrast due to a lack of equivalence at baseline: *Quality of Classwork, Positive Classroom Affect (teacher-reported), Scholastic Efficacy (child-reported), Connectedness to School (child-reported), Misconduct Outside of School (child-reported), Prosocial Behavior (teacher-reported), Substance Use (child-reported), Social Acceptance (teacher-reported), and Assertiveness (teacher-reported*).

Endnotes

[1] Single study reviews examine evidence published in a study (supplemented, if necessary, by information obtained directly from the author[s]) to assess whether the study design meets WWC evidence standards. The review reports the WWC's assessment of whether the study meets WWC evidence standards and summarizes the study findings following WWC conventions for reporting evidence on effectiveness. This study was reviewed using the single study review protocol, version 2.0. The WWC rating applies only to the results that were eligible under this topic area and met WWC standards without reservations or met WWC standards with reservations, and not necessarily to all results presented in the study.

[2] Seven outcomes in the Academic Performance domain, including overall academic performance, five subdomains of Academic Performance (written and oral language, reading, science, social studies, and math), and GPA were not considered eligible for this WWC report because they were teacher- and child-reported scores. Five additional outcomes in the School Engagement and Behavior domain measured attitudes and were therefore not eligible for inclusion: teacher-student relationship quality (both teacher- and child-reported), sense of emotional support from peers, self-worth, and relationship with parent.

Recommended Citation

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Glossary of Terms

Attrition Attrition occurs when an outcome variable is not available for all participants initially assigned to the intervention and comparison groups. The WWC considers the total attrition rate and the difference in attrition rates across groups within a study.

Clustering adjustment If intervention assignment is made at a cluster level and the analysis is conducted at the student level, the WWC will adjust the statistical significance to account for this mismatch, if necessary.

Confounding factor A confounding factor is a component of a study that is completely aligned with one of the study conditions, making it impossible to separate how much of the observed effect was due to the intervention and how much was due to the factor.

Design The design of a study is the method by which intervention and comparison groups were assigned.

Domain A domain is a group of closely related outcomes.

Effect size The effect size is a measure of the magnitude of an effect. The WWC uses a standardized measure to facilitate comparisons across studies and outcomes.

Eligibility A study is eligible for review if it falls within the scope of the review protocol and uses either an experimental or matched comparison group design.

Equivalence A demonstration that the analysis sample groups are similar on observed characteristics defined in the review area protocol.

Improvement index Along a percentile distribution of students, the improvement index represents the gain or loss of the average student due to the intervention. As the average student starts at the 50th percentile, the measure ranges from –50 to +50.

Multiple comparison adjustment When a study includes multiple outcomes or comparison groups, the WWC will adjust the statistical significance to account for the multiple comparisons, if necessary.

Quasi-experimental design (QED) A quasi-experimental design (QED) is a research design in which subjects are assigned to intervention and comparison groups through a process that is not random.

Randomized controlled trial (RCT) A randomized controlled trial (RCT) is an experiment in which investigators randomly assign eligible participants into intervention and comparison groups.

Single-case design (SCD) A research approach in which an outcome variable is measured repeatedly within and across different conditions that are defined by the presence or absence of an intervention.

Standard deviation The standard deviation of a measure shows how much variation exists across observations in the sample. A low standard deviation indicates that the observations in the sample tend to be very close to the mean; a high standard deviation indicates that the observations in the sample are spread out over a large range of values.

Statistical significance Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between the groups. The WWC labels a finding statistically significant if the likelihood that the difference is due to chance is less than 5% ($p < 0.05$).

Substantively important A substantively important finding is one that has an effect size of 0.25 or greater, regardless of statistical significance.

Please see the WWC Procedures and Standards Handbook (version 2.1) for additional details.