

Appendix

Appendix A1 Study characteristics: Page & D'Agostino, 2005 (quasi-experimental design)

Characteristic	Description
Study citation	Page, B. & D'Agostino, A. (2005). <i>Connect with Kids: 2004–2005 Study Results for Kansas and Missouri</i> . Available from: Compass Consulting Group, LLC. 5726 Fayetteville Road, Suite 203, Durham, NC 27713.
Participants	More than 800 elementary, middle, and high school students from 46 classrooms (24 intervention and 22 comparison) at 12 schools participated in the study. The study authors describe the sample as representing a diverse student population for urbanicity (urban, suburban, and rural school districts), socio-economic status, gender, ethnic and racial background, and grade level.
Setting	The sample was drawn from 12 elementary, middle, and high schools from eight rural, suburban, and urban school districts in Kansas and Missouri.
Intervention	The program was implemented during one of the following subject-matter classes, which varied among schools: English, Math, Social Studies, Life 101, Mentoring, or Choir. Intervention classrooms in both elementary and secondary schools covered the character traits in as few as 1–2 months and as many as 8 months, with the authors reporting an average of 5–6 months. Assessment of the quality of implementation indicated high quality in the elementary schools and moderate quality in the secondary schools.
Comparison	The comparison group was drawn partly from the intervention schools and partly from different schools in the same school district. Comparison students did not participate in any aspect of the <i>Connect with Kids</i> program at school.
Primary outcomes and measurement	Students responded to a student survey measuring their perception of their classmates' and their own behavior regarding six designated character traits. Teachers responded to a survey measuring their perception of students' classroom behavior. Some items represented positive behaviors (helping each other even if they are not friends) while others represented negative behaviors (solving problems by fighting).
Teacher training	A one-day workshop is offered with lectures, discussions, peer-to-peer interaction, and simulated activities that address classroom video and print materials, the password-protected website, and the shows that air on network television.

Appendix A2 Outcome measures in the behavior domain

Outcome measure	Description
Elementary school student survey—part 1	On this 21-item survey, developed by the study authors for this study, elementary school students rate how often students in their class demonstrate certain behaviors associated with six core character traits: honesty, kindness, perseverance, responsibility, self-control, and tolerance.
Elementary school student survey—part 2	On this 21-item survey, developed by the study authors for this study, elementary school students rate their own class behavior relative to six core character traits: honesty, kindness, perseverance, responsibility, self-control, and tolerance.
Middle/high school student survey—part 1	On this 29-item survey, developed by the study authors for this study, middle and high school students rate how often students in their class demonstrate certain behaviors associated with six core character traits: honesty, kindness, perseverance, responsibility, self-control, and tolerance.
Middle/high school student survey—part 2	On this 29-item survey, developed by the study authors for this study, middle and high school students rate their own class behavior relative to six core character traits: honesty, kindness, perseverance, responsibility, self-control, and tolerance.

Appendix A3 Summary of study findings included in the rating for the behavior domain

Outcome measure ²	Study sample	Sample size (classrooms/ students)	Author's findings from the study		WWC calculations			
			Mean outcome (standard deviation ¹)		Mean difference ³ (<i>Connect with Kids</i> – comparison)	Effect size ⁴	Statistical significance ⁵ (at $\alpha = 0.05$)	Improvement index ⁶
			<i>Connect with Kids</i> group (column 1)	Comparison group (column 2)				
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Elementary school student survey—part 1 ⁷	Grades 3–5	24	3.92 (0.61)	3.75 (0.63)	0.17	0.27	ns	+10
Elementary school student survey—part 2 ⁷	Grades 3–5	24	4.56 (0.42)	4.44 (0.51)	0.12	0.25	ns	+10
Middle/high school student survey—part 1	Grades 7–12	22	3.84 (0.79)	3.37 (0.68)	0.47	0.61	Statistically significant	+23
Middle/high school student survey—part 2	Grades 7–12	22	4.25 (0.64)	3.94 (0.59)	0.31	0.48	Statistically significant	+19
Domain average⁸ for behavior						0.40	Statistically significant	+16

ns = not statistically significant

1. The standard deviation across all students in each group shows how dispersed the participants' outcomes are: a smaller standard deviation on a given measure would indicate that participants had more similar outcomes. The student-level standard deviations were requested by the WWC and submitted by the study authors. Thus, the standard deviations reported here are different from the standard deviations in the study report.
2. This review focuses on variations among students both in their perceptions of their own behavior and their perceptions of the behavior of their peers. Additional teacher-reported outcomes were excluded because the effects on students (effect size) could not be estimated for this outcome. The teacher survey represented global ratings at the classroom level rather than ratings of individual students. And standard deviations for this measure represented variations among teachers rather than variations among students.
3. The *Connect with Kids* mean equals the comparison group mean (column 2) plus the mean difference (difference between treatment and comparison gain scores; column 3). The mean difference reported here takes into account students' change from baseline (gain scores), which were used to calculate effect size. So, the intervention mean reported here is different from the mean in the study report. For an explanation of effect size calculation, please see the [Technical Details of WWC-Conducted Computations](#).
4. Although *Connect with Kids* is intended for schoolwide implementation, this study tested it using individual classrooms. Consequently, results may not reflect the true nature of the program, when enacted school-wide and involving all teachers and students. Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group.
5. Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between groups. The level of statistical significance was calculated by the WWC and where necessary, corrects for clustering within classrooms or schools, and for multiple comparisons. For an explanation, see the [WWC Tutorial on Mismatch](#). See the [Technical Details of WWC-Conducted Computations](#) for the formulas the WWC used to calculate the statistical significance. In the case of the *Connect with Kids* report, a correction for multiple comparisons, but not for clustering, was needed.
6. The improvement index represents the difference between the percentile rank of the average student in the intervention condition and the average student in the comparison condition. The improvement index can take on values between -50 and +50, with positive numbers denoting favorable results.
7. The study also reported on an additional statistical analysis that controlled for percentage of female and minority students. This analysis found a statistically significant positive effect on total scores on the elementary school student survey parts 1 and 2. But, because of incomplete data, the WWC could not confirm the statistical significance of these findings. The reviewed statistical analyses of elementary and middle/high school students' outcomes did not take into account demographic characteristics of the sample.
8. This row provides the study average, which is also the domain average in this case. The WWC-computed domain average effect size is a simple average rounded to two decimal places. The domain improvement index is calculated from the average effect size.

Appendix A4 Rating for the behavior domain

The WWC rates interventions as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative.¹

For the outcome domain of behavior, the WWC rated *Connect with Kids* as having potentially positive effects. It did not meet the criteria for positive effects, because it only had one study. The remaining ratings (mixed effects, no discernible effects, potentially negative effects, negative effects) were not considered because *Connect with Kids* was assigned the highest applicable rating.

Rating received

Potentially positive effects: Evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect, thus qualifying as a *positive* effect.
Met. In the one study on *Connect with Kids* that examined behavior, the average effect size was positive and statistically significant. Further, the effects on two student outcomes were positive and statistically significant.
- Criterion 2: No studies showing a statistically significant or substantively important *negative* effect. Fewer or the same number of studies showing *indeterminate* effects than showing statistically significant or substantively important *positive* effects.
Met. The WWC analysis found no statistically significant or substantively important negative effects or indeterminate effects in this domain.

Other ratings considered

Positive effects: Strong evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *positive* effects, at least one of which met WWC evidence standards for a strong design.
Not met. *Connect with Kids* had only one study meeting WWC evidence standards.
- Criterion 2: No studies showing statistically significant or substantively important *negative* effects.
Met. The WWC analysis found no statistically significant or substantively important negative effects in this domain.

1. For rating purposes, the WWC considers the statistical significance of individual outcomes and the domain level effect. The WWC also considers the size of the domain level effect for ratings of potentially positive effects. See the [WWC Intervention Rating Scheme](#) for a complete description.