



# WWC Single Study Review

A review of the design and summary of findings for an individual study



May 2015

## WWC Review of the Report “The Iterative Development and Initial Evaluation of We Have Skills!, an Innovative Approach to Teaching Social Skills to Elementary Students”<sup>1</sup>

The findings from this review do not reflect the full body of research evidence on *We Have Skills!*

### What is this study about?

The study authors examined the effects of *We Have Skills!* (*WHS*), a supplemental, video-based social skills program for early elementary students. *WHS* consists of three components: instructional materials, teacher professional development, and student assessment and was developed by the study authors.

The study sample included 17 elementary schools in four school districts located in California, Oregon, and Washington. Teachers of grades K–3 at study schools were given the opportunity to participate in the evaluation. Consenting teachers were then randomly assigned either to a *WHS* intervention group or to a comparison group. Teachers in the intervention group received training on the *WHS* intervention and were asked to use the intervention with students in their classrooms.

A total of 83 classrooms were randomly assigned to the intervention and comparison groups, and 70 classrooms were included in the analytic sample (37 in the intervention group and 33 in the comparison group). From a total of 1,661 students at the time of random assignment, 1,466 students were included in the analytic sample (822 in the intervention group and 644 in the comparison group).

Study authors examined the impact of *WHS* on student social skills using the Elementary School Behavioral Assessment (ESBA), which study teachers used to rate their students’ classroom behaviors. The ESBA was developed by the study authors, and both intervention and comparison teachers received training in the use of the assessment. Study authors also examined impacts on two teacher outcomes, but those outcomes are not described in this WWC report because they were not eligible for review.<sup>2</sup>

### WWC Rating

***The research described in this report meets WWC group design standards without reservations***

This study is a well-executed randomized controlled trial with low levels of sample attrition.

### What did the study find?

The study authors found, and the WWC confirmed, statistically significant and substantively important positive effects of *WHS* on the *EBSA*—a measure of student social skills.

#### Features of *We Have Skills!* (*WHS*)

*WHS* is a video-based social skills program for early elementary students. The intervention incorporates three components: instructional materials (including lesson plans, instructional videos, and supplemental activities), teacher professional development, and student assessment. This study focuses on the impact of the instructional and professional development components; teachers in both conditions received training in administering the student assessment component.

Lessons included two main segments: a 5- to 10-minute discussion using questions from the lesson plan, and a 5-minute video lesson. The first video contains an introduction to the nature and importance of social skills, and seven subsequent videos cover different social skills, including guidance on how to: (a) listen, (b) ask for help, (c) follow directions, (d) do the best you can, (e) follow the rules, (f) work out strong feelings, and (g) get along. Instruction is delivered over eight weekly sessions; instruction in the current study began 3 weeks after the start of the school year. Instruction is supplemented with guided practice activities and homework, along with reinforcement components.

*WHS* teachers received training in administration of the *ESBA* assessment (the third intervention component) and 1 hour of additional training in administering the *WHS* intervention. They also received lesson plans and intervention materials for their classrooms.

### Appendix A: Study details

Marquez, B., Marquez, J., Vincent, C., Pennefather, J., Sprague, J., Smolkowski, K., & Yeaton, P. (2014). The iterative development and initial evaluation of We Have Skills!, an innovative approach to teaching social skills to elementary students. *Education and Treatment of Children, 37*(1), 137–161.

#### Additional source:

Pennefather, J., & Smolkowski, K. (2014). Validation of the Elementary Social Behavior Assessment: A measure of student prosocial school behaviors. *Assessment for Effective Intervention*. Advance online publication. doi:10.1177/1534508414557562

**Setting** The study was conducted in 17 schools in four school districts, two in California and one each in Oregon and Washington.

**Study sample** All teachers of grades K–3 in the four school districts were provided the opportunity to volunteer to participate in the study. After collecting teacher consent and teacher pretest data, classrooms within schools were randomly assigned to either the intervention group or the comparison group. In response to an author query, the authors indicated that a total of 83 classrooms were initially randomized (46 to the intervention group and 37 to the comparison group), and a total of 70 classrooms were included in the study analysis (37 in the intervention group and 33 in the comparison group). Student-level baseline and analytic sample sizes were also obtained from the authors through author queries. A total of 1,661 students were initially present in the 70 study classrooms (890 in intervention classrooms and 771 in comparison classrooms), and 1,466 were included in the study analysis (822 in intervention classrooms and 644 in comparison classrooms). Of the 70 teachers in the analytic sample, 15 taught kindergarten, 23 taught first grade, 17 taught second grade, and 15 taught third grade. Demographic data for students included in analytic sample were unavailable; instead, the authors report these data for all K–3 classrooms in study schools: an average of 42% of students were White; 29% were Latino; 12% were Asian/Pacific Islander; 7% were African American; 8% were multi-racial average, and 0.5% were American Indian/Alaskan; an average of 61% of students were eligible for free or reduced-price lunch.

### Intervention group

*WHS* is a video-based social skills program for early elementary students. The intervention incorporates three components: instructional materials (including lesson plans, instructional videos, and supplemental activities), teacher professional development, and student assessment. Lessons included two main segments: a 5- to 10-minute discussion using questions from the lesson plan, and a 5-minute video lesson. The first video contains an introduction to the nature and importance of social skills, and seven subsequent videos cover different social skills, including guidance on how to: (a) listen, (b) ask for help, (c) follow directions, (d) do the best you can, (e) follow the rules, (f) work out strong feelings, and (g) get along. Instruction is delivered over eight weekly sessions; instruction in the current study began 3 weeks after the start of the school year.

After the video and discussion segments were completed, teachers were encouraged to implement activities such as guided practice through songs, role play, and learning materials. Materials included skills booklets and coloring pages, picture cards with feelings, and posters, some of which were supplementary or take-home materials. The program incorporates a reinforcement system where students receive skill tickets, student-managed tally sheets, parent notes of skill achievement, and student certificates of mastery. Intensive “Tier II” interventions for struggling students, normally part of the intervention, were not implemented due to the short time frame of the study.

The student assessment component of the intervention involves instruction with teachers on the use of the primary outcome measure, the Elementary School Behavior Assessment (ESBA), collected via the online irisPMT (Progress Monitoring Tool) interface developed by the authors/developers. The teacher professional development component consists of a series of instructional videos and lesson plans that guide teachers’ implementation of the four types of student instructional materials: (a) video lessons, (b) practice opportunities, (c) songs, and (d) reinforcement systems.

Of the intervention teachers, 34% reported spending 1 hour or less on the program; 16% spent 1–2 hours; 6% spent 2–3 hours; and 43% spent more than 3 hours during the 8-week duration of the study.

### Comparison group

Teachers in the comparison group received training only in administering the ESBA via the irisPMT system; they received no training in the *WHS* intervention and were not asked to administer *WHS* in their classrooms. Comparison classrooms received access to the training and program at the completion of the evaluation. Twelve of the 17 schools participating in the study implemented School-Wide Positive Behavioral Interventions & Supports (SWPBIS); the authors do not present the proportion implementing SWPBIS by intervention status.

### Outcomes and measurement

Student social skills were measured by the ESBA, which was completed by classroom teachers for each of their students. The assessment was administered before the intervention began and at end of the 8-week intervention. For a more detailed description of this outcome measure, see Appendix B.

### Support for implementation

After random assignment, teachers in both conditions participated in a training session on how to use the ESBA. The intervention teachers remained for an additional hour-long instruction on the *WHS* curriculum. No additional support for implementation is described.

### Reason for review

This study was identified for review by the WWC because it was supported by a grant to IRIS Media, Inc. (Principal Investigator: Brion Marquez) from the National Center for Special Education Research (NCSER) at the Institute of Education Sciences (IES).

### Appendix B: Outcome measure for the social outcomes domain

#### Social outcomes

<i>Elementary School Behavior Assessment (ESBA)</i>	The ESBA is a measure of student social skills. It is an online assessment administered through the irisPMT (Progress Monitoring Tool), a proprietary interface developed by the authors/developers. Teachers rate students on 12 behavioral items that are designed to assess the behavioral skills that research has found teachers most prefer from the children in the classroom and that teachers agree are important for student success. The items cover topics such as listening, cooperating with others, following teacher directions, and working with effort. The ESBA uses a 3-point rating scale, including mastery, needs improvement, and cause for concern. Rating of a classroom is estimated to require 15–20 minutes. Internal reliability for the ESBA from the pretest and posttest showed Cronbach's alpha = 0.95 and 0.94, with test-retest reliability = 0.77 (Pennefather & Smolkowski, 2014).
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**Table Notes:** Although the study was not directly eligible for review under an existing topic area protocol, the Children Classified as Having an Emotional Disturbance topic area review protocol (version 2.0) and the Teacher Training, Evaluation, and Compensation topic area review protocol (version 3.0)—related protocols—were both used to guide the determination of eligible outcomes and the appropriate outcome domain for the outcomes. The Children Classified as Having an Emotional Disturbance protocol was selected because it encompasses interventions targeted to develop social skills, the focus of the WHS intervention. The study was not directly eligible for review under this protocol because study participants were not classified or at risk of being classified as having an emotional disturbance. The Teacher Training, Evaluation, and Compensation protocol was also consulted for the two teacher outcomes: teacher self-efficacy (measured using the Teacher Sense of Efficacy Scale) and teacher satisfaction. Neither teacher outcome is eligible for review under either the Children Classified as Having an Emotional Disturbance protocol or the Teacher Training, Evaluation, and Compensation protocol, and therefore, are not included in this WWC report.

Appendix C: Study findings for the social outcomes 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	
<b>Social outcomes</b>								
<i>Elementary School Behavior Assessment (ESBA)—Total Score</i>	Grades K–3	70 classrooms/1,466 students	33.61	32.30	1.31	0.27	+11	< .01
<b>Domain average for social outcomes</b>						<b>0.27</b>	<b>+11</b>	<b>Statistically significant</b>

**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 individual outcomes, representing the average change expected for all individuals who are given the intervention (measured in standard deviations of the outcome measure). The improvement index is an alternate presentation of the effect size, reflecting the change in an average individual’s percentile rank that can be expected if the individual is given the intervention. The statistical significance of the study’s domain average was determined by the WWC. Some statistics may not sum as expected due to rounding.

**Study Notes:** No corrections for clustering or multiple comparisons and no difference-in-differences adjustments were needed. The p-value presented here was reported in the original study. The authors analyzed program impacts using a multi-level ANCOVA model that controlled for pretest scores and accounted for the nesting of students within classrooms. The study reports p-values and effect sizes from the multi-level ANCOVA model. Pretest and posttest means and standard deviations, as well as the intervention coefficient from the multi-level ANCOVA model, were provided by the authors in communications with the WWC. The WWC calculated the intervention group mean by adding the impact of the intervention, as estimated by the authors’ multi-level ANCOVA analysis, to the unadjusted comparison group posttest mean. The WWC effect size presented here is the same as the effect size reported by the authors in the original study. This study is characterized as having a statistically significant positive effect because the effect for the one measure within the domain is positive and statistically significant, and no effects are negative and statistically significant. For more information, please refer to the WWC Standards and Procedures Handbook (version 3.0), pp. 25–26.

### Endnotes

<sup>1</sup> Single study reviews examine evidence published in a study (supplemented, if necessary, by information obtained directly from the authors) to assess whether the study design meets WWC group design standards. The review reports the WWC's assessment of whether the study meets WWC group design 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. Two related protocols, the Children Classified as Having an Emotional Disturbance review protocol, version 2.0, and the Teacher Training, Evaluation, and Compensation review protocol, version 3.0, were consulted to guide the determination of eligible outcomes and to determine the appropriate outcome domain for the EBSA. The WWC rating applies only to the study outcomes that were eligible for review under these topic areas. The reported analyses in this SSR are only for those eligible outcomes that either met WWC group design standards without reservations or met WWC group design standards with reservations, and do not necessarily apply to all results presented in the study.

<sup>2</sup> See the table notes in Appendix B for more information.

### Recommended Citation

U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse. (2015, May). *WWC review of the report: The iterative development and initial evaluation of We Have Skills!, an innovative approach to teaching social skills to elementary students*. Retrieved from <http://whatworks.ed.gov>

### Glossary of Terms

<b>Attrition</b>	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.
<b>Clustering adjustment</b>	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.
<b>Confounding factor</b>	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.
<b>Design</b>	The design of a study is the method by which intervention and comparison groups were assigned.
<b>Domain</b>	A domain is a group of closely related outcomes.
<b>Effect size</b>	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.
<b>Eligibility</b>	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.
<b>Equivalence</b>	A demonstration that the analytic sample groups are similar on observed characteristics defined in the review area protocol.
<b>Improvement index</b>	Along a percentile distribution of individuals, the improvement index represents the gain or loss of the average individual due to the intervention. As the average individual starts at the 50th percentile, the measure ranges from -50 to +50.
<b>Multiple comparison adjustment</b>	When a study includes multiple outcomes or comparison groups, the WWC will adjust the statistical significance to account for the multiple comparisons, if necessary.
<b>Quasi-experimental design (QED)</b>	A quasi-experimental design (QED) is a research design in which study participants are assigned to intervention and comparison groups through a process that is not random.
<b>Randomized controlled trial (RCT)</b>	A randomized controlled trial (RCT) is an experiment in which eligible study participants are randomly assigned to intervention and comparison groups.
<b>Single-case design (SCD)</b>	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.
<b>Standard deviation</b>	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.
<b>Statistical significance</b>	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% ( $p < .05$ ).
<b>Substantively important</b>	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 \(version 3.0\)](#) for additional details.



Intervention  
Report



Practice  
Guide



Quick  
Review



Single Study  
Review

A **single study review** of an individual study includes the WWC's assessment of the quality of the research design and technical details about the study's design and findings.