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# CLASSWIDE EFFICACY OF INSIGHTS

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## *Observed Teacher Practices and Student Behaviors in Kindergarten and First Grade*

### ABSTRACT

We investigate the classwide efficacy of INSIGHTS, a universal social-emotional learning intervention for early elementary grades, on observed teacher practices and student behaviors. Twenty-two elementary schools (87% free/reduced lunch) were randomly assigned to INSIGHTS or an attention-control condition. Kindergarten and first-grade classrooms ( $n = 120$ ) were observed in the fall prior to the intervention and in the spring following the intervention. Multilevel random effects regression models showed an INSIGHTS main effect on observed teacher practices of emotional support from fall to spring. This effect was magnified in first grade. First-grade INSIGHTS classrooms also had higher teacher practices of classroom organization and lower classwide off-task behaviors over the school year compared to first-grade attention-control classrooms. Kindergarten INSIGHTS classrooms improved classwide student engagement from fall to spring compared to kindergarten attention-control classrooms. Grade-level variations are discussed along with implications for future research and practice.

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**E**ARLY elementary school classrooms characterized by effective teacher practices and behaviorally engaged students foster children's emerging academic competence (Curby, Rimm-Kaufman, & Ponitz, 2009; Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009). Young children in classrooms with high levels of teacher warmth, responsiveness, and organization gain more in

reading and math than children exposed to classrooms with less effective teaching practices (Hamre & Pianta, 2005). Moreover, children in classrooms with engaged and nondisruptive classmates exhibit higher levels of academic competence than children in classrooms with low levels of student engagement and high levels of off-task behaviors (Parr & Townsend, 2002; Solomon, Watson, Battistich, Schaps, & Delucchi, 1996). Teacher practices and student behaviors not only vary by classroom but also differ across schools. On average, students in schools with high proportions of low-income students have less effective teachers and less behaviorally engaged peers than students in middle-income schools (Pianta, Belsky, Houts, Morrison, & NICHD ECCRN, 2007; Stipeck, 2004; Stuhlman & Pianta, 2009).

To support the social-emotional and academic development of students in low-income schools, several universal, classroom-focused, social-emotional learning (SEL) interventions have been developed and implemented. Randomized trials generally demonstrate small to moderate effects of these programs on student behaviors and achievement (e.g., Jones, Brown, & Aber, 2011; Raver et al., 2008, 2011; Webster-Stratton, Reid, & Stoolmiller, 2008). Surprisingly few trials focus on classroom effects of SEL programs, including the teaching practices and student behaviors that characterize the classroom learning environment. Yet if classroom improvements occur, they have the potential to impact not only students enrolled in the research, but also classmates and future students in teachers' classrooms. In this study, we examine the classwide effects of INSIGHTS, a universal, school-based SEL intervention in early elementary school, in enhancing observed teaching practices and student behaviors.

### **Early Elementary School as a Critical Time for Intervention**

Longitudinal studies demonstrate that early academic achievement and behavioral adjustment predict later achievement and adjustment (Alexander, Entwisle, & Horsey, 1997; Breslau et al., 2009; Duncan et al., 2007; Vitaro, Brendgen, Larose, & Tremblay, 2005). Success in the early years relies on children's ability to regulate their behaviors and participate in academic activities. Yet many children, particularly those from low-income families and communities, begin formal schooling without adequate preparation for these tasks (Pianta, Cox, & Snow, 2007). Even when young children attend high-quality prekindergarten education environments, the transition to kindergarten brings increased behavioral and academic demands (Lin, Lawrence, & Gorrell, 2003; Ray & Smith, 2010). Moving to first grade represents a continued shift for young students as academic activities become increasingly structured and teacher expectations rise (La Paro, Rimm-Kaufman, & Pianta, 2006). The early years of formal schooling represent a critical time for intervention to support children toward school success.

### **Classroom Teacher Practices and Student Behaviors**

School success is related to teaching practices. Teaching practices that provide emotional support to students—such as responsiveness to student academic and emotional needs, positive emotional climate, and regard for student perspectives (Pianta, LaParo, & Hamre, 2008)—are associated with growth in student academic skills (Pianta, Belsky, Vandergrift, Houts, & Morrison, 2008). Teachers who organize their classrooms well, with positive and proactive behavior management, maximal

learning time, and effective facilitation of activities, have students with higher self-control, behavioral engagement, and achievement (Cameron, Connor, Morrison, & Jewkes, 2008; Ponitz, McClelland, Mathews, & Morrison, 2009; Rimm-Kaufman et al., 2009). Children with early behavioral and academic problems (Hamre & Pianta, 2005) benefit most from classrooms with such teaching practices. In fact, having a supportive teacher who uses effective practices compensates for the adjustment difficulties experienced by first graders with impulsive and reactive temperaments (Liew, Chen, & Hughes, 2010).

Children's behaviors, typically assessed at the child level during academic activities (e.g., Skinner, Furrer, Marchand, & Kindermann, 2008), also contribute to the classroom learning environment and students' success in school (Barth, Dunlap, Dane, Lochman, & Wells, 2004; DiPerna, 2006). In fact, the classroom prevalence of behavioral engagement (e.g., listening to instruction, participation in academic activities) and off-task behaviors (e.g., calling out, fidgeting) relates to individual children's engagement and off-task behaviors (Riley-Tillman, Methe, & Weegar, 2009; Ryan & Patrick, 2001), which, in turn, predicts overall school adjustment (Klem & Connell, 2004; McClelland, Acock, & Morrison, 2006).

## Universal Prevention and Early Intervention in Classrooms

Numerous school-based, universal SEL programs have been developed to improve children's academic and behavioral outcomes. These programs focus on the interrelated cognitive, affective, and behavioral skills critical for behavioral engagement and academic performance (see Jones & Bouffard, 2012). Some programs explicitly target classrooms in their theories of change. For example, some elementary school programs emphasize the need for responsive learning environments to build teacher/student and peer relationships as well as increase effective teaching practices (e.g., Cappella et al., 2012; Hawkins, Kosterman, Catalano, Hill, & Abbott, 2005; Schaps, Battistich, & Solomon, 2004). Some preschool and elementary school programs emphasize the prevention or reduction of disruptive behaviors in order to increase opportunities for individual children to learn from teachers and peers (e.g., Arnold et al., 2006; Raver et al., 2011; Webster-Stratton & Reid, 2004; Webster-Stratton et al., 2008).

Research on the impact of these interventions on children generally shows small to moderate effects (Ialongo, Edelsohn, Werthamer-Larsson, Crockett, & Kellam, 2006; Kellam, Rebok, Ialongo, & Mayer, 1994). A cluster randomized control trial of the Chicago School Readiness Project (CSRP)—a classroom-based intervention to foster low-income preschoolers' school readiness—evidenced positive effects on children's vocabulary, letter-naming, and math skills (Raver et al., 2011). An efficacy trial of Incredible Years (IY; Webster-Stratton & Reid, 2004), a comprehensive program to promote social competence and reduce disruptive behavior in preschool and early elementary school, demonstrated positive effects on children's self-regulation and problem solving and reduced conduct problems (Webster-Stratton et al., 2008). The school-randomized study of 4Rs, a universal SEL program for third- to fifth-grade classrooms, reported 2-year effects on children's social-emotional and behavioral skills, and reading and math achievement for children with behavioral risk (Jones et al., 2011).

Although these programs are implemented in classrooms and include changes to classrooms as a primary mechanism of impact on students, it is rare for researchers to study classroom effects. When classroom effects are studied, the focus is on teaching practices. In the trial of IY, intervention teachers improved their use of effective classroom management strategies compared to control teachers (Webster-Stratton et al., 2008); in the 4Rs program, intervention teachers increased their observed instructional and emotional support to students (Brown, Jones, LaRusso, & Aber, 2010). Though these findings are promising, randomized control trials that isolate classroom-level effects are few. Moreover, no known research examines SEL intervention impact on the whole classroom, including both teaching practices and student behaviors.

### **INSIGHTS: Brief Review and Current Study**

The current study examines the classwide efficacy of INSIGHTS, a universal SEL intervention for kindergarten and first-grade children in low-income schools (McClowry, Snow, & Tamis-LeMonda, 2005). INSIGHTS is similar to other universal SEL programs in that it targets children (their knowledge, skills, and behaviors) and caregivers (teachers and parents). Unlike other programs, however, INSIGHTS is based in temperament theory and research. Temperament represents the particular reaction style an individual exhibits across contexts—most prominently in response to stress or change (Rothbart & Bates, 1998). For example, some individuals respond to perceived demands with high levels of negative reactivity and impulsivity; others respond with high levels of inhibitory control and low levels of activity. Understanding a child's temperament enables teachers and parents to provide better goodness of fit, or alignment between the demands, expectations, and opportunities in the classroom and home, and the child's approaches to challenges in those settings (Chess & Thomas, 1984). INSIGHTS, then, aims to enhance the goodness of fit between adults and children by increasing positive interactions between teachers/parents and children and among children, effective behavioral strategies in classrooms and homes, and children's abilities to regulate their behaviors, resolve problems, and engage in productive activities (McClowry, Rodriguez, & Koslowitz, 2008). This may be particularly important at the start of elementary school, when teaching strategies that are responsive to children's emotional, academic, and behavioral needs may enable children to better meet the new and potentially challenging demands of formal schooling (Curby et al., 2009).

The INSIGHTS curriculum—teacher, parent, and child/classroom programs—was refined in collaboration with low-income urban schools, teachers, and families to ensure a curriculum responsive to the needs and strengths of the community (see McClowry & Galehouse, 2002). The resulting teacher and parent programs comprise three parts implemented over 10 weeks during weekly, 2-hour sessions (see App. Table A1; McClowry, Snow, Tamis-LeMonda, & Rodriguez, 2010). The first part, "The 3Rs of child management," focuses on the 3Rs: recognize, reframe, and respond. Teachers and parents are taught to (a) recognize the unique qualities a child exhibits as an expression of temperament, (b) appreciate that each temperament has advantages and disadvantages depending on the demands of the situation, and (c) understand that, although temperament is not amenable to change, teacher and parent responses are, and these can influence children's

behaviors. The second part, “Gaining compliance,” involves training in a range of behavior-management strategies that match a child’s temperament and the application of these strategies at home and in the classroom. Finally, the third part, “Giving control,” focuses on additional strategies to support children when they encounter challenges in relation to their temperament, including methods for scaffolding a child through a demanding situation (and/or minimizing the magnitude of the demands) and stretching the child to expand their skills to manage the demands with support.

The child/classroom program is conducted over the same 10-week period in 45-minute sessions with content delivered in two parts. In the first part, children learn that, based on temperament, some situations are easy to handle while other situations are more difficult. For example, one child may approach a challenging academic task by working hard to achieve it; another child may approach the task with negative emotion and high activity; still another child may withdraw from the task. Children are introduced to four puppets that represent common temperaments and view videotaped vignettes demonstrating each puppet’s reaction to everyday situations. In the second part, children interact with the puppets and with their peers to practice ways to approach and resolve daily dilemmas they experience in the classroom and at home (for more details, see McClowry et al., 2005).

In previous intervention trials in low-income urban schools, INSIGHTS reduced children’s disruptive behaviors, especially among children exhibiting behavior problems prior to the intervention (McClowry et al., 2005). Prior research also demonstrated program effects on parenting efficacy, particularly among parents of children with more emotionally reactive temperaments (O’Connor, Rodriguez, Cappella, Morris, & McClowry, 2012). Findings from the current trial demonstrated effects on growth in children’s reading and math skills across kindergarten and first grade (O’Connor, Cappella, McCormick, & McClowry, 2014a) and short-term effects on reading and math for shy kindergarten students (O’Connor, Cappella, McCormick, & McClowry, 2014b).

The current study is the first to evaluate the classroom effects of INSIGHTS on observed teaching practices and classwide student behaviors. We expected that the intervention goals of improving goodness of fit between teaching practices and children’s temperaments would enable teachers to provide more emotional support and create a more organized classroom for students. In addition, we expected that the intervention goals of promoting children’s empathy, problem solving, and self-regulation would increase student engagement and decrease off-task behaviors. With the greater part of the intervention focused on classroom teaching and children’s behaviors (see Fig. 1), we hypothesized (a) main effects on teaching practices (emotional support, classroom organization) and (b) main effects on classwide student behaviors (engagement, off-task behaviors). Given potential differences in environmental demands and student needs at the transition to formal schooling (kindergarten) and the second year of school (first grade) when teacher expectations and academic demands increase, we examined (c) whether effects were moderated by grade. The overall aim was to increase understanding of whether this SEL program improved the classroom learning context for low-income children in early elementary school.

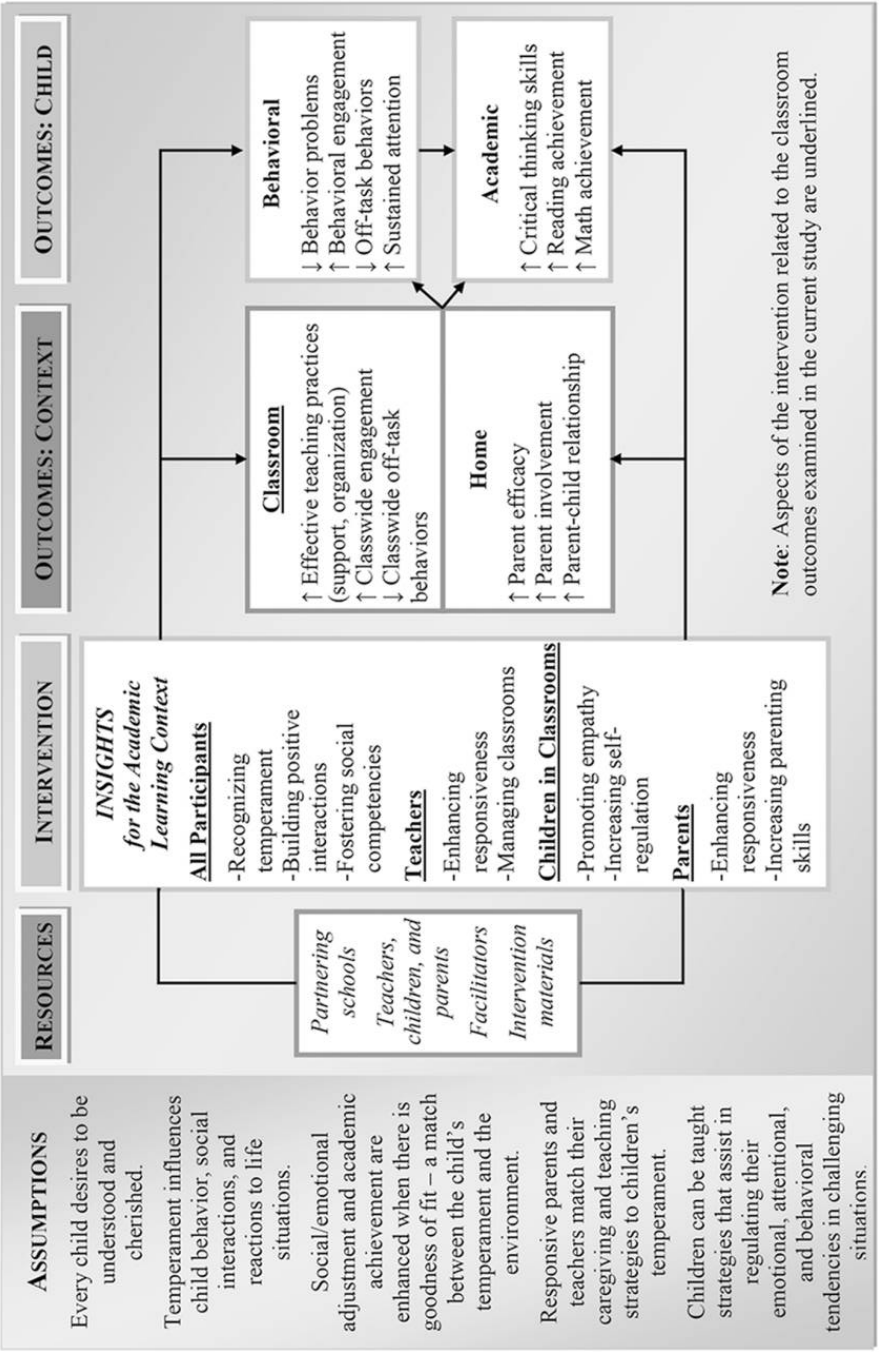


Figure 1. Logic model for INSIGHTS into children's temperament for the academic learning context. (A color version of this figure is available online.)



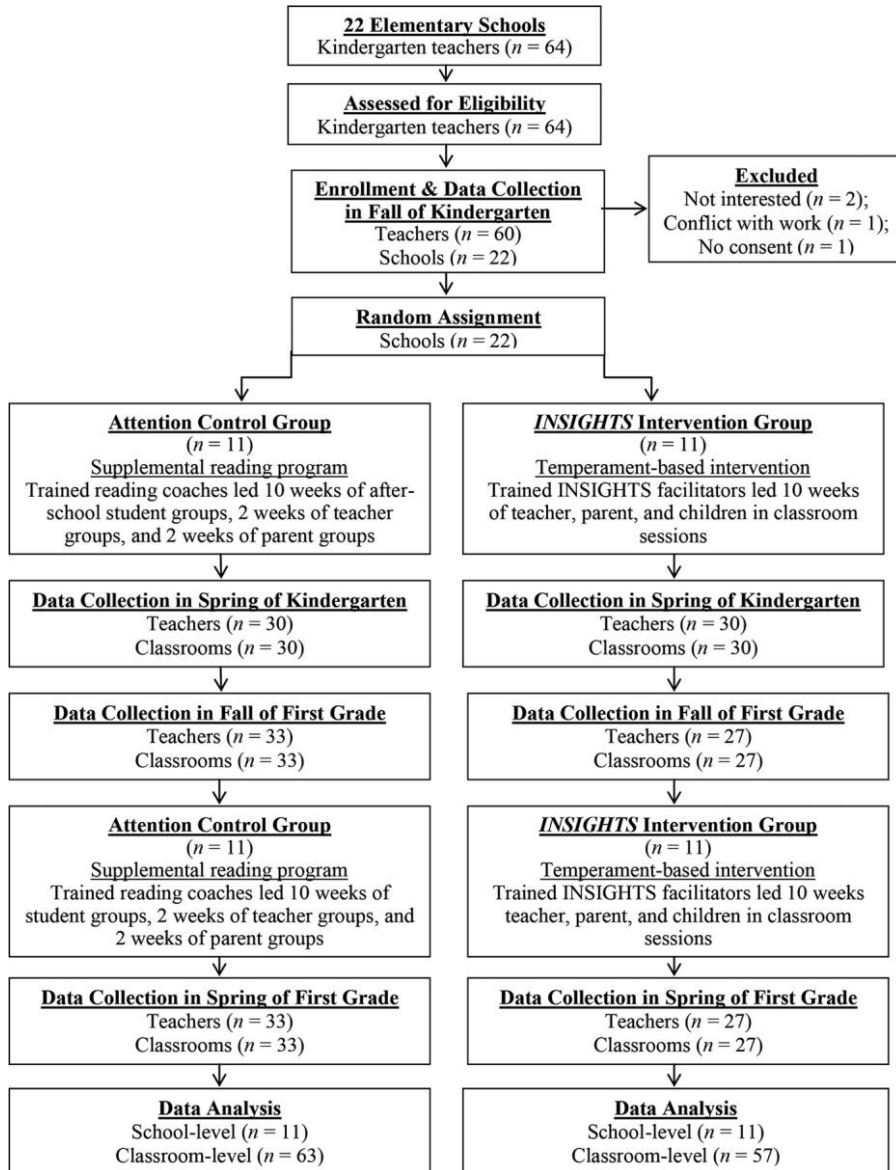


Figure 2. INSIGHTS school-randomized trial classroom-level participant flow chart.

## Method

### Design

Data are derived from a school-randomized trial of INSIGHTS in kindergarten and first-grade classrooms (see Fig. 2). The duration of the overall study was 4 years. Three cohorts of schools entered the study over 3 consecutive years; each cohort participated for 2 years of data collection. Kindergarten classrooms participated in the intervention during year 1, and first-grade classrooms participated in year 2. The current study incorporates a  $2 \times 2$  factorial design and examines classroom effects within each academic year. Observational data were collected in the fall (PreT: pretreatment) and spring (PostT: 2–3 months posttreatment) in kindergarten and first

grade. Implementation was assessed weekly during the intervention period. Intent-to-treat analyses were conducted using multilevel random effects regression models to estimate intervention impact on kindergarten and first-grade classrooms.

### Participants and Setting

Current study participants include 120 kindergarten and first-grade teachers/classrooms from 22 public elementary schools in a large city. Teachers were mainly female (94.2%). Teachers identified as Hispanic or Latino (11.9%), black or African American (56.4%), white (24.3%), and mixed/other (7%). Most classrooms were led by one teacher. All classrooms were regular education, with an average of 16.57 students ( $SD = 3.54$ ).

Schools were within 1 SD of the average elementary school size in the participating districts, and represented the overall district demographic characteristics. The student populations were mainly Black, non-Hispanic (school mean = 79.13%), and Hispanic (school mean = 44.21%). The majority of the students were eligible for free or reduced-price lunch (school mean = 79.97%).

### Research Procedures

All study procedures were approved by university and district institutional review boards. Informed consent was obtained from teachers; parental consent and child assent were obtained for children. No child-level data were used in the current analysis.

**Selection and randomization of schools.** Elementary schools serving low-income students in a northeastern urban area were targeted for participation. The research team contacted principals of schools with free/reduced-price lunch eligibility above 50% in one region of a large urban school system. Twenty-three principals agreed to participate; one school withdrew during baseline data collection after an administrative transition, yielding a final sample of 22 schools. After baseline data were collected, researchers used a random numbers table to assign schools to the intervention or attention-control conditions.

**Selection of teachers.** All kindergarten and first-grade teachers were eligible. Recruitment occurred during meetings in which the study goals, design, and data were explained. Ninety-eight percent of teachers consented; none withdrew during the current study.

**Data collection.** Pre- and posttreatment data were collected via classroom observations completed by data collectors. Administrative data on school demographic characteristics were publicly available. Teachers completed background questionnaires. Teachers, intervention facilitators, and a fidelity coder completed the fidelity checklists.

### INSIGHTS Intervention and Attention-Control Procedures

Schools assigned to INSIGHTS received (a) teacher sessions, (b) parent sessions, and (c) child/classroom sessions. Teacher and parent programs, held at each school, were delivered in 10 2-hour, parallel facilitated sessions with make-up sessions as needed. Teacher sessions took place during the school day; parent sessions were held during or after school. Parents received \$20 and teachers received professional de-



velopment credit and \$40 gift cards for participation in each session. The child/classroom program was delivered by facilitators with support from teachers in 10 weekly, 45-minute classroom lessons to all students. Student, parent, and teacher sessions took place concurrently during the intervention periods in kindergarten (February–April of the academic year) and first grade (November–January of the academic year).

INSIGHTS facilitators were screened for relevant skills and experiences prior to training. These included knowledge of child development and schooling, and experience working with children, parents, and/or teachers. The eight facilitators chosen to deliver the intervention were graduate students in psychology, education, and educational theater from varied racial/ethnic backgrounds. All intervention facilitators attended a graduate-level course to learn the theory and research underlying the intervention. New facilitators were trained by experienced facilitators to use the intervention materials, including videotapes, puppets, and flash cards. Each facilitator conducted the full intervention (teacher, parent, and child/classroom) in the schools to which s/he was assigned. To maintain fidelity, facilitators followed scripts, used material checklists, documented sessions, and received training and supervision. Deviations or clinical concerns were discussed weekly in supervision with the program developer (see O'Connor et al., 2012). Supervision focused on challenges related to teaching techniques, implementation logistics, and participant experiences. All teacher and parent sessions were videotaped and reviewed for coverage of content and effectiveness of facilitation (Hulleman & Cordray, 2009).

Schools not assigned to INSIGHTS participated in an attention-control condition: a 10-week, supplemental reading program after school for children whose parents consented. Teachers and parents attended two 2-hour workshops in which reading coaches presented strategies to enhance early literacy and provided reading materials. Parents received \$20 and teachers received professional development credit and \$40 for classroom resources for each workshop.

## Measures

Observed teacher practices and classwide behavioral engagement were measured in fall and spring. Fall reports of school, classroom, and teacher characteristics were included as covariates. Additional covariates were study cohort and grade of intervention participation.

**Intervention implementation: Dosage, engagement, and fidelity.** Program facilitators collected weekly attendance data for child, teacher, and parent sessions, which was subsequently used to measure intervention dosage. Facilitators also reported on child, teacher, and parent participants' engagement in weekly sessions, using a scale ranging from 1 (low) to 5 (high). Facilitators reported on intervention fidelity in child/classroom programs by self-reporting on the extent to which curriculum content was covered (scale from 1 to 3: "not at all" to "a great deal").

Fidelity of the teacher and parent components was monitored in systematic review of session videotapes by an expert external consultant. Session content guides were used in a checklist format to identify the extent to which content was covered in each session. In addition, information was gathered on a 5-point scale about facilitator skill in delivery, including question asking, quality of praise, validation, and limit setting. Data were aggregated across intervention cycles by facilitator. Data

from the 10 sessions were used to calculate overall fidelity across the three cohorts of schools. Because there were no significant differences in fidelity across cohorts, data represent one implementation of the INSIGHTS program, rolled out across three cohorts and four total years of implementation and data collection. Given lack of complete consent from all children in classrooms, videotaped fidelity data are not available for child/classroom sessions.

**Outcome measures: Teacher practices and classwide student behaviors.**

Teacher practices of emotional support and classroom organization, the first set of outcome variables examined in this study, were observed with the Classroom Assessment Scoring System (CLASS; Pianta, La Paro, & Hamre, 2008). The CLASS assesses aspects of teacher practice associated with expected classroom characteristics (Pianta et al., 2005) and predictive of young children's academic and social-emotional development (Brown et al., 2010; Mashburn et al., 2008). The CLASS measures three domains: emotional support, classroom organization, and instructional support (Hamre et al., 2013). Emotional support includes four dimensions of teacher practices: positive climate, negative climate, teacher sensitivity, and regard for student perspectives. Classroom organization has three dimensions: productivity, behavior management, and instructional learning formats. INSIGHTS was not expected to affect CLASS instructional support (e.g., concept development, language modeling); thus, this domain was not included in the current study. Although INSIGHTS was not developed to target the specific CLASS domains, the CLASS is the most reliable and valid measure to assess the responsive teaching practices emphasized in INSIGHTS. All dimensions were coded on a 7-point scale: 1 or 2 (low) to 6 or 7 (high) (negative climate is reverse coded).

Observations were conducted by a single data collector blind to intervention condition and trained to reliability using the following procedures: (a) 2-day training with a certified CLASS trainer, and (b) scoring within one point of gold-standard codes on 80% of CLASS dimensions across five 15-minute video segments. During the first live classroom observation, data collectors observed with a master coder to ensure agreement in live coding. Agreement between data collectors and master coders was above 80% for all observations. Between data collection periods, each data collector passed a video-based continuing reliability test. Intraclass correlations (ICC) were used to assess interobserver agreement between data collectors and the gold-standard codes before each wave of data collection. ICCs for emotional support were 0.82 to 0.94 and for classroom organization were 0.84 to 0.93 across study waves.

To build familiarity and reduce reactivity, data collectors introduced themselves to teachers prior to students' arrival. Data collectors sat in a location suggested by the teacher for an unobstructed view of the classroom with minimal impact on instruction. Aligned with common practice (Brown et al., 2010), data collectors observed for 15 minutes and recorded scores for 10 minutes four times during the first 100 minutes of the school day. Dimensions were coded each time and values were averaged for a dimension score. The four dimension scores were averaged to form the emotional support domain score (current study  $\alpha = 0.86\text{--}0.88$ ), and the three dimension scores were averaged to create the classroom organization domain score (current study  $\alpha = 0.85\text{--}0.88$ ). These scores served as dependent variables in this study.

Classwide student engagement and off-task behaviors, the second set of outcomes examined in this study, were measured using the Behavioral Observation of Students in Schools (BOSS; Shapiro, 2004). The BOSS assesses students' behavioral engage-

ment and off-task behaviors during academic activities, and has been used to discriminate students with and without attentional and behavioral problems (DuPaul et al., 2004; Volpe, DiPerna, Hintze, & Shapiro, 2005). However, the BOSS also involves coding the behaviors of a random selection of nonidentified students in each classroom. This provides an overall index of classwide student behaviors. In the current study, we use these nonidentifiable codes to avoid problems of setting-level aggregation from a small and nonrandom group of consented students (Jacob, Goddard, & Kim, 2013; What Works Clearinghouse, 2008).

The BOSS uses momentary time sampling to measure students' active engagement (e.g., raising hand, writing) and passive engagement (e.g., listening, reading silently). Momentary time sampling has been shown to reliably capture the duration of sustained behaviors in context (e.g., Hintze, Volpe, & Shapiro, 2002; Meany-Daboul, Roscoe, Bourret, & Ahearn, 2007). To measure off-task motor behaviors (e.g., out of seat, fidgeting) and off-task verbal behaviors (e.g., calling out, whispering to friend), the BOSS uses partial interval recording procedures. Partial interval recording has been shown to reliably assess the frequency of intermittent behaviors in context (e.g., Hintze et al., 2002; Meany-Daboul et al., 2007).

In the current study, each classroom was observed by a single data collector blind to intervention condition. Reliability procedures included (a) a 4-hour lab-based training, (b) three segments of video practice coding, (c) a 2-hour live training, and (d) achieving 80% or above agreement on all coding categories in two classroom observations with a master coder. Interobserver agreement was assessed prior to each wave of data collection. Kappa coefficients were calculated to document the level of interobserver agreement beyond chance levels. Mean percentages of occurrence, nonoccurrence, and total agreement across the categories ranged from 0.80 to 0.95 ( $M = 85.27$ ,  $SD = 2.32$ ). Mean kappa coefficients ranged from 0.82 to 0.93 ( $M = 0.86$ ,  $SD = 0.04$ )—within the range reported in other studies (DuPaul et al., 2004).

All observations occurred during a morning academic period. In each classroom and at each time point, eight 15-minute observations were conducted over 2 to 4 days. Each observation comprised 60 15-second intervals of momentary time sampling (first second of each interval) and partial interval recording (seconds 2 to 15 of each interval). Every fifth interval (e.g., interval 5, 10, 15 . . . 60), a randomly selected, nonidentifiable peer was observed. Aligned with the BOSS protocol, the observer chose these peers by randomly selecting one child to observe in the first interval of peer coding, and then proceeding clockwise around the room to each of 11 additional children for each subsequent interval of peer coding. With 12 intervals of peer coding in each observation and eight observations per classroom, a total of 96 intervals of data were used to assess each classroom at each time point.

Because active and passive engagement codes were mutually exclusive, each classroom's total engagement percentage was calculated by dividing the sum of active and passive engagement codes by the total number of intervals observed and multiplying by 100. Because off-task behaviors are not mutually exclusive (i.e., a student could be off-task motor and off-task verbal in the same interval), each classroom's off-task behavior percentage was calculated by dividing the average of the off-task motor and verbal codes by the total number of intervals observed and multiplying by 100. These two codes—classwide engagement and classwide off-task behaviors—served as dependent variables in this study.

**Covariates: School and classroom characteristics.** A series of school and classroom characteristics were used as covariates in predictive analyses to improve the precision of impact estimates (Shadish, Cook, & Campbell, 2002). Administrative data collected by the school district were used to measure the percent of students in each school who were (1) eligible for free/reduced-price lunch, (2) Hispanic, and (3) Black. Participating teachers reported on their years of teaching experience. During classroom observations, research assistants collected information on class size and number of adult staff present during academic activities.

### Data Analyses

To examine intervention impact on classrooms, a series of analyses were conducted at school and classroom levels. Prior to testing hypotheses, missing data were identified and classroom-level missing values were imputed.

**Missing data analyses.** There were no missing data for school-level variables. For classroom-level variables, two classrooms were missing data on teacher practices, and 11 additional classrooms were missing a pretreatment (PreT) covariate. A multiple data imputation method (MI) was employed and 10 separate datasets were imputed by chained equations, using STATA MICE in STATA version 12 (Little & Rubin, 1987). The two-level models were run separately on each of the 10 datasets. Final parameter estimates were generated by calculating the mean of those 10 estimates in STATA 12 (see Tables 2, 3). We also ran analyses using a listwise deletion procedure to handle missing data. Because results were consistent across the two methods, we present the findings from the multiple imputation analysis.

**Multilevel models.** Due to the nested nature of the data (classrooms within schools) (Raudenbush & Bryk, 2002), analyses were conducted within a multilevel modeling framework using XT MIXED in STATA 12 (Rabe-Hesketh & Skrondal, 2008). First, unconditional models were run on spring teacher practices and classwide behavioral engagement/off-task behaviors to determine whether there was significant between-school variation in these outcomes. Based on the estimates from the unconditional model, intraclass (ICC) correlations were computed to assess the proportion of variance in classroom emotional support ( $ICC = 0.16$ ), organization ( $ICC = 0.18$ ), behavioral engagement ( $ICC = 0.18$ ), and off-task behaviors ( $ICC = 0.17$ ) attributed to mean differences between schools. Level 2 random effects were included in subsequent models to allow the intercept to vary across schools. In addition, random effects for all Level 2 predictors, including intervention condition, were included to allow variation in these slopes across schools (Raudenbush & Bryk, 2002).

The second set of analyses examined changes in teacher practices and classwide behaviors at the end of the year controlling for baseline levels. A series of multilevel regression models were run in which each posttreatment (PostT) teacher practice or behavioral engagement/off-task behavior score was modeled as a function of (a) intervention condition, (b) PreT teacher practice (emotional support or classroom organization) or classwide behavior (engagement or off-task) score, (c) classroom covariates (grade, class size, number of teachers, and years teaching), and (d) school covariates (cohort, school size, and student composition). All continuous predictors were centered around their grand mean.

Lastly, we evaluated variation in INSIGHTS's impact on teacher practices and classwide behavioral engagement/off-task behaviors as a function of grade. These

multilevel regression models included the interaction between grade ( $1 = 1$ ;  $K = 0$ ) and intervention condition.

**Proportion of variance and effect-size calculations.** Proportion of variance and effect sizes were calculated for significant findings. Within-classroom proportion of variance—pseudo  $R^2$ —was computed for multilevel models by comparing the residual variance components of the null model with those of the full models (Singer & Willett, 2003). Effect sizes were calculated following procedures by Feingold (2009) for multisite cluster randomized trials, yielding effect sizes in the same metric as classical designs, thus facilitating comparisons across studies.

## INSIGHTS Intervention Implementation

**Dosage.** Attendance data collected by program facilitators were used to calculate dosage. There was high participation among teachers. Out of 10 sessions, teachers attended 8.99 ( $SD = 1.28$ ) sessions on average. Most teachers (61.6%) attended all sessions; 89.7% attended at least eight sessions. The average number of classroom sessions attended by participating children was 8.30 ( $SD = 2.25$ ). Thirty-two percent of children were present for all sessions; 46.3% were present for eight or nine sessions. The average number of sessions attended by parents of participating children was 5.93 ( $SD = 4.15$ ). Twenty-five percent of the parents were present for all sessions; 30.3% were present for eight or nine sessions. This intervention dosage is comparable to similar SEL interventions in schools (e.g., Brown et al., 2010; Raver et al., 2011; Webster-Stratton et al., 2008).

**Engagement.** On a scale from 1 (low) to 5 (high), mean engagement was 3.99 for child/classroom sessions, 4.02 for teacher sessions, and 4.21 for parent sessions.

**Fidelity.** Videotapes demonstrated that, across the 10 sessions, 94% of the curriculum was adequately covered in the teacher sessions and 92% of the curriculum was covered in the parent sessions. Examination of fidelity data was calculated across the three cohorts and aggregated across kindergarten and first-grade participants. On a three-point scale, the mean rating of the extent to which child/classroom sessions covered prescribed content was 2.77. On a scale from 1 to 5, the independent rater assessed facilitators' average intervention delivery skills as 4.21 ( $SD = 0.65$ ) for question asking, 3.95 ( $SD = 0.50$ ) for quality of praise, 4.01 ( $SD = 0.54$ ) for contribution validation, and 4.00 ( $SD = 0.64$ ) for limit setting. In schools assigned to INSIGHTS, no statistically significant variation in implementation fidelity was found across classrooms.

## Results

Descriptive statistics for all study variables are presented in Table 1. Below, we provide information on the success of randomization. Then, we present the results of the multilevel regression models examining intervention effects on teacher practices and classroom behaviors. All impacts reported are at the classroom level; no student-level outcomes are presented in this study. Associations between covariates and outcomes are also presented in Tables 2 and 3.

Table 1. Descriptive Statistics for Variables of Interest

Variable	Time 1				Time 2			
	INSIGHTS		Attention- Control		INSIGHTS		Attention- Control	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Full sample descriptives ( $n = 120$ ):								
Emotional support (1–7)	4.53	.90	4.94	.83	4.51	.81	4.85	.78
Classroom organization (1–7)	4.29	1.04	4.38	.91	3.97	.91	4.13	.96
Classwide behavioral engagement	.65	.15	.71	.12	.69	.15	.66	.16
Classwide off-task behaviors	.15	.06	.15	.06	.15	.07	.16	.07
No. of years teaching	14.30	7.76	13.45	9.40	—	—	—	—
No. of adults in class	1.38	.63	1.54	.70	—	—	—	—
Class size	16.24	2.94	16.01	3.09	—	—	—	—
Sample sizes	$n = 57$		$n = 63$					
Kindergarten descriptives ( $n = 60$ ):								
Emotional support (1–7)	4.55	.95	5.03	.84	4.59	.86	4.91	.92
Classroom organization (1–7)	4.17	1.19	4.40	.91	3.85	.95	4.26	1.09
Classwide behavioral engagement	.64	.15	.72	.12	.69	.15	.67	.16
Classwide off-task behaviors	.20	.09	.20	.09	.18	.08	.21	.10
No. of years teaching	13.91	7.52	12.62	7.56	—	—	—	—
No. of adults in class	1.38	.63	1.59	.67	—	—	—	—
Class size	15.29	3.15	15.87	3.01	—	—	—	—
Sample sizes	$n = 30$		$n = 30$					
First-grade descriptives ( $n = 60$ ):								
Emotional support (1–7)	4.66	.87	4.65	.84	4.90	.81	4.46	.69
Classroom organization (1–7)	4.40	.88	4.37	.91	4.45	.86	4.01	.68
Classwide behavioral engagement	.72	.08	.73	.13	.71	.10	.73	.19
Classwide off-task behaviors	.20	.06	.15	.08	.18	.07	.18	.11
No. of years teaching	14.40	8.22	13.90	11.61	—	—	—	—
No. of adults in class	1.26	.34	1.48	.64	—	—	—	—
Class size	17.01	4.19	18.20	2.99	—	—	—	—
Sample sizes	$n = 27$		$n = 33$					
School-level variables ( $n = 22$ ):								
% Black	83.63	7.78	74.63	16.89	—	—	—	—
% Hispanic	50.80	27.89	37.63	25.68	—	—	—	—
% Eligible free/reduced lunch	81.43	12.63	78.50	18.78	—	—	—	—
School size	499	130	501	194	—	—	—	—
Sample sizes	$n = 11$		$n = 11$					

Note.—Dash (—) indicates data were not collected in the spring. Independent-sample  $t$ -tests showed significant differences between groups for overall PreT behavioral engagement (mean difference for control minus intervention = 0.06,  $t(118) = 1.89$ ,  $p < .05$ ) and kindergarten behavioral engagement (mean difference for intervention minus control = 0.08,  $t(58) = 2.35$ ,  $p < .05$ ). Significant differences ( $p < .05$ ) were observed between groups in PreT kindergarten emotional support (mean difference for intervention minus control = 0.48,  $t(58) = 2.04$ ,  $p < .05$ ).

### Time 1 Intervention versus Comparison Classrooms

Independent samples  $t$ -tests showed no significant pretreatment (PreT) differences between groups for teacher practices for the full sample. There was a significant difference in classroom behavioral engagement at PreT ( $t(118) = 1.89$ ,  $p < .05$ , Hedges's  $g = .44$ ), with intervention classrooms demonstrating lower overall levels (see Table 1). There was no significant difference between groups in PreT classroom off-task behaviors. After separating the classrooms by kindergarten and first grade, we did



Table 2. Observed Intent-to-Treat Main and Moderated Intervention Effects for Teacher Practice Outcomes

Fixed Effects	Main Effects Model		Treatment $\times$ First Grade	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Classroom emotional support:				
Constant	4.48 **	.12	4.60 **	.12
Fall classwide engagement	.58 **	.07	.55 **	.07
First grade	-.10	.12	-.37 *	.15
School % eligible for free/reduced lunch	1.01 *	.47	.95 *	.45
School % Hispanic	.16	.25	.18	.47
School % Black	-1.18 *	.61	-1.00 +	.59
Years of teaching experience	.25	.25	.31	.29
No. of adults in classroom	-.05	.10	-.05	.10
Class size	.03	.02	.03	.02
Treatment	.25 *	.13	-.03	.17
Treatment $\times$ first grade	-	-	.58 **	.22
Classroom organization:				
Constant	3.89 **	.15	4.06 **	.15
Fall classwide engagement	.50 **	.08	.49 **	.07
First grade	.03	.15	-.36 +	.19
School % eligible for free/reduced lunch	.84	.58	.73	.56
School % Hispanic	.24	.31	.25	.30
School % Black	-1.33 +	.74	-1.04	.72
Years of teaching experience	.35 *	.25	.25	.43
No. of adults in classroom	.07	.13	.07	.12
Class size	.02	.02	.02	.02
Treatment	.15	.16	-.26	.20
Treatment $\times$ first grade	-	-	.84 **	.27

+  $p < .1$ ,  $n = 120$  ( $n = 57$  INSIGHTS;  $n = 63$  attention-control).

\* $p < .05$ .

\*\* $p < .01$ .

detect significant differences between groups in kindergarten teacher emotional support ( $t(58) = 2.03$ ,  $p < .05$ , Hedges's  $g = .53$ ) and kindergarten classroom behavioral engagement ( $t(58) = 2.04$ ,  $p < .05$ , Hedges's  $g = .58$ ). Kindergarten classrooms in attention-control schools had higher levels of teacher emotional support and classroom engagement than kindergarten classrooms in intervention schools.

### Teacher Practices

We found a main effect of INSIGHTS on teacher practices of emotional support ( $b = 0.25$ ,  $p < .05$ , pseudo  $R^2 = 0.49$ ,  $ES = 0.30$ ; see Table 2). In other words, INSIGHTS classrooms evidenced higher levels of teacher emotional support after the intervention than attention-control classrooms, controlling for pretreatment levels and covariates. No significant main effects of intervention were detected for classroom organization ( $b = 0.15$ ,  $p = ns$ ; see Table 2).

The effect of intervention on teacher emotional support was moderated by grade, such that the treatment effect was pronounced for first-grade classrooms ( $b = 0.58$ ,  $p < .05$ , pseudo  $R^2 = .44$ ,  $ES = 0.68$ ; see Table 2, Fig. 3). In addition, analyses examining classroom organization as an outcome revealed a significant

Table 3. Observed Intent-to-Treat Main and Moderated Intervention Effects for Classwide Engagement and Off-Task Behavior Outcomes

Fixed Effects	Main Effects Model		Treatment $\times$ First Grade	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Classwide engagement:				
Constant	.67**	.03	.66**	.03
Fall classwide engagement	.48**	.11	.50**	.11
First grade	.01	.03	.04	.04
School percent eligible for free/reduced lunch	-.27**	.11	-.26*	.10
School percent Hispanic	.05	.06	.05	.05
School percent Black	.03	.13	.03	.14
Years of teaching experience	.07	.06	.06	.05
Number of adults in classroom	-.03	.02	-.03	.02
Class size	.00	.03	.03	.00
Treatment	.03	.03	.06 <sup>+</sup>	.04
Treatment $\times$ first grade	—	—	-.06*	.03
Classwide off-task behaviors:				
Constant	.20**	.01	.19**	.01
Fall classwide engagement	.85**	.06	.87**	.06
First grade	.00	.01	.03 <sup>+</sup>	.01
School % eligible for free/reduced lunch	.03	.06	.04	.06
School % Hispanic	-.01	.03	-.01	.03
School % Black	-.05	.07	-.07	.07
Years of teaching experience	.02	.01	.02	.02
No. of adults in classroom	-.01	.02	-.01	.01
Class size	.00	.00	.00	.00
Treatment	-.01	.01	.01	.02
Treatment $\times$ first grade	—	—	-.04*	.02

<sup>+</sup>  $p < .1$ ,  $n = 120$  ( $n = 57$  INSIGHTS;  $n = 63$  attention-control).

\* $p < .05$ .

\*\* $p < .01$ .

moderation effect of treatment by first grade ( $b = 0.84$ ,  $p < .05$ , pseudo  $R^2 = 0.31$ ,  $ES = 0.93$ ; see Table 2, Fig. 3). First-grade INSIGHTS classrooms showed evidence of higher classroom organization scores than first-grade attention-control classrooms at the end of the year, controlling for pretreatment levels and covariates.

### Classwide Engagement and Off-Task Behaviors

There were no main effects of intervention on classwide behavioral engagement ( $b = 0.03$ ,  $p = ns$ ) or off-task behaviors ( $b = -0.01$ ,  $p = ns$ ). Yet there were significant moderated effects by grade for classwide behavioral engagement ( $b = -0.06$ ,  $p < .05$ , pseudo  $R^2 = .88$ ,  $ES = 0.52$ ; see Table 3, Fig. 4) and off-task behaviors ( $b = -0.04$ ,  $p < .05$ , pseudo  $R^2 = .74$ ,  $ES = 0.58$ ; see Table 3, Fig. 4). Kindergarten INSIGHTS classrooms evidenced higher levels of behavioral engagement than kindergarten attention-control classrooms at the end of the year. First-grade INSIGHTS classrooms had lower levels of off-task behaviors than first-grade attention-control classrooms at the end of the year. These findings were present controlling for pretreatment levels and covariates.

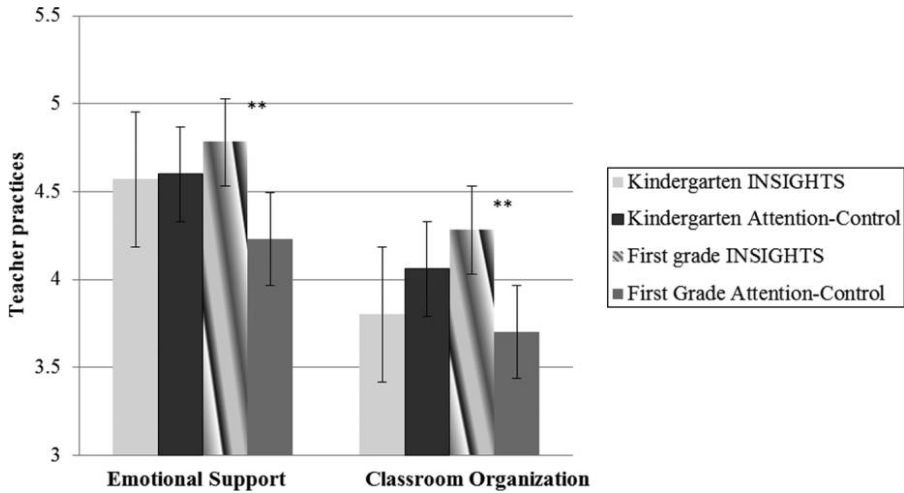


Figure 3. Impact of INSIGHTS on teacher practices by grade. Estimated effects include all covariates (classroom size, number of adults in classroom, number of years teaching, school percent Black, school percent Hispanic, school percent eligible for free/reduced-price lunch, school size, years teaching, and PreT levels of the outcomes). \*\* $p < .01$ .

## Discussion

In this study, we examine the classwide efficacy of INSIGHTS, a universal social-emotional learning (SEL) intervention for children in low-income schools. Given the primary goals of INSIGHTS—to increase responsive teaching strategies and enhance children’s ability to regulate their classroom behaviors—we examined effects on teaching practices and classwide student behaviors during the critical early years of elementary school. This study contributes to the small but important literature on the impact of SEL interventions on classrooms.

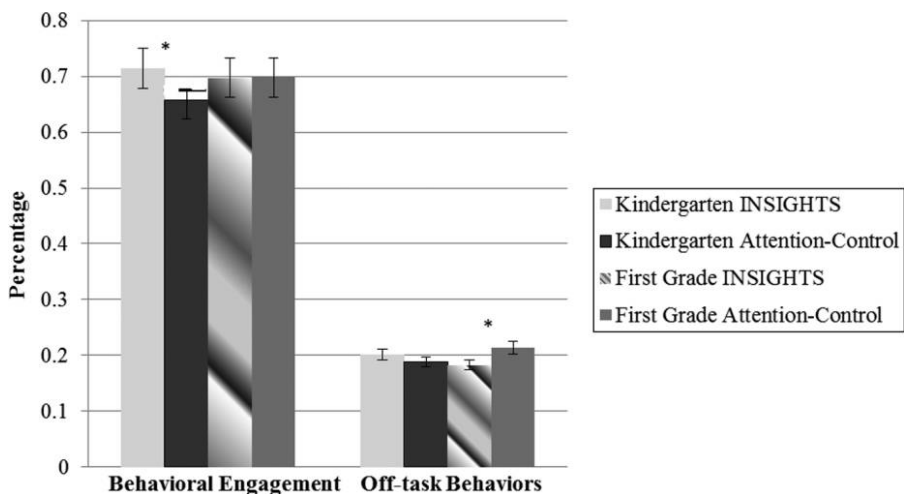


Figure 4. Impact of INSIGHTS on classwide engagement and off-task behaviors by grade. Estimated effects include all covariates (classroom size, number of adults in classroom, number of years teaching, school percent Black, school percent Hispanic, school percent eligible for free/lunch, school size, and PreT levels of the outcomes). \* $p < .05$ .

Classroom observations in the fall and spring revealed a positive intervention effect on teacher emotional support, which was magnified in first-grade classrooms. Similarly, in first-grade classrooms assigned to INSIGHTS, teacher practices of classroom organization improved. In addition, we found grade-level moderation for classwide student behaviors: in kindergarten, INSIGHTS increased behavioral engagement; in first grade, INSIGHTS decreased off-task behaviors. Findings were present in models that controlled for initial levels of the outcomes and classroom and school covariates. We discuss these findings in light of the current literature and highlight implications for future research and intervention to build positive and productive classrooms in the early years of elementary school.

### Teacher Practices

The impact of INSIGHTS on teacher emotional support is consistent with several recent studies. The current study's effect sizes (0.30) are comparable to the effects found on emotional support in an experimental trial of a classroom intervention in third grade (4Rs; Brown et al., 2010). Similar effects have been reported in studies of teacher consultation and coaching programs in low-income elementary schools (Cappella et al., 2012) and preschools (Raver et al., 2008). Given the focus of the teacher sessions on responsiveness to individual students' differences, it is not surprising that emotionally supportive practices—sensitivity, safety, warmth, and regard—increased in intervention classrooms. Longitudinal studies demonstrate that teacher emotional support matters for academic and social-emotional competence (Curby et al., 2009; Mashburn et al., 2008; Pianta et al., 2008). These studies—alongside evidence from experimental trials that emotional support is amenable to change—may have implications for teacher professional development. Still, continued work is needed to improve teacher emotional support to the levels that some studies suggest have the greatest potential to benefit students (Burchinal, Vandergrift, Pianta, & Mashburn, 2010).

We did not find a main effect of INSIGHTS on observed teacher practices of classroom organization in kindergarten. This is not inconsistent with other social-emotional and behavioral interventions or professional development programs (e.g., Brown et al., 2010; Cappella et al., 2012). However, a moderated effect was found: first-grade INSIGHTS teachers improved their classroom organization compared to first-grade attention-control teachers. The improvement is modest in practical terms; however, contextual change can be a powerful lever for individual change. Others have found that classrooms with higher levels of organization have more regulated children and more learning time (Rimm-Kaufman et al., 2009). In turn, behavioral regulation and time for learning are associated with increased achievement—critical in the early years of elementary school (Entwisle & Alexander, 1998; Pianta et al., 2008; Sektnan, McClelland, Acock, & Morrison, 2010).

Results indicate that teaching practices were less amenable to change in kindergarten. Given that intervention content was similar in kindergarten and first grades, other reasons for this discrepancy must be considered. For example, in low-income communities, many children begin kindergarten without sufficient preparation for the behavioral and academic demands of school (Zigler, Gilliam, & Jones, 2006). Teachers of kindergarten children may experience more stress as they facilitate students' transition to schooling, and therefore need greater consultation or coaching support to apply professional development to classroom practice (e.g., Noell et al., 2005). Other explanations are possible,

including unobserved differences between teachers or intervention processes by grade, and differential demands of teachers and children across grades. Additional research is necessary to replicate and unpack these findings.

### Classwide Behaviors

Although there was no main effect of INSIGHTS on classwide behavioral engagement, a grade-level moderated effect was found. Kindergarten children in INSIGHTS classrooms were more engaged in academic activities after the intervention than kindergarten children in attention-control classrooms. This result should be interpreted with caution given differences in classwide behavioral engagement prior to the intervention (intervention classrooms were lower). However, this finding is similar in magnitude to studies with individual engagement outcomes (Bierman et al., 2010; Raver et al., 2011). Moreover, we find this effect using an observation method that captures important aspects of academic adjustment in the early years (Rimm-Kaufman et al., 2009). Behavioral norms research (Barth et al., 2004; Skinner et al., 2008) and social learning theories (Bandura, 1977) suggest that classwide engagement may lead to steeper achievement trajectories for individual students (DiPerna, 2006; Skinner et al., 2008)—of particular importance as children begin their own school trajectories.

Lastly, intervention decreased classroom off-task behaviors in first grade. Prior work has found that when children's emotional and behavioral needs are met, children are better able to self-regulate. For example, a teacher professional development model in high-poverty preschools found that children improved their behavior regulation in classrooms observed to have more emotional support and behavior management (Raver et al., 2011). Child-centered practices, which include aspects of emotional support and classroom organization, are related to higher behavioral competence (Donohue, Perry, & Weinstein, 2003). Given that classroom behaviors, such as getting up without permission and speaking out of turn, can be distracting, even small reductions in these behaviors may enable more students to focus on academic work.

### Limitations and Future Directions

Several limitations must be noted and addressed in future research. The first concerns measurement. We used established observational measures of teacher practices and student behaviors in classrooms. However, observational measures capture single points in time and may be vulnerable to teacher reactivity or observer drift. Even though observers were trained well and were reliable before and during the research trial, with only one observer in the classroom, there was no guarantee of the reliability of the collected data. Future trials should include two observers per classroom for outcome measures as well as live observations of child/classroom sessions for fidelity measures. In addition, future research should include additional reporters (such as teachers or children) to measure teaching practices and classroom behaviors as well as gather observational data to measure fidelity of child/classroom sessions. Lastly, more textured measures of teacher characteristics, school social climate, and implementation quality would be beneficial in future studies toward unpacking variability across classrooms and grades.

Second, there are limitations regarding sample and intervention characteristics. The sample targeted in this study—kindergarten and first-grade classrooms in low-income schools—represents an important population to target in early school intervention.

However, we cannot generalize these findings to classrooms and schools with different structures and compositions. Also, this program had financial costs related to facilitation. Although this is not unusual for comprehensive school-based SEL programs, it is critical to conduct feasibility and cost analyses to determine the relative benefits and costs of this program for children and schools.

Another set of limitations concerns study power and design. This study was powered to detect student-level effects and may be underpowered to detect classroom effects. Future trials should be designed for setting-level analysis with sufficient power to detect change. In addition, the current study used an attention-control condition as the counterfactual. This accounts for time and resources spent but it does not provide either a “pure” control or an equivalent control. In the future, studies should examine classroom-level intervention effects compared to regular school practices and test whether INSIGHTS works differently or better than an equivalent program.

### Implications for Practice and Policy

Together with other research on SEL programs, this study has implications for practice and policy. First, several classroom interventions in low-income schools have shown modest effects in enhancing teacher emotional support to students. Related to initiatives in child mental health (Chorpita & Daleiden, 2009) and calls by other scholars (Becker & Domitrovich, 2011), evidence suggests the need to identify common elements across programs. These could be incorporated into teacher training to increase the likelihood that more children in the early grades experience more responsive and positive classrooms. However, if future research confirms current findings suggesting it is more difficult to shift kindergarten teachers’ practices, it may also be critical to find other ways to support the teachers of the youngest children in elementary school.

Second, the current study illuminates the importance of understanding and supporting classrooms at the transition to formal schooling. Classroom processes in the early years, including teacher practices and student behavioral norms, contribute to children’s experience of themselves as learners in school. These early experiences and behaviors provide a foundation for subsequent interactions—which are reinforced and magnified over time. Our findings suggest that universal school-based SEL programs may have broad contextual effects even with limited student enrollment. Alongside more research on classroom effects of SEL programs, this study suggests the need to create regular and natural opportunities within schools to assess classrooms and deliver targeted support to teachers and their students in the earliest grades.

Finally, the modest yet positive findings from the current study draw attention to the characteristics of INSIGHTS. Although it is implemented universally across children and teachers in early elementary classrooms, the curriculum explicitly teaches recognition of individual children’s strengths and needs, and promotes the use of differential and responsive teaching strategies to scaffold and support children’s development. Building responsiveness and flexibility to students’ individual differences directly into program curricula may increase the likelihood that similar interventions will be effective across a wider array of classrooms in our schools.



## Appendix

Table A1. INSIGHTS Curriculum Overview

Teachers	Children in Classrooms	Parents
Part 1: The 3Rs of Child Management: Recognize, Reframe, and Respond  Session 1: Recognizing child temperament Session 2: Reframing child temperament Session 3: Teacher responses  Part 2: Gaining Compliance	Part 1: Introduction to Temperament  Goal: With the help of puppets, understand that people have different temperaments, which make some situations easy and other situations challenging to handle  Part 2: Learn to Resolve Problems  Goal: Work with puppets, facilitator, and teacher to learn self-regulation strategies and resolve hypothetical dilemmas using a spotlight guide (red: recognize dilemma; yellow: think and plan; green: try it out)  Part 3: Resolve Problems in Classroom  Goal: Apply problem-solving process and self-regulation strategies to real dilemmas children experience in the classroom; use puppets to resolve dilemmas as they occur during and between classroom sessions	Part 1: The 3Rs of Child Management: Recognize, Reframe, and Respond  Session 1: Recognizing child temperament Session 2: Reframing child temperament Session 3: Parent responses  Part 2: Gaining Compliance  Session 4: Gaining control Session 5: Fostering social competencies Session 6: Fostering more competencies Session 7: Disciplining school-age children Session 8: Parents are people, too  Part 3: Giving Control  Session 9: Fostering independence and responsibility Session 10: Putting it all together

## Note

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## References

- Alexander, K. L., Entwisle, D. R., & Horsey, C. S. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education*, *70*, 87–107.
- Arnold, D. H., Brown, S. A., Meagher, S., Baker, C. N., Dobbs, J., & Doctoroff, G. L. (2006). Preschool-based programs for externalizing problems. *Education and Treatment of Children*, *29*, 311–339.
- Bandura, A. (1977). *Social learning theory*. New York: General Learning Press.
- Barth, J. M., Dunlap, S. T., Dane, H., Lochman, J. E., & Wells, K. C. (2004). Classroom environment influences on aggression, peer relations, and academic focus. *Journal of School Psychology*, *42*, 115–133.
- Becker, K. D., & Domitrovich, C. E. (2011). The conceptualization, integration, and support of evidence-based interventions in the schools. *School Psychology Review*, *40*, 582–589.
- Bierman, K. L., Coie, J. D., Dodge, K. A., Greenberg, M. T., Lochman, J. E., McMahon, R. J., & Pinderhughes, E. (2010). The effects of a multiyear universal social-emotional learning program: The role of student and school characteristics. *Journal of Consulting and Clinical Psychology*, *78*, 156–168.
- Breslau, J. B., Miller, E., Breslau, N., Bohnert, K., Lucia, V., & Schweitzer, J. (2009). The impact of early behavior disturbances on academic achievement in high school. *Pediatrics*, *123*, 1472–1476.
- Brown, L. J., Jones, S. M., LaRusso, M. D., & Aber, L. J. (2010). Improving classroom quality: Teacher influences and experimental impacts of the 4Rs program. *Journal of Educational Psychology*, *102*, 153–167.
- Burchinal, M., Vandergrift, N., Pianta, R., & Mashburn, A. (2010). Threshold analysis of association between child care quality and child outcomes for low-income children in pre-kindergarten programs. *Early Childhood Research Quarterly*, *25*, 166–176.
- Cameron, C. E., Connor, C. M., Morrison, F. J., & Jewkes, A. M. (2008). Effects of classroom organization on letter-word reading in first grade. *Journal of School Psychology*, *46*, 173–192.
- Cappella, E., Hamre, B. K., Kim, H. Y., Henry, D. B., Frazier, S. L., Atkins, M. S., & Schoenwald, S. K. (2012). Teacher consultation and coaching within mental health practice: Classroom and child effects in urban elementary schools. *Journal of Consulting and Clinical Psychology*. Advance online publication. doi:10.1037/a0027725
- Chess, S., & Thomas, A. (1984). *Origins and evolution of behavior disorders*. New York: Bruner/Mazel.
- Chorpita, B., & Daleiden, E. (2009). Mapping evidence-based treatments for children and adolescents: Application of the distillation and matching model to 615 treatments from 322 randomized trials. *Journal of Consulting and Clinical Psychology*, *77*, 566–579.
- Curby, T. W., Rimm-Kaufman, S. E., & Ponitz, C. C. (2009). Teacher-child interactions and children's achievement trajectories across kindergarten and first grade. *Journal of Educational Psychology*, *101*, 912–925.

- DiPerna, J. C. (2006). Academic enablers and student achievement: Implications for assessment and intervention services in the schools. *Psychology in the Schools*, **43**, 7–17.
- Donohue, K. M., Perry, K. E., & Weinstein, R. S. (2003). Teachers' classroom practices and children's rejection by their peers. *Journal of Applied Developmental Psychology*, **24**, 91–118.
- Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., . . . Japel, C. (2007). School readiness and later achievement. *Developmental Psychology*, **43**, 1428–1446.
- DuPaul, G. J., Volpe, R. J., Jitendra, A. K., Lutz, J. G., Lorah, K. S., & Grubner, R. (2004). Elementary school students with attention-deficit/hyperactivity disorder: Predictors of academic achievement. *Journal of School Psychology*, **42**, 285–301.
- Entwisle, D. R., & Alexander, K. L. (1998). Facilitating the transition to first grade: The nature of transition and research of factors affecting it. *Elementary School Journal*, **98**, 381–397.
- Feingold, A. (2009). Effect sizes for growth-modeling analysis for controlled clinical trials in the same metric as for classical analysis. *Psychological Methods*, **14**(1), 43–53.
- Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Development*, **76**, 949–967.
- J. T., DeCoster, J., Mashburn, A. J., Jones, S. M., . . . Hamagami, A. (2013). Teaching through interactions: Testing a developmental framework of teacher effectiveness in over 4,000 classrooms. *Elementary School Journal*, **113**(4), 461–487.
- Hawkins, J. D., Kosterman, R., Catalano, R. F., Hill, K. G., & Abbott, R. D. (2005). Promoting positive adult functioning through social development intervention in childhood: Long-term effects from the Seattle Social Development Project. *Archives of Pediatrics and Adolescent Medicine*, **159**, 25–31.
- Hintze, J. M., Volpe, R. J., & Shapiro, E. S. (2002). Best practices in the systematic direct observation of student behavior. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology* (4th ed., pp. 993–1006). Bethesda, MD: National Association of School Psychologists.
- Hulleman, C. S., & Cordray, D. S. (2009). Moving from the lab to the field: The role of fidelity and achieved relative intervention strength. *Journal of Research on Educational Effectiveness*, **2**, 88–110.
- Ialongo, N., Edelsohn, G., Werthamer-Larsson, L., Crockett, L., & Kellam, S. (2006). The significance of self-reported anxious symptoms in first grade children: Prediction to anxious symptoms and adaptive functioning in fifth grade. *Journal of Child Psychology and Psychiatry*, **36**(3), 427–437.
- Jacob, R. T., Goddard, R. D., & Kim, E. S. (2013). Assessing the use of aggregate data in the evaluations of school-based interventions: Implications for evaluation research and state policy regarding public-use data. *Education Evaluation and Policy Analysis*. doi:10.3102/0162373713485814
- Jones, S. M., & Bouffard, S. M. (2012). Social and emotional learning in schools. *Social Policy Report*, **26**(4).
- Jones, S. M., Brown, J. L., & Aber, J. L. (2011). Two-year impacts of a universal school-based social-emotional and literacy intervention: An experiment in translational developmental research. *Child Development*, **82**, 533–554.
- Kellam, S. G., Rebok, G. W., Ialongo, N., & Mayer, L. S. (1994). The course and malleability of aggressive behavior from early first grade into middle school: Results of a developmental epidemiologically-based preventive trial. *Journal of Child Psychology and Psychiatry*, **35**, 259–281.
- Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, **74**, 262–273.
- La Paro, K. M., Rimm-Kaufman, S. E., & Pianta, R. C. (2006). Kindergarten to 1st grade: Classroom characteristics and the stability and change of children's classroom experiences. *Journal of Research in Childhood Education*, **21**, 189–202.
- Liew, J., Chen, Q., & Hughes, J. N. (2010). Child effortful control, teacher-student relationships, and achievement in academically at-risk children: Additive and interactive effects. *Early Childhood Research Quarterly*, **25**, 51–64.
- Lin, H.-L., Lawrence, F. R., & Gorrell, J. (2003). Kindergarten teachers' views of children's readiness for school. *Early Childhood Research Quarterly*, **18**, 225–237.
- Little, R. J. A., & Rubin, D. B. (1987). *Statistical analysis with missing data*. New York: Wiley.

- Mashburn, A. J., Pianta, R. C., Hamre, B. K., Downer, J. T., Barbarin, O. A., & Byrant, D. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language and social skills. *Child Development*, *79*, 732–749.
- McClelland, M. M., Acock, A. C., & Morrison, F. J. (2006). The impact of kindergarten learning-related skills on academic trajectories at the end of elementary school. *Early Childhood Research Quarterly*, *21*, 471–490.
- McClowry, S. G., & Galehouse, P. (2002). A pilot study conducted to plan a temperament-based parenting program for inner-city families. *Journal of Child & Adolescent Psychiatric Mental Health Nursing*, *15*, 97–104.
- McClowry, S. G., Rodriguez, E. T., & Koslowitz, R. (2008). Temperament-based intervention: Re-examining goodness of fit. *European Journal of Developmental Science*, *2*, 120–135.
- McClowry, S. G., Snow, D. L., & Tamis-LeMonda, C. S. (2005). An evaluation of the effects of INSIGHTS on the behavior of inner city primary school children. *Journal of Primary Prevention*, *26*(6), 567–584.
- McClowry, S. G., Snow, D. L., Tamis-LeMonda, C. S., & Rodriguez, E. T. (2010). Testing the efficacy of INSIGHTS on student disruptive behavior, classroom management, and student competence in inner city primary grades. *School Mental Health*, *2*, 3–35.
- Meany-Daboul, M. G., Roscoe, E. M., Bourret, J. C., & Ahearn, W. H. (2007). A comparison of momentary time sampling and partial-interval recording for evaluating functional relations. *Journal of Applied Behavioral Analysis*, *40*(3), 501–514.
- Noell, G. H., Witt, J. C., Slider, N. J., Connell, J. E., Gatti, S. L., Williams, K. L., . . . Duhon, G. (2005). Treatment implementation following behavioral consultation in schools: A comparison of three follow-up strategies. *School Psychology Review*, *34*, 87–106.
- O'Connor, E. E., Cappella, E., McCormick, M. P., & McClowry, S. G. (2014a). An examination of the efficacy of INSIGHTS in enhancing the academic and behavioral development of children in early grades. *Journal of Educational Psychology*, *106*(4), 1156–1169.
- O'Connor, E. E., Cappella, E., McCormick, M. P., & McClowry, S. (2014b). Enhancing the academic development of shy children: A test of the efficacy of INSIGHTS. *School Psychology Review*, *43*(3), 239–259.
- O'Connor, E. E., Rodriguez, E., Cappella, E., Morris, J., & McClowry, S. G. (2012). Child disruptive behavior and parenting efficacy: A comparison of the effects of two models of INSIGHTS. *Journal of Community Psychology*, *40*, 555–572.
- Parr, J. M., & Townsend, A. R. (2002). Environments, processes, and mechanisms in peer learning. *International Journal of Educational Research*, *37*, 403–423.
- Pianta, R. C., Belsky, J., Houts, R., Morrison, F., & NICHD ECCRN. (2007). Opportunities to learn in America's elementary classrooms. *Science*, *315*, 1795–1796.
- Pianta, R. C., Belsky, J., Vandergrift, N., Houts, R., & Morrison, F. J. (2008). Classroom effects on children's achievement trajectories in elementary school. *American Educational Research Journal*, *45*, 365–397.
- Pianta, R. C., Cox, M. J., & Snow, K. L. (2007). *School readiness and the transition to kindergarten in the era of accountability*. Baltimore, MD: Brookes.
- Pianta, R. C., Howes, C., Burchinal, M., Bryant, D., Clifford, R., Early, D., et al. (2005). Features of pre-kindergarten programs, classrooms, and teachers: Do they predict observed classroom quality and child-teacher interactions? *Applied Developmental Science*, *9*, 144–159.
- Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008). *Classroom Assessment Scoring System: K–3 manual*. Baltimore, MD: Brookes.
- Ponitz, C. C., McClelland, M. M., Mathews, J. S., & Morrison, F. J. (2009). A structured observation of behavioral self-regulation and its contribution to kindergarten outcomes. *Developmental Psychology*, *45*, 605–619.
- Rabe-Hesketh, S., & Skrondal, A. (2008). *Multilevel and longitudinal modeling using STATA*. College Station, TX: STATA Press.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Application and data analysis methods*. Thousand Oaks, CA: Sage.
- Raver, C. C., Jones, S. M., Li-Grining, C. P., Metzger, M., Champion, K. M., & Sardin, L. (2008). Improving preschool classroom processes: Preliminary findings from a randomized trial implemented in Head Start settings. *Early Childhood Research Quarterly*, *23*, 10–26.

- Raver, C. C., Jones, S. M., Li-Grining, C., Zhai, F., Bub, K., & Pressler, E. (2011). CSRP's impact on low-income preschoolers' preacademic skills: Self-regulation as a mediating mechanism. *Child Development*, *82*, 362–378.
- Ray, K., & Smith, M. C. (2010). The kindergarten child: What teachers and administrators need to know to promote academic success in all children. *Early Childhood Education Journal*, *38*, 5–18.
- Riley-Tillman, T. C., Methe, S. A., & Weegar, K. (2009). Examining the use of direct behavior rating on formative assessment of class-wide engagement: A case study. *Assessment for Effective Intervention*, *34*, 224–230.
- Rimm-Kaufman, S. E., Curby, T., Grimm, K., Nathanson, L., & Brock, L. (2009). The contribution of children's self-regulation and classroom quality to children's adaptive behaviors in the kindergarten classroom. *Developmental Psychology*, *45*, 958–972.
- Rothbart, M. K., & Bates, J. E. (1998). Temperament. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional and personality development* (5th ed., pp. 105–176). Hoboken, NJ: Wiley.
- Ryan, A. M., & Patrick H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, *38*, 437–460.
- Schaps, E., Battistich, V., & Solomon, D. (2004). Community in school as key to student growth: Findings from the Child Development Project. In J. Zins, R. Weissberg, M. Wang, & H. Walberg (Eds.), *Building academic success on social and emotional learning: What does the research say?* (pp. 189–205). New York: Teachers College Press.
- Sektnan, M., McClelland, M. M., Acock, A., & Morrison, F. J. (2010). Relations between early family risk, children's behavioral regulation, and academic achievement. *Early Childhood Research Quarterly*, *25*, 464–479.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.
- Shapiro, E. S. (2004). *Academic skills problems: Direct assessment and intervention* (3rd ed.). New York: Guilford.
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. New York: Oxford University Press.
- Skinner, E. A., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology*, *100*, 765–778.
- Solomon, D., Watson, M. S., Battistich, V., Schaps, E., & Delucchi, K. (1996). Creating classrooms that students experience as communities. *American Journal of Community Psychology*, *24*, 719–748.
- Stipeck, D. J. (2004). Teaching practices in kindergarten and first grade: Different strokes for different folks. *Early Childhood Research Quarterly*, *19*, 548–568.
- Stuhlman, M. W., & Pianta, R. C. (2009). Profiles of educational quality in first grade. *Elementary School Journal*, *109*, 323–342.
- Vitaro, F., Brendgen, M., Larose, S., & Tremblay, R. E. (2005). Kindergarten disruptive behaviors, protective factors, and educational achievement by early adulthood. *Journal of Educational Psychology*, *97*, 617–629.
- Volpe, R. J., DiPerna, J. C., Hintze, J. M., & Shapiro, E. S. (2005). Observing students in classroom settings: A review of seven coding schemes. *School Psychology Review*, *34*, 454–474.
- Webster-Stratton, C., & Reid, M. J. (2004). Strengthening social and emotional competence in young children—the foundation for early school readiness and success: Incredible Years classroom social skills and problem-solving curriculum. *Infants & Young Children*, *17*, 96–113.
- Webster-Stratton, C., Reid, M. J., & Stoolmiller, M. (2008). Preventing conduct problems and improving school readiness: Evaluation of the Incredible Years Teacher and Child Training Programs in high-risk schools. *Journal of Child Psychology and Psychiatry*, *49*, 471–488.
- What Works Clearinghouse. (2008). *WWC procedure and standards handbook*. Washington, DC. Retrieved from [http://ies.ed.gov/ncee/wwc/pdf/reference\\_resources/wwc\\_procedures\\_v2\\_1\\_standards\\_handbook.pdf](http://ies.ed.gov/ncee/wwc/pdf/reference_resources/wwc_procedures_v2_1_standards_handbook.pdf).
- Zigler, E. W., Gilliam, W. S., & S. Jones. (2006). *A vision for universal preschool education*. New York: Cambridge University Press.