

PROMOTING SOCIAL AND ACADEMIC COMPETENCE IN THE CLASSROOM: AN INTERVENTION STUDY EXAMINING THE CONTRIBUTION OF THE *RESPONSIVE CLASSROOM* APPROACH

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This exploratory study examined the contribution of the *RC* Approach over a two-year period. The *RC* Approach integrates social and academic learning in order to produce classroom environments that are conducive to learning by integrating social and academic learning. Two questions are addressed. First, how does teachers' use of *RC* practices contribute to children's academic and social growth? Second, how is the relation between teachers' use of *RC* practices and children's academic and social growth moderated by the presence of environmental adversity in the home? Participants included 62 teachers and 157 children at six schools. Findings showed that teachers' use of *RC* practices was associated with students' improved reading achievement, greater closeness between teachers and children, better pro-social skills, more assertiveness, and less fearfulness, even after controlling for family risk and children's previous years' performance. Family risk did not moderate the relation between *RC* practices and children's performance. These findings suggest to the positive contribution of the *RC* Approach in relation to children's gains over a one-year period. © 2007 Wiley Periodicals, Inc.

Interventions to develop social and emotional growth in schools have been the focus of research for the past two decades. Recent accountability policies, particularly those articulated in *No Child Left Behind*, have redirected this research in two ways pertinent to the present study. First, there is an increased emphasis on the effectiveness of interventions that demonstrate academic as well as social growth as the criteria for success (Greenberg, et al., 2003). Second, there is increased recognition that interventions become classified as "evidence-based" through the gradual accumulation of evidence. This process is based upon a series of research studies ranging from early efficacy trials, effectiveness studies, to broad dissemination trials (Flay, et al., 2005).

Current knowledge suggests that programs and approaches to enhance social and emotional growth hold promise for improving classroom social processes, peer interactions, and academic learning. Such interventions, often referred to as Positive Youth Development Programs (Weisz, Sandler, Durlak, & Anton, 2005), have been linked to improved academic competence (Schaps, Battistich, & Solomon, 2004), social skills (Elliott, 1993), and bonding toward school (Abbott et al., 1998). Many Positive Youth Development programs have been well evaluated. However, others have been the focus of very limited scientific inquiry. The *Responsive Classroom*[®] (*RC*) Approach, used by more than 60,000 teachers nation-wide, has been the focus of few research studies (e.g., Elliott, 1999; Rimm-Kaufman & Sawyer, 2004). A first step to examine its contribution is to examine whether use of this approach relates to teachers' judgments of students' academic and social performance, a commonly used indicator of children's school success.

The present work examines two exploratory questions about the *RC* Approach. First, how does teachers' use of *RC* practices contribute to children's academic and social growth? Second, how is the relation between teachers' use of *RC* practices and children's academic and social growth moderated by children's experience with environmental adversity in their homes (i.e., sociodemographic risk)? These questions are examined during the first two years of a three-year

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quasi-experimental longitudinal study conducted by outside evaluators to examine the efficacy of the RC Approach.

Because so little data are available on the RC Approach, this article is situated early in the process to evaluate and understand its influence on children's learning. Many teachers and administrators adopt the RC Approach and question how soon they will see evidence of change. The goal of this work is to further our knowledge of the contribution of this social and emotional intervention over a single year and to provide information guiding practitioners as they consider implementation of the RC Approach.

THEORETICAL PERSPECTIVE

This work draws from two complementary theoretical frameworks in developmental psychology. The Bioecological Model, described by Bronfenbrenner & Morris (1998), lends one perspective. Bronfenbrenner and Morris (1998) define *proximal process* as the basic unit of development. Proximal process refers to children's regular, reciprocal, and increasingly complex interactions with people or objects in their environment. These proximal processes contribute to children's growth and thus, children's development can be viewed as a process that occurs in interaction with many facets of the child's environment, not only a process that occurs within the child. Important to this position, children's teachers, peers, and school environment play a critical role in children's development. Interventions that affect social processes among and within teachers, peers, and schools influence children's growth trajectory.

The second theoretical framework, described by Pianta (1999; 2006), applies the General Systems Theory to children's classroom experiences. Two key elements are important to this conceptualization. First, teachers' relationships with children are critical to their development. These relationships are vehicles or mechanisms for addressing the multifaceted needs that children have when they come to school—the need for recognition, safety, acceptance, as well as skill and academic development. Second, teachers play a regulatory role in their interactions with children. Teachers regulate the behavior of children in their classrooms through their relationships with children (e.g., teachers become role models and children behave in ways that are consistent with what is expected of them); the implicit and explicit structures they create in the classroom (e.g., classroom rules and procedures); and their disciplinary strategies (e.g., time out, punishment). As such, children's behavioral strengths and problems can be viewed from a relational perspective. An evident strength or problem is not simply a consequence of the child's skills or abilities (or lack thereof) but also of the teachers' approach to the organization of the social processes in the classroom.

The principles of RC Approach are congruent with these theoretical perspectives. The RC Approach acknowledges the important role that teachers' social interactions and children's daily school experiences play as mechanisms for enhancing development, consistent with the definition of proximal process. The RC Approach acknowledges the importance of relationships in children's school experience and has specific principles (e.g., social learning is as important as academic learning) and practices (e.g., a daily community-building morning meeting) designed to create implicit structures in the classroom that regulate children's behavior and promote positive relationships consistent with the approach advanced by Pianta (1999, 2006). Thus, the RC Approach is conceptually aligned with these two developmental theories.

CONTRIBUTION OF PROGRAMS AND APPROACHES TO ENHANCE CHILD OUTCOME

A recent comprehensive synthesis of the educational literature points to the importance of the psychological factors involved in learning. Interventions targeted toward these factors have been viewed as an important avenue for school reform (Wang, Haertel, & Walberg, 1993). For example,

the Child Development Project (CDP) focuses on fostering caring peer relationships, including children in decision-making, and teaching children how to understand others' feelings, needs, and perspectives. Findings from fully implementing schools showed positive effects on student attitudes and classroom behavior and on teachers' practices and perceptions. Further, in a district that pressed for high achievement, CDP was linked to positive effects on achievement outcomes (Battistich, Solomon, Watson, & Schaps, 1997). The Seattle Social Development Project (SSDP) involves cooperative teaching, proactive classrooms management, a cognitive-based social competence training for students in the early grades, and a voluntary family training component emphasizing prosocial behaviors and parental monitoring. Evaluations showed that students receiving the intervention perceived school as more positive and rewarding, were more attached to school (Hawkins, et al., 1992), and showed higher academic achievement compared to a comparison group (Abbott, et al., 1998). These interventions resemble the *RC Approach*—they emphasize the development of trust and sense of community in the classroom, proactive as opposed to reactive approaches to discipline and behavioral management, and explicit efforts to improve social skills. As such, these findings direct hypotheses about the contribution of the *RC Approach*.

The Responsive Classroom (RC) Approach

The *RC Approach*, developed by the Northeast Foundation for Children, prioritizes a caring classroom environment and integrates social and academic learning. There are seven essential principles of the approach: a) equal emphasis on the social and academic curriculum; b) focus on *how* children learn as much as *what* they learn; c) view that social interaction facilitates cognitive growth; d) emphasis on cooperation, assertion, responsibility, empathy, and self-control as critical social skills for children to learn; e) emphasis on teachers' knowledge of children's individual, cultural, and developmental characteristics; f) focus on understanding of children's families; and g) attention to the way in which adults work together within a school (Northeast Foundation for Children [NEFC], 2003).

Specific *RC* practices emerge from these seven principles. Several examples are as follows: (a) Morning Meeting—a daily meeting to create a sense of community in the classroom with time for sharing, games, and planning for the day; (b) Rules and Logical Consequences—consequences that follow logically from the misdeed (e.g., “You break it, you fix it”), that are developmentally and individually relevant to the child, and that rely on a trusting and positive relationship between the teacher and the child for their effectiveness; (c) co-creation of rules and expectations—specifically, teachers and students develop several, positively worded rules in the beginning of the year; and (d) shift in teacher language from “praise” to “encouragement” such that teachers comment on children's effort and learning process, not only products (NEFC, 1997). These principles and practices are designed to create classroom social processes that promote learning.

What are the key mechanisms of the *RC Approach* likely to produce change among children? *RC* classrooms offer clear expectations for behavior and academic performance, take more proactive than reactive approaches to discipline, offer opportunities for choice and personal initiation, and support children's growth and development from a more holistic perspective than a typical classroom that does not use the *RC Approach*. Quantifying the degree to which use of these classroom practices influences children's performance is the first aim of this article.

CONTRIBUTION OF FAMILY RISK IN PREDICTING SOCIAL AND ACADEMIC OUTCOMES

The second aim of this article is to examine whether the value of the *RC Approach* is greater or less for children “at risk” for school failure. Specific sociodemographic characteristics (e.g., poverty, single parent status, low maternal education, limited English proficiency) have been linked to school behavior problems and reduced academic competence. Thus, an attempt to predict

school performance must account for these factors. Children raised in poor families are more likely to have health problems, show delays in their intellectual development, and develop emotional and behavioral problems (e.g., McLoyd, 1998). Further, children living in poverty are less likely to have access to social and academic resources that promote academic development or mitigate stress. For example, there is evidence that low income families provide early home environments that are not as effective in stimulating intellectual and social development, even controlling for parent education, family structure, ethnicity, and number of children (Bradley, Corwyn, McAdoo, Garcia-Coll, 2001; Brooks-Gunn, Klebanov, & Liaw, 1995; Watson, Kirby, Kelleher, & Bradley, 1996).

Children raised with a single parent (or with mothers and stepfathers) are more likely than those living with both biological parents to show school behavior problems (Dawson, 1991; Zill, 1996a). Children whose mothers have limited education are less likely to be able to provide their preschool-aged children with responsive parenting and adequate medical care, contributing to problems upon school entry (Zill, 1996b; Zill, 1999). Children with limited English proficiency appear to have greater achievement problems (August & Hakuta, 1998). Research on kindergarten children describes that children from families with more risk factors pay attention less well and persist less well in completing tasks, skills that are critical for school success (Denton & West, 2002).

Not all children with "at risk" family profiles exhibit problems, raising questions about the ability of interventions to interrupt problematic patterns (Pianta & Walsh, 1996). Three patterns are plausible. One possibility is that school-based interventions play a compensatory role for children who lack social or economic resources at home. In this case, the benefit would be most notable for children with few resources at home. An alternative possibility is that school-based interventions may leverage off of existing social or economic resources, and thus children with greater resources at home would be most likely to benefit. A third possibility is that school-based interventions may not relate to children's exposure to family resources.

Some research from CDP supports the compensatory role of supportive classroom environments; children's perception of their school as a community was associated with children's academic attitudes, motives, and behavior, and this association was strongest at schools with the most disadvantaged student populations (Battistich, Solomon, Kim, Watson, & Schaps, 1995). Other work from the SSDP suggests no difference as a function of family resources; specifically, findings on school bonding were not different for children from families with low income (Hawkins, Guo, Hill, Battin-Person, & Abbott, 2001).

Based on these findings, there is reason to believe that the *RC* Approach may compensate for some aspects of disadvantage or be equally effective for children experiencing environmental adversity or not. Children from homes lacking in economic resources are more likely to experience a lack of social resources (Coleman, 1988), and they come to school not only needing access and training in academic skills but also having social and emotional needs that are specifically addressed in *RC* principles and practices. As Pianta (in press, p. 8) describes in relation to interventions akin to the *RC* approach, "In this way the multidimensional and relational nature of the treatment aligns with the multidimensional and relational nature of the risk it is intended to address."

RESEARCH QUESTIONS

The present study addresses two questions about the effectiveness of the *RC* Approach. First, how does teachers' use of *RC* practices contribute to children's academic and social growth? Our hypothesis is that children who are exposed to *RC* practices to a greater degree will show higher academic and social performance after accounting for previous year's levels of school performance. Second, how is the relation between teachers' use of *RC* practices and children's academic and social growth moderated by children's sociodemographic risk? Our hypothesis is that children's

exposure to the RC Approach may be as or more effective for children's lack of financial or social resources in the home environment.

METHODS

Participants

The teachers ($N = 62$) were mostly female (60 female, 2 male), had between 0–34 years of experience ($m = 11.43$), and ranged in age from 24–67 years ($m = 40.18$). Of these teachers, 57 were European American, one was African American, three were Asian American, and one self-identified as “other.” Seven of these teachers held only bachelor degrees and 55 held both bachelor and masters degrees. Teachers taught in grades one through four, with between 13 and 19 teachers per grade; 36 teachers taught at RC schools and 26 at comparison schools. Each teacher reported on between one and eight children in his or her classroom. Twenty-two teachers had only one enrolled child in his or her classroom.

The students ($N = 157$) were included in the sample if all of the following three conditions were met: a) their parents consented to participation; b) their teacher in Year 1 completed academic and social skills performance questionnaires about them; and c) their teacher in Year 2 completed teacher demographic and classroom practices questionnaires about their classrooms, as well as academic and social skill performance questionnaires. The student sample was comprised of 75 girls and 82 boys and included 117 Caucasian Americans, 19 Hispanic Americans, 8 African Americans, and 13 Asian Americans. Of these children, 11 were from single parent homes, 30 had low income for the region, 30 spoke a home language other than English, and 40 had mothers with a high school education or less. Approximately one third of the sample ($n = 59$) had one or more of these four risk factors. Specifically, 27 children had one risk factor, 15 had two risk factors, 14 had three risk factors, and 3 had four risk factors. Because of the few numbers of children with three or more risk factors, family risk was treated as a dichotomous variable.

The students were enrolled in one of six public schools in an urban district in the Northeast. Each school was diverse with regard to ethnicity and socioeconomic status. The schools, on average, had 53.6% of students who were ethnic minorities (range: 41.9%–66%) and 35.3% eligible for free or reduced-price lunch (range: 29.6%–41.2%).

Design and Procedures

This study was based on the first two years of a quasi-experimental, longitudinal three-year study. Six schools (three intervention, three comparison) were selected based on principal nomination and were well matched in terms of free/reduced lunch and limited English proficiency among families. Because this was only the second year of RC implementation, typically a three- to five-year process, not all teachers at RC schools had been trained in RC. Thus, the decision was made to use teachers' reported implementation of the RC Approach, not school-wide implementation, using a well-validated measure as an independent variable.

Data on families were collected at one time point, during Fall of Year 1. Parents of children at these six schools received a letter by mail describing the study from the district and the research team. Twenty-two percent of the parents returned the consent forms, a rate considered higher than expected by the collaborating district. Other options for recruiting families were not possible. Chi-squared analyses were conducted comparing the family risk status of our sample to that of the six target schools revealing that our sample had fewer children receiving free/reduced lunch or with limited English proficiency compared to the schools from which these children were sampled. This was not a great concern because children with family risk were well represented (accounting for 37.6% of the sample).

Teacher data were collected at three points: Spring of Year 1, Fall of Year 2, and Spring of Year 2. During both years, teachers at six schools were invited by mail and in person to participate and received a stipend for participating. The response rate was 49% in Year 1 and 69% in Year 2. The response rate increased between the two years because the teachers were more familiar with the study during the second year. The present study used questionnaires completed in the Spring of Years 1 and 2 to measure student performance and questionnaires completed in the Fall of Year 2 to assess teachers' characteristics and practices. (Student performance in Year 1 was treated as a covariate.)

In the Spring of Years 1 and 2, teachers reported on student performance using four questionnaires: (a) students' academic skills using the Mock Report Card (Pierce, Hamm, & Vandell, 1999); (b) their relationship with the students assessed through the Student-Teacher Relationship Scale (STRS; Pianta, 1992); (c) students' social skills assessed through the Social Skills Questionnaire (SSRS; Gresham & Elliott, 1990); and (d) students' social competence assessed through the Social Competence and Adjustment Scale (Ladd, Profilet, & Muth, 1996). In the Fall of Year 2, all teachers reported on their personal characteristics and the degree to which they used *RC* practices using two questionnaires: (a) the Demographic and Classroom Description Questionnaire and (b) the Classroom Practices Measure.

Implementation of the RC Approach. Three schools were selected by the Northeast Foundation for Children, the founders of the *RC* Approach, for full school-wide implementation. Three comparison schools received no training in the *RC* Approach. All training was conducted by certified *RC* consulting teachers. The *RC* 1 training occurred during a week in the summer and included an introduction to the philosophy and basic practices of the *RC* Approach (See NEFC, 1997; 2003). Teachers observed, practiced, or discussed key components of the *RC* Approach (i.e., Morning Meeting, Rules and Logical Consequences, Academic Choice, Guided Discovery, Understanding Children's Development, Communicating with Families). The *RC* 2 training occurred on five individual days across the school year. This second training reinforced the *RC* 1 training and provided more depth about the philosophy and practices of the *RC* Approach. *RC* 2 focused on advanced strategies, such as procedures for problem-solving class meetings, a shift in teacher language from praise to encouragement (i.e., instead of saying, "good job," saying "I noticed you were working hard on your math work"), and a greater range of strategies for working with and believing in the potential of children showing behavior problems.

Measures. The *Child Demographic Questionnaire* was an 11-item questionnaire describing family characteristics. Families were asked to report their family income, home language, mothers' education, parents' marital status, and other attributes. Four variables were summed to create a composite. Students having one or more of these risk factors—a family income considered low for the region (lower than \$49K per year) [$n = 30$], home language other than English [$n = 30$], mothers' education high school or less [$n = 40$], or single or non-married status [$n = 11$])—were coded as one and those having none were coded as zero.

The *Teacher Demographic Questionnaire* was a 22-item questionnaire to provide descriptive information about teachers and their classrooms. Items asked teachers to provide demographic information, such as age, experience, education, ethnicity, and other characteristics as well as provide information about their classrooms, such as number and race of students.

The *Classroom Practices Measure* was custom-designed and included 41 items to assess teachers' implementation of the *RC* approach. For 34 items, teachers were asked to rate each item on a 1 to 5 scale, representing the degree to which the description matched their practices. Each item provided teachers with two statements describing a classroom practice, one of which was not at all characteristic of *RC* practices and one of which was very characteristic of *RC* practices.

Classroom practices were *not* described using *RC* terminology to avoid biasing teachers' responses, yet the statements referred to distinctive practices taught in *RC* training. For example, in relation to opening exercises, one item asked teachers to choose from a scale from one to five where one represented, "the teacher greets children during opening exercises but classmates usually do not greet each other" and five represented, "the teacher greets children during opening exercises and classmates usually greet each other." Items asked teachers about their use and characteristics of: (a) hand signals, (b) classroom opening exercises, (c) classroom rules and consequences, (d) classroom organization, (e) introduction of materials, (f) student choice, (g) student reflection, (h) assessment and parent communication, (i) time-out, and (j) problem-solving class meetings. The remaining seven items were open-response questions and queried teachers about their classroom management and discipline strategies. These items were coded on a five-point scale, where zero equaled inconsistency, three equaled partial consistency, and five equaled consistency with *RC* practices. Two raters agreed at a level of 85% or above for the total of these items. Reliability was computed for the 41 classroom practices items, resulting in a Cronbach's alpha of .94. Mean scores served as the indicator of use of *RC* classroom practices.

This questionnaire showed high convergent and concurrent validity. To test convergent validity, ratings on this questionnaire were compared with observed use of *RC* practices in a validity study of 68 teachers. An observer conducted two-hour observations and reported on evidence of 16 different *RC* practices (e.g., does the teacher post rules in the classroom? Does the teacher allow time for a few students to share something personal?). Responses ranged from 0=none, 1=some evidence of the practice, to 2=practice clearly in place. The scores of these observations were averaged and correlation coefficients were computed between the observationally based and questionnaire assessments. Results showed a high correlation ($r = .70, p < .001$). This is likely a conservative estimate given that the items observed were not identical to those reported on the questionnaire.

To test concurrent validity, ratings were examined to test whether this measure detected differences between teachers at *RC* and comparison schools. Teachers at *RC* schools reported a mean of 4.20 ($sd = .37$), whereas teachers at comparison schools reported an average score of 3.54 ($sd = .69$). T-tests showed large differences between groups ($t(60) = 4.86, p = .0000$, effect size $d = 1.19$), indicating high concurrent validity.

The *Mock Report Card* (Pierce, Hamm, & Vandell, 1999) was used to garner teachers' evaluation of students' academic grades. Four items measured teachers' rating on students' school performance, including reading, oral language, written language, and math. The academic grade measure uses a numeric scale resembling a standard A to F grading scale. Teacher rated their students' performance on a scale of 1 to 5 (where 1 indicated below grade level and 5 indicated excellence).

The *Student-Teacher Relationship Scale* (STRS; Pianta, 1992) was used to assess teachers' perceptions of their relationships with students in a 15-item questionnaire. Two components of relationship were assessed: (a) conflict (seven items; $\alpha = .90$; e.g., "Child feels I treat him/her unfairly") and (b) closeness (eight items; $\alpha = .85$; e.g., "If upset, child will seek comfort from me"). Teachers rated their relationship with students on a scale of 1 to 5 (where 1 indicated definitely does not apply and 5 indicated definitely applies). One item was reversed and mean values were calculated.

The *Social Skills Rating Scale* (SSRS; Gresham & Elliott, 1990) was a 35-item questionnaire used to measure teachers' ratings on students' social skills. Three components were assessed: (a) cooperation (ten items; $\alpha = .92$; e.g., "Puts work materials or school property away"); (b) assertion (ten items; $\alpha = .86$; e.g., "Introduces him/herself to new people without being told"); and (c) self-control (ten items; $\alpha = .90$; e.g., "Control temper in conflict situations with adults").

The *Social Competence and Adjustment Scale* (Ladd, Profilet, & Muth, 1996) was a 32-item questionnaire used to assess students' classroom social behavior, particularly in relation to their peers. Items were rated on a three-point Likert-type scale ranging from zero (does not apply) to two (certainly applies). Six components of social competence and adjustment were assessed: (a) aggressive with peers (four items; $\alpha = .93$; e.g., "Fights with other children"); (b) prosocial with peers (four items; $\alpha = .90$; e.g., "Helps other children"); (c) asocial with peers (four items; $\alpha = .85$; e.g., "Prefers to play alone"); (d) excluded by peers (four items; $\alpha = .88$; e.g., "Not much liked by other children"); (e) anxious-fearful (four items; $\alpha = .78$; e.g., "Cries easily."); and (f) hyperactive-distractible (six items; $\alpha = .84$; e.g., "Squirmy, fidgety child"). Mean values were computed. Only components in which sufficient variability existed in our sample were used in the final analyses, and thus composites for aggressive with peers, asocial with peers, and excluded by peers were dropped.

Analytic Approach

Descriptive statistics (means, standard deviations) and correlation coefficients were computed for independent and dependent variables. Twelve four-step hierarchical regressions were conducted to examine the relation between teachers' use of *RC* practices and children's social and academic outcomes, and the degree to which being "at risk" for school failure (based on sociodemographic indicators) was a moderator of this relation.

Because this study examines gains in school performance during the first year of *RC* Approach intervention, a process that takes several years, we decided that teachers' use of *RC* practices was more important than school type as the key predictor. Thus, teachers' report of use of *RC* practices (a continuous variable), not school type (*RC* versus comparison), was used as the recurring independent variable. This decision was consistent with work describing the importance of integrity of implementation for strengthening the conclusions about the effectiveness of interventions (Battistich et al., 1997) as well as the generalizability of the findings (Domitrovich & Greenberg, 2000).

The same analytic approach was used for each hierarchical regression analysis. Each variable was entered in a separate step and each step controlled for variance from the previous step. As mentioned, the number of children in each classroom was variable, and in some cases, equal to one. As a result, the decision was made to maximize the number of teachers and children and not employ a nested design.

Academic outcomes are (a) reading, (b) oral language, (c) written language, and (d) math as assessed through the Mock Report Card. Social outcomes included (a) closeness and (b) conflict assessed through the STRS; (c) cooperation, (d) assertion, and (e) self-control assessed through the SSRS; (f) prosocial behavior with peers, (g) anxious-fearful behavior, and (h) hyperactivity-distractibility assessed through the Social Competence and Adjustment Scale.

Children's social or academic performance in Year 1 (using the same measure as for the criterion variable) was treated as a covariate in each model and was entered as step 1. The second step indicated family risk (0 = no risk factors evident, 1 = one or more risk factors). The third step described teachers' *RC* practices in Year 2 (range: 1–5; higher numbers reflect greater use of *RC* practices). The fourth step included the interaction between family risk and teachers' use of *RC* practices. A centering technique was used for this interaction to reduce multicollinearity problems (Tabachnick & Fidell, 1996).

Assumptions of multicollinearity, homoscedasticity, and normally distributed errors were checked and verified. Ordinary Least Squares (OLS) regression analyses were computed for 11 of the 12 models. Teachers' report of conflict with teachers showed skewed distributions. Thus, values were reassigned to zero (indicating no conflict) or one (indicating some conflict), and a logistic regression analysis was conducted.

This work is exploratory in nature. We interpreted findings cautiously with an eye toward statistical as well as practical significance. The sample size is small enough to warrant a traditional cutoff value of .05 for statistical significance and we reported findings where the incremental R^2 values were equal to or greater than .02, corresponding to a small effect size. Taken together, findings meeting both of these criteria have some practical significance (Fan, 2001; Thompson, 2002).

RESULTS

Descriptive Statistics and Simple Associations

The teachers ranged in their use of *RC* practices. Scores ranged from 2.32, indicating the teacher seldom used the practices described to 4.76, indicating the teacher often used the practices described frequently and thoroughly ($m = 4.0$, $sd = .60$). Table 1 shows means and standard deviations for each dependent variable. Also, this table shows correlation coefficients computed between family risk, teachers' use of *RC* practices, and children's outcomes. In all cases, children's performance in Year 1 was associated with children's performance in Year 2; the correlations were generally stronger in the area of academic skills (with r ranging from .62 to .75) than in the social domains (with r ranging from .28 to .64). Greater family risk is related inversely to academic outcomes (i.e., reading, oral language, written language, and math) and some social outcomes (i.e., teachers' perception of closeness, children's cooperation and prosocial behavior with peers). Teachers' who used more *RC* practices had children with higher scores on three of the four academic outcomes (i.e., reading, written language, and math, but not oral language), and three of the eight social outcomes (i.e., teachers' perception of closeness, assertion, and prosocial behavior

Table 1
Description of Dependent Variables and Correlation Coefficients Describing Relations between Family Risk, Teachers' Use of RC Practices, and Social and Academic Outcomes

Dependent variable	Mean	SD	Correlation coefficient (r)		
			Year 1 perf.	Family risk	Use of <i>RC</i> practices
Mock Report Card					
Reading	3.88	1.20	.75**	-.31**	.19*
Oral Language	3.89	1.13	.62**	-.33**	.15
Written Language	3.55	1.21	.72**	-.34**	.16*
Math	3.91	1.11	.70**	-.28**	.16*
Teacher-Child Relationship					
Closeness	4.28	.65	.28**	-.21**	.30**
Conflict	1.47	.83	.37**	.11	-.08
Social Skills					
Cooperation	1.58	.45	.64**	-.16*	.10
Assertion	1.48	.40	.29**	-.13	.24**
Self-Control	1.56	.43	.48**	-.16	.16
Social Competence					
Prosocial with Peers	1.26	.58	.33**	-.17*	.25**
Anxious-Fearful	.25	.38	.33**	.04	-.24**
Hyperactive-Distractible	.33	.45	.50**	.15	-.15

Note. * $p < .05$, ** $p < .01$.

with peers). Teachers' who used more *RC* practices had children who showed less anxious-fearful behavior.

Academic Outcomes

Academic Competence. Table 2 shows results from the first three steps of the four step regression analyses with reading, oral language, written language, and math as criterion variables. For reading, there was a small main effect (accounting for 2% of the variance) of *RC* practices, where teachers' use of more *RC* practices related to greater improvement in reading after controlling for earlier reading performance and family risk. There were no comparable findings for *RC* for oral language, written language, or math. The interaction between risk and teachers' use of *RC* practices was not a statistically significant predictor of academic competence for any of the four academic outcomes (reading, oral language, written language, and math) after controlling for previous year's academic performance, family risk, and teachers' use of *RC* practices.

Social Outcomes

Teacher-Child relationships. Controlling for previous year's levels of closeness and family risk, teachers using more *RC* practices perceived greater closeness to children, a finding accounting for 6% of the variance. A test of the interaction effect showed no interaction between family risk and teachers' practices in relation to closeness. There was no meaningful relation between teachers' use of the *RC* Approach in relation to teachers' perception of conflict with children. See Table 3 for results.

Social skills and social competence. Teachers' use of *RC* practices contributed positively to children's assertiveness in the classroom, after controlling for previous year levels of assertion and family risk, a finding that accounted for 4% of the variance in predicting teachers' report of assertion. No interaction effects were evident.

Table 2
Hierarchical Regression Results Predicting Students' Academic Performance From the Mock Report Card

Dependent and independent variables	F change	Block significance	Change in R^2	B	SE	Standardized β
Reading						
Step 1: Grade in Year 1	222.08	.000	.60	.78	.06	.75
Step 2: Family Risk Status	1.38	n.s.	.00	-.09	.13	-.04
Step 3: Use of <i>RC</i> Practices	8.39	.004	.02	.29	.10	.15
Oral language						
Step 1: Grade in Year 1	101.39	.000	.40	.61	.07	.60
Step 2: Family Risk Status	1.52	n.s.	.01	-.17	.16	-.07
Step 3: Use of <i>RC</i> Practices	2.98	n.s.	.01	.22	.12	.12
Written language						
Step 1: Grade in Year 1	167.52	.000	.52	.72	.06	.70
Step 2: Family Risk Status	.69	n.s.	.00	-.11	.15	-.04
Step 3: Use of <i>RC</i> Practices	.92	n.s.	.02	.10	.12	.05
Math						
Step 1: Grade in Year 1	147.25	.000	.49	.77	.07	.68
Step 2: Family Risk Status	1.05	n.s.	.00	-.11	.14	-.05
Step 3: Use of <i>RC</i> Practices	2.64	n.s.	.01	.17	.11	.09

Table 3
Hierarchical Regression Results Predicting Characteristics of Student-Teacher Relationship

<i>Ordinary Least Squares Regression</i>							
Dependent and independent variables	<i>F</i> change	Block significance	Change in R^2	<i>B</i>	<i>SE</i>	Standardized β	
Closeness							
Step 1: Year 1 grade	13.23	.000	.08	.27	.08	.25	
Step 2: Family Risk	6.94	.009	.04	-.23	.10	-.17	
Step 3: Use of <i>RC</i> Practices	10.52	.001	.06	.27	.08	.25	
<i>Logistic Regression</i>							
Dependent and independent variables	Chi ²	Block significance	Beta	<i>SE B</i>	Wald	Odds ratio	Significance
Conflict							
Step 1: Year 1 Grade	20.49	.000	1.52	.35	19.11	4.56	.000
Step 2: Family Risk	.81	n.s.	.32	.36	.81	1.38	n.s.
Step 3: Use of <i>RC</i> Practices	.02	n.s.	-.04	.30	.02	.96	n.s.

Examination of children's social competence showed the contribution of *RC* to increased levels of prosocial behaviors, decreased levels of anxious-fearful behavior in the classroom, after controlling for other explanatory variables. There was no relation between *RC* and hyperactive-distractible behavior, nor were there significant interactions between *RC* practices and family risk. See Table 4.

DISCUSSION

Two sets of findings emerged from these analyses. First, teachers' use of *RC* practices held small benefits in relation to teachers' perception of children's reading achievement, teachers' perception of closeness toward their students, and some aspects of children's social skill development, even after controlling for children's previous years' performance in these areas and family risk. The strongest predictor of children's school performance was their academic or social performance during the previous year (as reported by a different teacher); however, teachers' use of the *RC* Approach contributed positively even after accounting for earlier levels of performance. The goal of the *RC* Approach is to create classroom processes that are conducive to children's learning, and these findings offer preliminary evidence for modest effectiveness of these practices during the first year of *RC* implementation. Second, family risk did not moderate the relation between *RC* practices and children's outcomes pointing to no difference in efficacy of the *RC* Approach in relation to children's family risk status. The widening achievement gap between children from families of high versus low socioeconomic status has become a problem of national attention (Barton, 2003). Although the present findings show no evidence that use of the *RC* Approach compensates for this gap over a single year, the use of the *RC* Approach did not increase it in this exploratory work.

It is important to view this study in the context of the accumulation of knowledge in education science. Typically, the first studies of an intervention are often small scale and descriptive, followed by studies that are quasi-experimental and implemented under ideal conditions, which, in turn, are followed by investigations of the intervention using randomized-controlled trials under real world conditions (Flay et al., 2005; U.S. Department of Education, 2003). The present study

Table 4
Hierarchical Regression Results Predicting Students' Social Skills and Social Competence

Dependent and independent variables	<i>F</i> change	Block significance	Change in R^2	<i>B</i>	<i>SE</i>	Standardized β
Cooperation						
Step 1: Year 1 Cooperation	104.52	.000	.41	.62	.07	.62
Step 2: Family Risk	1.36	n.s.	.01	-.07	.06	-.07
Step 3: Use of <i>RC</i> Practices	.25	n.s.	.00	.03	.05	.03
Assertion						
Step 1: Year 1 Assertion	14.38	.000	.09	.23	.07	.25
Step 2: Family Risk	1.46	n.s.	.01	-.06	.07	-.07
Step 3: Use of <i>RC</i> Practices	5.95	.016	.04	.13	.05	.20
Self-control						
Step 1: Year 1 Self-Control	48.11	.000	.24	.46	.07	.47
Step 2: Family Risk	2.90	n.s.	.01	-.10	.06	-.11
Step 3: Use of <i>RC</i> Practices	1.77	n.s.	.01	.07	.05	.10
Prosocial with peers						
Step 1: Year 1 Prosocial	18.25	.000	.11	.33	.08	.31
Step 2: Family Risk	6.02	.015	.03	-.19	.09	-.16
Step 3: Use of <i>RC</i> Practices	4.80	.030	.03	.16	.07	.17
Anxious-fearful						
Step 1: Year 1 Anx./Fearful	18.03	.000	.11	.24	.07	.29
Step 2: Family Risk	.18	n.s.	.00	.01	.06	.01
Step 3: Use of <i>RC</i> Practices	5.91	.016	.03	-.13	.05	-.19
Hyperactive-distractible						
Step 1: Year 1 Hyp./Dist.	49.59	.000	.25	.41	.06	.47
Step 2: Family Risk	.99	n.s.	.01	.06	.07	.06
Step 3: Use of <i>RC</i> Practices	1.80	n.s.	.01	-.08	.05	-.10

reflects a preliminary phase of research on the *RC*. In relation to criteria designated by the Institute for Educational Sciences, the purpose of this work is to serve as an early efficacy trial of the *RC* Approach. As such, the questions, methods, and analytical decisions reflect the degree to which this approach is effective under specific conditions with specific types of students. In other words, the key question answered herein is: *Can* the *RC* Approach create a net positive impact for children receiving this intervention? The simple answer is yes. As such, the present article is part of a larger movement in education science to study the ways in which widely used educational practices contribute to children's growth and academic performance.

Academic Growth

Our findings showed a small positive relation between the *RC* Approach and children's growth in reading, using a well-validated measure of reading performance (the Mock Report Card; Pierce, et al., 1999). To be specific, a one-point increase in use of *RC* practices (as measured by the *Classroom Practices Questionnaire*) relates to slightly more than a quarter of a grade increase in reading. Two explanations are most plausible. First, one of the goals of the *RC* Approach is to address discipline problems proactively, thus allowing more time for teachers to instruct children. In the typical American schools, reading and literacy garner more instructional time than other subject areas (NICHD, 2005), and thus, it is not surprising that increased teaching time might first

improve reading scores. Second, this finding can be interpreted in light of local factors, specifically, the district studied used an approach to reading requiring small group and independent work by students. The *RC* Approach explicitly fosters children's self-control, responsibility, and autonomy; behaviors that are likely to contribute to children's ability to work independently or in small groups with less direct teacher interaction.

Teacher-Child Closeness

The findings show that teachers who use more *RC* practices perceive greater closeness to their students. The *RC* Approach is a tool for improving relationships in the classrooms, and some aspects of the *RC* training are designed specifically to increase the capacity of teachers to work with difficult students (NEFC, 2003). This increase in closeness between a teacher and his or her students serves as a resource in their development (Pianta, 1999) and has been linked to academic success and reduced discipline problems (Hamre & Pianta, 2001). Specifically, if children perceive closeness and experience their relationships with teachers as nurturing, warm, and supportive (not punitive or harsh), they are more likely to feel comfortable making mistakes in the classroom, to take risks that are essential for learning, and to adopt the academic and social goals and expectations of adults (Grusec & Goodnow, 1994). The *RC* Approach appeared to improve teachers' perceptions about children and teaching, a supposition supported by work demonstrating a link between use of *RC* practices, increases in teachers' feelings of self-efficacy, and teachers' changed belief structures (Rimm-Kaufman & Sawyer, 2004).

Social Skill Development

Use of the *RC* Approach enhanced specific social skills among children. For example, teachers reported greater assertiveness in the classroom, more prosocial behavior, and less anxious and fearful behavior, even after controlling for previous levels of these behaviors. Increased assertiveness and prosocial behaviors are stated goals of the *RC* approach, and teachers who use *RC* practices explicitly teach these skills, promote their use in the classroom, and provide repeated opportunities to practice them. For example, a daily Morning Meeting is used to teach children how to interact with each other in a positive manner, explicitly and implicitly teaching prosocial behaviors. Sharing during this Morning Meeting is designed to give children an opportunity to speak in a short and clear manner to the group about something of personal interest to foster assertiveness. The development of a sense of community through greetings and participation in fun activities may reduce fearfulness and anxiety among children in the classroom, an intended goal of the approach (Kriete, 1999).

These findings are consistent with other work suggesting the usefulness of socioemotional interventions for improving prosocial behavior. Children showed greater gains in prosocial behavior and assertiveness (as reported by parents and teachers) in a school implementing the *RC* Approach as compared to comparison schools over a six-month period (Elliott, 1993), as well as over a two-year period (Elliott, 1999). Battistich, Solomon, Watson, Solomon, & Schaps (1989) showed greater presence of prosocial skills in grades one through four in children receiving the CDP intervention, as measured in a reflective interview in which children were asked to resolve a hypothetical conflict. Such findings confirm that explicit social skill instruction contributes to social skill learning.

RC Approach in Relation to Family Risk

The present findings show no difference in effectiveness of the *RC* Approach for children from families identified as "at risk" based on sociodemographic indicators. Practitioners and policymakers frequently raise two critiques about socioemotional interventions, including the *RC* Approach.

First, that such interventions are more effective in schools serving children with ample economic and social family resources, suggesting that they leverage off of existing resources in order to be effective. Second, socioemotional interventions may actually be detrimental to children from families deemed “at risk” because they decrease the amount of instructional time in the classroom.

Although this study is exploratory, these critiques are not well-founded here. The present data suggests that the *RC* Approach was equally effective for children from “at risk” and not “at risk” backgrounds. Further, findings show no apparent detriment to experiencing the *RC* Approach in their elementary school classroom for children experiencing environmental adversity during childhood. Comparable findings have been found in the CDP and SSDP interventions (Solomon, Battistich, Kim, & Watson, 1997; O’Donnell, Hawkins, Catalano, Abbott, & Day, 1995).

Limitations

Two limitations require mentioning. First, the present study relies on teacher-reported measures of social and academic skills, posing a threat to internal validity. *RC* teachers may rate children more positively, because they view themselves as improved as a function of the *RC* training or because they perceive children less accurately and more positively. It is worth noting that existing work (e.g., Malecki & Elliott, 2002) shows a close relation between teachers’ ratings of competence and test scores (such as the Iowa Test of Basic Skills). Such work partially ameliorates our concern and validates the usefulness of teachers’ ratings for academic outcomes. Further, current work on teachers’ judgments suggests that teachers’ perceptions about children are multi-determined, reflecting both attributes of the child as well as teachers’ perceptions and judgments about children (Rimm-Kaufman, Pianta, & Cox, 2000; Saft & Pianta, 2001). This latter point is especially important because teachers’ perceptions about children often become reified in the classroom. It is plausible that the *RC* approach might improve child outcomes indirectly by enhancing teachers’ perceptions about children, a point worthy of future study. Second, the sampling in the present study was a limitation due to low to moderate response rates from teachers and children. The present study was conducted in a district in the northeast at a time when teachers and parents were extremely sensitive about the security of personal information. To increase the response rate, it would have been necessary to ask for less personal information (e.g., socioeconomic status, parent education) from our respondents. This trade-off seemed untenable given the goals of this work. As a consequence of this response rate problem, the sample size did not support the use of a nested design. The present article is preliminary work and future research is needed to build upon it. These limitations are less concerning when we consider that many practitioners adopt the *RC* Approach with virtually no evidence at all.

Closing Comments

Several future directions for this work have become evident. First, it seems essential to replicate these findings, and to do so using a randomized clinical trial of the *RC* Approach would strengthen the ability to make assertions about its effectiveness. Second, in research on other interventions designed to improve social and emotional learning, “short-term preventative interventions produce short-lived results” (Greenberg, et al., 2003, p. 470). Further research that examines the cumulative contribution of *RC* over several years, especially among children “at risk” for school failure, is important to understanding its effectiveness.

Recent work from the school psychology literature argues that schools can be viewed as the delivery mechanism for the majority of mental health services received by children in this country (Pianta, 2006; Rones & Hoagwood, 2000). Given the important role that schools play, educators of teachers have started to note the need for approaches to classroom management that are informed by theory and research in developmental psychology and that attend to children’s social and

emotional needs, as well as make the classroom operate smoothly from the perspective of the classroom teacher (Evertson & Weinstein, in press). As Pianta (2006, p. 498) synthesized, “Clearly the linkage of schooling and mental health is moving beyond add-on programs and social skills groups toward more complete integration at the conceptual and operational levels as evinced by embedding support resources to teachers and reforms in teacher education.” The RC Approach is an example of an approach to teaching that embeds support resources into the approach for all instruction; offers a non-fragmented approach to children’s social and academic development, and emphasizes high quality relationships and community-building as a starting point for classroom organization and instruction. The present article is one of a series of articles suggesting its small but notable contribution.

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