Promoting Social and Emotional Learning in Second Grade Students: A Study of the *Strong Start* Curriculum

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Abstract The promotion of social and emotional learning (SEL) in schools may help prevent emotional and behavioral problems of students. This study evaluated the effects of a SEL curriculum, *Strong Start*, on the social-emotional competence of 26 second grade students, using a quasi-experimental, non-equivalent control group design. Results revealed statistically significant and meaningful improvements in teacher ratings of students' internalizing and peer-related pro-social behaviors, particularly for students at greater risk. Conversely, control group students experienced significant worsening of internalizing behaviors and decreased levels of peer-related pro-social behaviors. No changes were reported in externalizing behaviors for either group. Treatment integrity and social validity ratings of *Strong Start* were high. Limitations and implications of this study are addressed.

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Introduction

Social and emotional learning (SEL) programs have demonstrated efficacy in research studies (Greenberg et al. 2003) and fit well within three-tiered prevention and intervention models (e.g., response to intervention and positive behavior support). Such models help practitioners classify students into three levels of risk (primary, secondary and tertiary) and suggest interventions for students found at each level (Walker et al. 2004). Many educators, parents, and policy makers are advocating that schools provide instruction and training in social and emotional competence to help prevent emotional and behavioral problems among students (Greenberg et al.). However, schools have been slow to adopt and sustain such programs or to implement them effectively (Walker and Gresham 2003).

Emotional and behavioral problems are generally classified into two domains: internalizing and externalizing (Kauffman 2005). Externalizing problems are described as "acting out" behaviors that may include physical and verbal aggression, anger, irritability, and defiance. Internalizing problems include depression, anxiety, shyness, social withdrawal, sadness, fear, and difficulty with demands that require social assertion. Though much research has focused on externalizing problems in school-aged children, significantly less attention has been paid to prevention of and interventions for internalizing disorders (Christensen et al. 2007). Internalizing problems are often overlooked because they are not disruptive but, like externalizing problems, if left untreated they may develop into emotional and behavioral disorders (EBD), which are associated with a number of negative outcomes (Kauffman 2005). As a prevention or early intervention strategy, SEL programs often focus on teaching competencies which

foster resilience and doing so at an age early enough to potentially eliminate such problems instead of just managing them (Walker et al. 2004).

Because many children do not receive the needed social and emotional learning in the home or community, schools can serve as an additional support and effective venue through which resilience can be fostered (Doll and Lyon 1998). It is estimated that as many as 20% of children have mental health problems and that 75–80% of these students do not receive treatment (Walker et al. 2004). Of those who are treated, 70–80% receives services in schools (Rones and Hoagwood 2000). Greenberg et al. (2003) assert that schools must expand their focus by including SEL instruction which fosters social and emotional competence, enabling students to develop into healthy, productive citizens.

SEL has been defined as the process of acquiring the fundamental skills needed to recognize and manage emotions, develop feelings of caring and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively (Collaborative for Academic, Social, and Emotional Learning (CASEL) 2008). The current study focused on pro-social behaviors and the ability to regulate and understand emotions. Pro-social behaviors include helping, sharing, and caring to build and maintain positive peer relations. Regulating and understanding emotions includes being able to control impulsive feelings and behaviors, identify and moderate negative feelings, and enhance positive feelings to comfort oneself (Payton et al. 2000). An inability to regulate emotions appropriately often leads to the development of internalizing and externalizing problems (Eisenberg et al. 2001). Effective SEL programs are designed to promote such competencies which predict positive outcomes such as peer acceptance and higher academic achievement (Trentacosta and Izard 2007).

The current study evaluated *Strong Start: A Social and Emotional Learning Curriculum* (Merrell et al. 2007), part of the *Strong Kids* program. *Strong Start* is one of the few SEL programs designed for primary grade students (K-2). Several empirical studies of the *Strong Kids* curricula have demonstrated significant increases in older students' emotion knowledge and decreases in their negative symptoms (Feuerborn 2004; Gueldner 2007; Merrell et al. 2008). But this study is the first to evaluate the efficacy of *Strong Start*. The curriculum was designed to meet three goals (Merrell et al. 2007); first, the prevention of emotional and behavioral problems via the promotion of social and emotional wellness among young children. This goal was evaluated in this study by examining whether students who participated in *Strong Start* showed a decrease in externalizing and internalizing behaviors and an increase in peer-related pro-social behaviors. The second goal of *Strong Start* was feasibility (i.e., acceptable objectives and procedures). This goal was evaluated by examining whether participating students and teachers found the curriculum to be socially valid. Third, a goal of *Strong Start* was that it be adaptable, able to be used for both universal prevention and targeted interventions. This goal was evaluated by examining whether students at higher levels of risk showed different levels of change at posttest than students at low or no risk following participation in *Strong Start*.

Method

Setting & Participants

This study was conducted at a suburban elementary school in Utah consisting of 502 students: 87% Caucasian, 10% Hispanic, and 3% from other ethnic groups. In addition, 31% qualified for free or reduced price lunch, and 14% received special education services. The school was selected because one of the investigators taught there. Though *Strong Start* was designed for use in grades K-2, this study focused on second grade due to both resource limitations and the fact that one of the investigators had previously taught second grade. An overview of the study was presented to the school principal and to the only two-second grade teachers at the school (i.e., convenience sample), after which both teachers consented to participate. Informed consent from parents and assent from students were then obtained, resulting in a 100% response rate.

The teacher of the treatment classroom was a Caucasian female in her second year of teaching who held a bachelor's degree in elementary education. Her classroom consisted of 24 students (13 males): 4 Hispanic, 20 Caucasian. The teacher of the control classroom was a Caucasian female completing an internship for a bachelor's degree in elementary education. There were 25 students (16 males) in her classroom: 1 Native American, 24 Caucasian. The *Strong Start* instructor, one of the investigators in the study, was a Caucasian female, certified elementary school teacher in her fourth year of teaching, and was completing a master's degree in Family and Human Development.

Dependent Variables & Measures

The dependent variables in the study consisted of teacher ratings of students' internalizing, externalizing, and peer-related pro-social behaviors. It is difficult to assess the perceptions of social and emotional competence of young children through written self-report measures. While a few self-report measures are available, these generally employ an interview-style assessment, which was not feasible

given the resource limitations of this study. Therefore, we relied on teacher ratings of students' behaviors. These ratings were completed one week prior to and one week following the administration of the *Strong Start* lessons. The subscales used for these ratings were selected as brief, feasible measures that would be reliable and valid, based on the recommendation of a leading researcher in the field of behavioral, social and emotional assessment of children (K. W. Merrell personal communication).

School Social Behavior Skills (SSBS)

The SSBS is a norm-referenced, standardized instrument designed to evaluate the social competence and antisocial behavior of children ages 5–18 (Merrell 2002). The Peer Relations subscale (consisting of 14 items) measures social skills and attributes important in establishing positive relationships and gaining social acceptance from peers. Internal consistency (*alpha*) of elementary teacher ratings has been reported as .96, indicative of a reliable measure. Sample items include "Offers help to other students when needed" and *"Is good at initiating or joining conversations with peers."* Teachers respond on a 5-point Likert scale indicating frequency of observed behavior, ranging from *never* (1) to *frequently* (5).

Social Skills Rating System (SSRS)

Teachers completed the Externalizing and Internalizing subscales (each consisting of six items) of the elementary school version of the SSRS (Gresham and Elliott 1990). This is a norm-referenced, standardized instrument designed to evaluate pro-social skills and problem behaviors of students in grades K to 12. Internal consistency (*alpha*) of elementary teacher ratings has been reported as .88 for the Externalizing and .78 for the Internalizing subscale, indicative of reliable measures. Sample items on the Externalizing subscale include *"Gets angry easily"* and *"Fights with others."* Items on the Internalizing subscale include *"Appears lonely"* and *"Acts sad or depressed"* (Gresham and Elliott, p. 4). The SSRS uses a 3-point scale, which indicates frequency of the behavior, ranging from *never* to *very often*. However, to maintain consistency, and potentially increase sensitivity of the measure, the 3-point scale was modified to the 5-point Likert scale used in the SSBS.

Independent Variable

The independent variable was implementation of *Strong Start* (Merrell et al. 2007). The content of the 10 *Strong Start* lessons includes topics such as understanding one's own feelings and the feelings of others, learning about being a friend, solving problems, dealing appropriately with anger, and handling anxiety. Teaching methods include direct instruction, scenarios, role plays, think/pair/ share activities and the use of children's literature. The lessons were taught weekly by the *Strong Start* instructor, with the classroom teacher present. Materials included an overhead projector, instructional supplies (e.g., paper, markers, etc.), tickets to reinforce appropriate behavior, and a stuffed animal to be used as curriculum mascot. As outlined in the curriculum, a *Strong Start* bulletin was sent home with students at the conclusion of each lesson, explaining to parents and guardians what was taught, encouraging them to reinforce the skills at home. While students in the treatment classroom were receiving *Strong Start*, those in the control classroom were receiving regular math instruction.

Treatment Fidelity and Social Validity

A research assistant observed and recorded treatment fidelity of each lesson component on a checklist. Results of the observations indicated that 95% of lesson components were completed fully. The remaining 5% were lesson summaries. The reason for partial and non-implementation was insufficient time at the end of two lessons. Lessons averaged 47 minutes and students responded an average of 38 times per lesson (recorded from four lessons) demonstrating active involvement.

Social validity was measured at the completion of the study by administering a questionnaire to the teacher and students of the treatment classroom. Teacher social validity was measured using an adapted version of the *Intervention Rating Profile-15* (IRP-15; Martens et al. 1985). The questionnaire consisted of 15 items with a 6-point Likert scale ranging from *strongly disagree* to *strongly agree*. The teacher was also interviewed regarding her perceptions of the curriculum. Student social validity was measured using an adapted version of the *Student Self-Assessment of Social Validity* (Lane and Beebe-Frankenberger 2004). This questionnaire consisted of 10 questions, 8 using a 4-point Likert Scale, and 2 open ended. The Likert scale consisted of four options: a smiley, straight or frowny face, and a question mark for "*I don't know*."

Design and Analysis

This study used a quasi-experimental, non-equivalent control group design with classrooms randomly designated as treatment or control. Students were not matched and were considered non-equivalent. Data analysis included descriptive statistics and t tests for dependent (within group) and independent (between groups) means, and Cohen's d effect sizes. To examine whether students at

greater risk differed in their response to *Strong Start* from students at lower risk, *t* tests for dependent means were also conducted.

Results

Results of the analyses are found in Table 1. On the Internalizing and Externalizing subscales of the SSRS a *decrease* in raw scores indicates improved functioning, while on the Peer Relations subscale of the SSBS an *increase* in raw scores indicates improved functioning. The results indicated that the treatment group experienced significant improvements on both the SSRS Internalizing subscale and the SSBS Peer Relations subscale. These gains were contrasted with significant worsening on both subscales for the control group. Neither the control nor treatment group experienced any significant changes on the Externalizing subscale of the SSRS.

To examine whether control and treatment groups differed significantly prior to and following implementation

Table 1 Pretest posttest raw score comparisons of treatment versus control group and at-risk versus average students

Measure	Pretest		Posttest		*d*	*t*
	M	SD	*M*	SD		
SSBS						
Treatment	47.71	14.39	55.58	12.44	0.59[b]	4.70***
Control	48.72	13.17	45.48	10.31	0.27[c]	−3.34**
SSRS-I						
Treatment	10.96	6.44	9.00	3.31	0.38[c]	−2.23*
Control	10.72	3.65	14.20	2.53	1.12[a]	6.25***
SSRS-E						
Treatment	8.88	4.32	8.79	5.04	0.02	−0.24
Control	7.96	4.23	8.36	3.44	0.10	1.51
SSBS						
At-risk	27.20	5.02	43.20	11.92	1.75[a]	3.86**
Average	53.11	10.56	58.84	10.61	0.54[b]	3.78***
SSRS-I						
At-risk	19.20	8.58	13.20	4.43	−0.88[a]	−2.12*
Average	8.79	3.59	7.89	1.85	−0.31[c]	−1.29
SSRS-E						
At-risk	10.40	6.27	9.01	7.05	−0.21[c]	−1.12
Average	8.47	3.78	8.63	4.61	−0.04	−0.43

Note: At-risk and average scores are from students in the treatment group

d Effect size

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[a] Large

[b] Medium

[c] Small

of the *Strong Start* curriculum, between-groups t-tests for independent means were conducted. Results revealed no significant difference at pretest for any of the measures. A comparison of posttest means revealed significantly higher scores on the SSRS Internalizing subscale ($t = -6.19$, $p < 0.001$, $d = 1.77$) and significantly lower scores on the SSBS ($t = 3.1$, $p < 0.01$, $d = 0.88$) for the control group. No significant differences between groups were found for the SSRS Externalizing subscale.

Within-group t-tests for dependent means were conducted to examine whether students at greater risk improved more than students at lower risk following *Strong Start*. In the treatment group 5 students (20.8%) were identified whose pretest scores placed them in the *at-risk* category on the SSBS Peer Relations subscale as outlined in the test manual (Merrell 2002). These 5 students also scored in the highest 20% on either the SSRS Internalizing or Externalizing subscale–further indications that they were at greater risk and similar to estimates of the three-tiered prevention model, which suggests that approximately 20% of students are at risk or at high risk (Walker et al. 2004).

The results indicated that both the at-risk and average students experienced significant increases on the SSBS Peer Relations subscale (see Table 1). The at-risk students also experienced significant decreases on the SSRS Internalizing subscale, though the change in average students was not significant. Neither group experienced any significant changes on the Externalizing subscale of the SSRS.

The social validity rating of the treatment classroom teacher on the adapted IRP-15 was 82 out of 90 (91%), suggesting a high level of satisfaction. During the interview she stated that *Strong Start* was particularly relevant for young students, especially skills of recognizing and managing emotions. She was pleased with the instructional methods and lesson content as it complemented the second grade social studies requirements. She wished the curriculum had been implemented earlier to prevent the "social friction" that had already developed in her classroom. She was concerned that the lessons seemed too long and suggested they be divided and given twice a week with more emphasis on solving interpersonal problems. Despite these concerns, she would recommend the curriculum to others. She ended her interview by noting the change in an internalizing student: "He has come a long way. He wouldn't even read aloud to me at first."

On the adapted *Student Self-Assessment of Social Validity*, positive responses comprised 74% of total responses, with 14% being neutral and 12% being negative, suggesting that most students were pleased with the program. Examples of student responses to open-ended questions included the following: "She taught us about feelings," "To learn to be kind," "Being able to know how

other people feel," "It was hard to just sit there," and "I could not talk a lot."

Discussion

The findings of this study support the use of *Strong Start* as a tool for fostering social and emotional competence in second grade students. Results suggest that students who received the curriculum experienced significant increases in peer-related pro-social behaviors and significant decreases in internalizing behaviors. The curriculum seemed to especially help the at-risk students who showed greater increases in pro-social behaviors and greater decreases in internalizing behaviors than average students. The decrease in internalizing behaviors is consistent with results from previous research on the *Strong Kids* program. Externalizing behaviors decreased only slightly, which is consistent with the fact that *Strong Start* was not designed to be a comprehensive program for all behavior problems (Merrell et al. 2007). Results indicate that students in the control group experienced an increase in internalizing behaviors and a decrease in pro-social behaviors, suggesting the preventative potential of the curriculum.

The fact that students in the treatment group showed significant improvement in their peer-related pro-social behaviors is important. These behaviors, such as showing empathy, sharing, and cooperating, are essential in making friends and maintaining positive relationships and serve as protective factors (Doll and Lyon 1998). These results support other research indicating that skills contributing to resilience can be systematically taught and learned (Walker et al. 2004).

Another important finding was that the curriculum seemed to be of particular benefit to students who had the greatest deficits in pro-social behaviors. As might be expected in an effective treatment, students who had the most potential for change experienced the greatest improvement. Results suggest that students identified as at risk, who would potentially be classified into secondary or tertiary levels, benefited comparatively more than the rest of the class. Thus the curriculum appears to have a preventative effect at the primary level and intervention effects at the secondary level.

In this study *Strong Start* was used as a universal intervention. Though the treatment group experienced a significant decrease in internalizing behaviors, the effect was much larger for at-risk students. This could have important implications, because identifying frequently overlooked internalizing students is a common barrier to treatment (Gresham and Kern 2004). As internalizing symptoms are most successfully reduced at an early age (Durlak and Wells 1997), a universal intervention could

provide needed help for at-risk children without individually identifying and treating them.

Results failed to show any significant effects of *Strong Start* curriculum on the externalizing behaviors of the treatment group. This was also the case for the control group. This suggests that the curriculum may not be equally effective for all types of emotional and behavioral problems and that an intervention more focused on externalizing behaviors may be needed when this is the area of concern.

Although results of this study were generally favorable, there were limitations. Since students were not randomly assigned to groups, this study used a quasi-experimental design. Random assignment is often not acceptable or feasible in schools (Borman 2002). However, students were similar in socio-economic background, ethnicity, age, and on their pretest scores, suggesting no significant differences between groups on the variables of interest. Teachers were not blind to treatment conditions and their ratings may have been influenced by knowing which group their students were in.

There were also limitations regarding the measures as only subscales from the SSBS and SSRS were used. Without the full scales, definitive estimates of students' risk levels could not be made. In addition, no student self-ratings or parent ratings were included. Future studies could include such additional ratings. Direct observations of students' behaviors could also be included in future studies.

Another limitation was the small sample size, particularly for at-risk students. The sample also consisted primarily of Caucasian students. Future research should include larger samples with more racial and economic diversity. Future studies could also examine the effects of *Strong Start* on students in kindergarten and first grade.

Though the regular classroom teacher was present for each *Strong Start* lesson, she did not teach them herself. This must be considered a limitation. Had the lessons been an addition to her regular teaching requirements rather than a "break" from teaching, her opinion of the curriculum, and the outcomes, might have been different. Having regular classroom teachers present the *Strong Start* lessons would help extend the literature.

Finally, this study did not include a follow-up or long-term assessment. Although optional booster lessons are available as part of the curriculum, these were not taught due to the school year ending. Though short-term results indicated positive changes, without a long-term assessment it is uncertain whether these changes were sustained.

In sum, *Strong Start* showed promise as a way to reduce internalizing behaviors and increase peer-related pro-social behaviors of second grade students. As this is the first study to evaluate the curriculum, results should be considered

preliminary. This study adds to the growing body of research which supports SEL as an effective means to reduce emotional and behavioral problems in school settings (see e.g., Greenberg et al. 2003). *Strong Start's* unique contribution to the field may be its feasibility and focus on internalizing behaviors, an important but often overlooked area of concern.

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