PROMOTING SOCIAL AND EMOTIONAL LEARNING IN SCHOOLS:
AN INVESTIGATION OF MASSED VERSUS DISTRIBUTED
PRACTICE SCHEDULES AND SOCIAL VALIDITY OF THE
STRENGTH KIDS CURRICULUM IN LATE ELEMENTARY AGED STUDENTS

by

OANH THI KIM TRAN

A DISSERTATION
Presented to the College of Education
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

June 2007
“Promoting Social and Emotional Learning in Schools: An Investigation of Massed versus Distributed Practice Schedules and Social Validity of the *Strong Kids* Curriculum in Late Elementary Aged Students,” a dissertation prepared by Oanh Thi Kim Tran in partial fulfillment of the requirements for the Doctor of Philosophy degree in the College of Education. This dissertation has been approved and accepted by:

____________________________________________________________
Kenneth W. Merrell, Chair of the Examining Committee

____________________________________________________________
Date

Committee in Charge: Kenneth W. Merrell, Ph.D., Chair
Jeffery R. Sprague, Ph.D.
Joseph Stevens, Ph.D.
Jean Stockard, Ph.D.

Accepted by:

____________________________________________________________
Dean of the Graduate School
© 2007 Oanh Thi Kim Tran
An Abstract of the Dissertation of

Oanh Thi Kim Tran for the degree of Doctor of Philosophy in the College of Education to be taken June 2007

Title: PROMOTING SOCIAL AND EMOTIONAL LEARNING IN SCHOOLS: AN INVESTIGATION OF MASSED VERSUS DISTRIBUTED PRACTICE SCHEDULES AND SOCIAL VALIDITY OF THE STRONG KIDS CURRICULUM IN LATE ELEMENTARY AGED STUDENTS

Approved: ____________________________________________

Kenneth W. Merrell, Ph.D.

This study investigated an evidence-based social and emotional learning curriculum—Strong Kids—as a universal program to understand how to best implement social and emotional learning programs for optimal outcomes. Specifically, student and teacher outcomes were evaluated using Strong Kids in massed and distributed practice schedules with two differing experimental conditions: a massed practice schedule of two lessons per week for 6 weeks where there is less rest time between lessons, and a distributed practice schedule of one lesson per week for 12 weeks where there is more rest time between lessons. Pilot studies have demonstrated the effectiveness of Strong Kids, but there has not been a study to date that has examined practice schedules of the Strong Kids curriculum under two different treatment conditions. Evidence for social
validity is also limited. A large sample of 4th and 5th grade students in 10 general education classrooms participated. Pre and post measures were conducted to examine student outcomes. Social validity through teacher interviews and student surveys were evaluated. Results of this study indicated statistically significant increases in knowledge of social and emotional concepts and decreases in internalizing symptoms from both treatment groups. Effect size analyses indicated the magnitude of the treatment effect on knowledge was large and the magnitude of the treatment effect on symptoms was small. The pacing of the Strong Kids lessons was not a significant factor in group differences. Overall, students had significant changes in knowledge and symptoms regardless of treatment condition. Teachers and students indicated strong user satisfaction and social validity of the Strong Kids curriculum. The distributed condition of the 12 weeks schedule practice was viewed as having greater feasibility than the massed condition of 6 weeks. Implications for practice, applicability, continued refinement of the Strong Kids curriculum, study limitations, and future research efforts are discussed.
CURRICULUM VITAE

NAME OF AUTHOR: Oanh Thi Kim Tran

DATE OF BIRTH: August 6, 1975

PLACE OF BIRTH: Saigon, Vietnam

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon
California State University, Sacramento

DEGREES AWARDED:

Doctor of Philosophy, School Psychology, June, 2007, University of Oregon
Master of Arts, Psychology, 2002, California State University, Sacramento
Bachelor of Arts, Psychology, 1998, California State University, Sacramento

AREAS OF SPECIAL INTEREST:

Social and Emotional Learning in School and Community Settings
Prevention and Early Intervention of Mental Health Problems
Social-Emotional and Behavioral Assessment and Consultation
Parent-Child Interactions and Parent-training
Cultural Diversity and Awareness

PROFESSIONAL EXPERIENCE:

Assistant Professor, California State University, East Bay (Clinical Child/School Psychology Program), 2007-present

Pre-Doctoral Intern, River Oak Center for Children, Sacramento, CA (APA Accredited), 2006-2007

Advanced Practicum Student, Oregon Social Learning Center, Eugene, OR, 2005-2006
Practicum Student, Eugene 4-J School District, Eugene, OR, 2004-2005
Practicum Student, South Lane School District, Cottage Grove, OR, 2003-2004
Practicum Student, EC Cares Center, University of Oregon, 2004
Interim Support Counselor Supervisor, Families First, Sacramento, CA, 2002
Support Counselor, Families First, Sacramento, CA, 1999-2002
Residential Counselor, Mathiot Group Homes, Sacramento, CA, 1997-1998
Graduate Teaching Fellow, US Department Training Grant, University of Oregon, 2005-2006
Supervised College Teaching, University of Oregon, 2004-2005
Teaching Assistant, California State University, Sacramento, 1998
Committee Member, Association of School Psychology Students, University of Oregon, 2003-2006
Brown Bag Committee Chair, University of Oregon, 2004-2005
Student Representative for 2nd Year Cohort, University of Oregon, 2004-2005
Faculty Search Student Representative, University of Oregon, 2004-2005
DIBELS Trainer and Data Collector, 4J School District, Eugene, OR, 2005
Research Experience Team Member, Oregon Resiliency Project, University of Oregon, 2003-2006
Research Experience, Master’s Thesis, California State University, Sacramento, 2000-2001
Research Assistant and Team Member, Multicultural Families Project, California State University, Sacramento, 1999-2002
Research Experience, Center for School-Based Youth Development, California State University, Santa Barbara, 2002
GRANTS, AWARDS, HONORS:

Minnie Fosket Memorial Scholarship, University of Oregon, 2006-2007

Chamberlin Doctoral Dissertation Award, University of Oregon, 2006

Graduate Teaching Fellow, University of Oregon, 2005-2006

Helena Degnath Wessela Memorial Scholarship, University of Oregon, 2005-2006

Graduate Teaching Fellow, University of Oregon, 2005

Sally Casanova Pre-doctoral Fellow, California State University System, 2001-2002

Associated Students, Inc. Grant, California State University, Sacramento, 2001

Graduate Equity Fellowship, California State University, Sacramento, 1999-2001

Student Academic Development Grant, California State University, Sacramento, 2000-2001

Academic Related Activities Grant, California State University, Sacramento, 2000-2001

Anthony J. Leones Scholarship, California State University, Sacramento, 1996-1997

PUBLICATIONS:


ACKNOWLEDGEMENTS

I wish to express sincere appreciation to Dr. Ken Merrell for his constant support and guidance throughout this project. His unwavering dedication, commitment, and professionalism to the field and his students are truly admirable. Dr. Merrell has been tremendously influential in my professional and personal development, as he has modeled true excellence, both in character and expertise. It has been an inspirational experience to be mentored by him.

I would also like to express gratitude to the members of my committee, Drs. Jeff Sprague, Joe Stevens, and Jean Stockard. Their time, feedback, and expertise throughout this project were invaluable. They challenged me and made my critically think in order to make this project meaningful and successful, and taking it beyond what I had imagined. I respect their enthusiasm and professionalism for what they do in education and as committee members.

A special thanks to members of the Oregon Resiliency Project, Verity Levitt, Sara Whitcomb, Cynthia Heywood, Jason Harlacher, Candy Ling, Bradley Cohn, and Chelsea Siler for their time and support with data collection. This project would have not been as successful without each one of them. I am grateful to the teachers, principals, and students from the participating schools in Springfield and Eugene for their time and participation in this study. This study could have not been accomplished without their commitment and flexibility. The opportunity to be in the classrooms and schools was truly enjoyable.
I wish to acknowledge my family for their patience and support. They have taught me the important values in life, and they have been imperative in shaping who I am today. My family has always encouraged me to achieve and pursue my dreams and go beyond my limits. Finally, to the special person in my life, Peter, I would like to acknowledge him for his unconditional support and encouragement, and sense of humor throughout the course of this project. Any successes and accomplishments I share with those who have been a valuable part in my life.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>Research Questions</td>
<td>8</td>
</tr>
<tr>
<td>II. LITERATURE REVIEW</td>
<td>9</td>
</tr>
<tr>
<td>The Mental Health Dilemma in Schools</td>
<td>9</td>
</tr>
<tr>
<td>Internalizing and Externalizing Domains</td>
<td>11</td>
</tr>
<tr>
<td>Comorbidity of Internalizing and Externalizing Disorders</td>
<td>13</td>
</tr>
<tr>
<td>Current School-Based Mental Health Practices</td>
<td>14</td>
</tr>
<tr>
<td>Prevention and Intervention through Social and Emotional Learning</td>
<td>15</td>
</tr>
<tr>
<td>Three-Tier Model for Students with Emotional and Behavioral Problems</td>
<td>18</td>
</tr>
<tr>
<td>Massed and Distributed Practice Schedules for Optimal Outcomes</td>
<td>20</td>
</tr>
<tr>
<td>Barriers to Prevention and Intervention Efforts</td>
<td>24</td>
</tr>
<tr>
<td>Social Validity for Improved Intervention and Prevention Efforts</td>
<td>24</td>
</tr>
<tr>
<td>The National and International Movement of Social and Emotional Learning</td>
<td>25</td>
</tr>
<tr>
<td>Strong Kids Social and Emotional Learning Curriculum as Prevention and Early Intervention</td>
<td>28</td>
</tr>
<tr>
<td>Evidence for Strong Kids Curriculum</td>
<td>31</td>
</tr>
<tr>
<td>Purpose and Rational for the Current Study</td>
<td>32</td>
</tr>
<tr>
<td>III. METHOD</td>
<td>34</td>
</tr>
<tr>
<td>Design</td>
<td>34</td>
</tr>
<tr>
<td>Participants and Setting</td>
<td>35</td>
</tr>
<tr>
<td>Student Participants</td>
<td>36</td>
</tr>
<tr>
<td>Teacher Participants</td>
<td>39</td>
</tr>
<tr>
<td>Independent Variables</td>
<td>41</td>
</tr>
<tr>
<td>Time</td>
<td>41</td>
</tr>
<tr>
<td>Treatment Groups</td>
<td>41</td>
</tr>
<tr>
<td>Dependent Variables and Measures</td>
<td>42</td>
</tr>
<tr>
<td>Strong Kids Symptoms Test</td>
<td>42</td>
</tr>
<tr>
<td>Strong Kids Knowledge Questionnaire</td>
<td>43</td>
</tr>
<tr>
<td>BarOn Emotional Quotient Inventory: Youth Version (BarOn EQ-i:YV)</td>
<td>44</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Strong Kids Satisfaction Survey</td>
<td>46</td>
</tr>
<tr>
<td>Qualitative Dependent Variables (Semi-structured Teacher Interview)</td>
<td>46</td>
</tr>
<tr>
<td>Scoring Procedures for Dependent Measures</td>
<td>47</td>
</tr>
<tr>
<td>Treatment Integrity/Adherence Measure</td>
<td>47</td>
</tr>
<tr>
<td>Interrater Reliability for Treatment Integrity</td>
<td>52</td>
</tr>
<tr>
<td>Procedures</td>
<td>53</td>
</tr>
<tr>
<td>Recruitment</td>
<td>53</td>
</tr>
<tr>
<td>Teacher Training</td>
<td>54</td>
</tr>
<tr>
<td>Consent Procedures</td>
<td>56</td>
</tr>
<tr>
<td>Data Collection Preparation and Modifications</td>
<td>58</td>
</tr>
<tr>
<td>Treatment Group 1: Massed Condition</td>
<td>59</td>
</tr>
<tr>
<td>Treatment Group 2: Distributed Condition</td>
<td>60</td>
</tr>
<tr>
<td>IV. RESULTS</td>
<td>64</td>
</tr>
<tr>
<td>Statistical Analyses</td>
<td>65</td>
</tr>
<tr>
<td>Level of Significance</td>
<td>65</td>
</tr>
<tr>
<td>Power Estimate</td>
<td>66</td>
</tr>
<tr>
<td>Effect of Strong Kids on Symptoms, Social and Emotional Knowledge, and Emotional Functioning</td>
<td>67</td>
</tr>
<tr>
<td>Intervention Effects for Time by Group (Between Groups)</td>
<td>73</td>
</tr>
<tr>
<td>Intervention Effects on Symptoms</td>
<td>73</td>
</tr>
<tr>
<td>Intervention Effects on Social and Emotional Knowledge</td>
<td>74</td>
</tr>
<tr>
<td>Intervention Effects on Social and Emotional Functioning</td>
<td>75</td>
</tr>
<tr>
<td>Effect Sizes to Determine Magnitude of the Treatment Effects</td>
<td>75</td>
</tr>
<tr>
<td>Social Validity of the Strong Kids Curriculum</td>
<td>76</td>
</tr>
<tr>
<td>Quantitative Variable for Social Validity</td>
<td>76</td>
</tr>
<tr>
<td>Qualitative Variable for Social Validity: Teacher Interview</td>
<td>79</td>
</tr>
<tr>
<td>Internal Consistency for Quantitative Dependent Measures</td>
<td>82</td>
</tr>
<tr>
<td>Interrelationship for Quantitative Dependent Measures</td>
<td>83</td>
</tr>
<tr>
<td>V. DISCUSSION</td>
<td>86</td>
</tr>
<tr>
<td>Summary of Main Findings</td>
<td>86</td>
</tr>
<tr>
<td>Research Question 1</td>
<td>88</td>
</tr>
<tr>
<td>Effects on Internalizing Symptoms</td>
<td>88</td>
</tr>
<tr>
<td>Effects on Knowledge of Social and Emotional Concepts and Skills</td>
<td>90</td>
</tr>
<tr>
<td>Effects on Social and Emotional Functioning</td>
<td>91</td>
</tr>
<tr>
<td>Research Question 2</td>
<td>93</td>
</tr>
<tr>
<td>Research Question 3</td>
<td>96</td>
</tr>
<tr>
<td>Limitations</td>
<td>98</td>
</tr>
<tr>
<td>Implications for Future Research</td>
<td>102</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Implications for Practice</td>
<td>106</td>
</tr>
<tr>
<td>Conclusions</td>
<td>107</td>
</tr>
</tbody>
</table>
APPENDICES

A. STRONG KIDS, SAMPLE LESSON 1 ................................................................. 110
B. STRONG KIDS SYMPTOMS TEST ................................................................. 117
C. STRONG KIDS KNOWLEDGE QUESTIONNAIRE ...................................... 120
D. BAR-ON EMOTIONAL QUOTIENT INVENTORY ....................................... 125
E. STRONG KIDS SATISFACTION SURVEY ............................................... 128
F. TEACHER INTERVIEW FOR SOCIAL VALIDITY ....................................... 131
G. TREATMENT INTEGRITY CHECKLISTS ..................................................... 134
H. BEHAVIOR OBSERVATION FORM ......................................................... 143
I. RECRUITMENT LETTER ............................................................................. 145
J. SCHOOL PRINCIPAL LETTER ................................................................. 147
K. PROJECT SCHEDULE ................................................................................. 149
L. TEACHER CONSENT .................................................................................. 152
M. PARENT CONSENT, ENGLISH VERSION .............................................. 155
N. PARENT CONSENT, SPANISH VERSION ................................................ 158
O. STUDENT ASSENT .................................................................................... 161

BIBLIOGRAPHY ............................................................................................... 164
<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Model of social and emotional learning and paths to success</td>
<td>17</td>
</tr>
<tr>
<td>2. Three-tiered triangle of support for behavioral and emotional problems</td>
<td>19</td>
</tr>
<tr>
<td>3. Conceptual framework of current study</td>
<td>32</td>
</tr>
<tr>
<td>4. Treatment fidelity data across three observations for all teachers where the percentage of lesson components implemented indicates the ratio of components implemented out of a total possible for each lesson</td>
<td>50</td>
</tr>
<tr>
<td>5. Mean of total scores from three behavioral observations conducted as part of treatment fidelity on an 18-point scale, where higher scores indicate positive instruction and lower scores indicate less positive instruction</td>
<td>52</td>
</tr>
<tr>
<td>6. Effects of <em>Strong Kids</em> on symptoms within groups on the time variable</td>
<td>74</td>
</tr>
<tr>
<td>7. Effects of <em>Strong Kids</em> on knowledge within groups on the time variable</td>
<td>74</td>
</tr>
<tr>
<td>8. Effects of Strong Kids on social and emotional functioning within groups on the time variable</td>
<td>75</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table                                           Page
1. Research Design.................................................................35
2. Participating Student Demographics ........................................38
3. Classroom Demographics and Random Treatment Assignment of Conditions ......40
4. Means and Standard Deviations for Quantitative Dependent Measures at Pre- Posttest for Within and Between Groups .................................68
5. Means and Standard Deviations for Quantitative Measures for Combined Groups (Massed and Distributed) at Pre- Posttest ...............69
6. Descriptive Statistics for BarOn Emotional Quotient Subscales at for Pre- Posttest Within Groups.........................................................72
7. Magnitude of Treatment Effects at Pre-posttest on Dependent Measures ........76
8. Descriptive Statistics of Student Ratings from Strong Kids Satisfaction Survey where Scores Range from 0 (Strongly Disagree) to 4 (Strongly Agree)....78
9. Teacher Interview Responses Aggregated Into Common Themes ..................81
10. Internal Consistency Coefficients (Cronbach’s Alpha) for Quantitative Dependent Measures at Time 1 and Time 2........................................83
11. Interrelationship for Quantitative Dependent Measures at Pretest..................84
12. Interrelationship for Quantitative Dependent Measures at Posttest...............85
CHAPTER I

INTRODUCTION

This chapter provides an overview of the mental health needs of children and adolescents, current efforts in school systems to address the increasing mental health challenges, a systematic approach to prevention and intervention efforts, an innovative evidence-based social and emotional learning curriculum for proactive service delivery, and the rationale, purpose, and goals for this doctoral dissertation study. The chapter begins with a statement of the current problem, as well as the objectives of this project in addressing the mental health needs of students. The research questions are listed at the end of the chapter, which provides a framework for this study.

Statement of the Problem

Children’s mental health has received considerable concern and attention over the past several decades. Children are at increased risk for social and emotional problems and academic failure due to difficulties in managing their emotions (Greenberg, Domotrovich, & Bumbarger, 2001; Zins, Bloodworth, Weissberg, & Walberg, 2004), developing positive social relationships (Merrell, Gueldner, & Tran, 2007), and unreadiness for the schooling process (Sprague, 2006). Several estimates are indicated in the research literature on the number of children (below the age of 17) requiring mental health services (e.g., 12-22%, Greenberg et al., 2003; 3-5%, Hoagwood & Erwin, 1997; 1-2 children in a classroom of 30, Merrell, 2003). The conflicting estimates in the
literature suggest that it is difficult to ascertain the prevalence rate of mental health problems in children as mental health problems can often co-occur or go unnoticed, which makes it difficult to assess and intervene effectively. Despite the inconsistency in prevalence rates, many of these children who need mental health services do not receive appropriate or any services at all (Greenberg et al., 2003). The suffering of emotional and behavioral problems not only affects the individual child or family, but the school system and society as a whole. Individuals with mental health problems are less productive in educational and occupational settings. Specifically, failure to acquire adequate social and emotional competency skills are associated with many negative outcomes, including higher than average rates of mental illness, incarceration, family strife, and unemployment or underemployment (Asher & Coie, 1990; Rudolph & Asher, 2000).

The National Mental Health Association estimated that $147 billion dollars was spent in 1990 for mental health services in the United States. Even with billions of dollars spent every year, the prevalence and severity of mental health problems continues to rise, particularly for children and youths. Restructuring current mental health practices and “reforming” schools is not only a need, but a requirement to address the significant social and emotional difficulties faced by children and youths. Efforts to restructure mental health services and reform schools are beginning to take shape that include systematic, prevention and early intervention, and proactive measures to promote resiliency skills in children and youths, while fostering safe and caring environments that cultivates social and emotional development and academic success.
School-aged children and adolescents are confronted with greater pressures than they have ever had with limited resources and skills to cope with these stressors (Greenberg et al., 2003). Students are expected to attend long school days, perform academically at benchmark, obtain satisfactory grades, complete homework, engage in chores, build positive relationships with peers, teachers, and other adults, comply with directives, participate in extracurricular activities, attend to tasks throughout the day, and have career aspirations. In addition to the increased demands and expectations, along with normal developmental changes, societal and family environments impact social and emotional development which adds to the already long list of stressors. Such factors include increased economic and social pressures on families, limited positive interactions within families, weakening of community institutions, exposure to health damaging behaviors, and increased class size and enrollment in schools (Greenberg et al., 2003). Additionally, the exposure to multiple adverse factors increases the risk for serious life adjustment problems (Sprague, 2006). The added stressors with limited coping skills and resources can lead to inadequate or poor social and emotional development that can ultimately interfere with academic success, productivity, and overall life satisfaction.

The social and emotional difficulties in children and youths can arise in many forms—internalizing and/or externalizing problems. Externalizing problems are those in which the young person’s problems are turned outward and they are manifested in behavioral problems or actions that are readily visible to others, such as disruptive behaviors of aggression or delinquency. In addition, internalizing problems are those in which the young person’s psychological difficulties are turned inward and they
result in more emotional symptoms that are not necessarily visible to others, such as mood disorders of depression or anxiety. The invisibility of internalizing problems is of significant concern as it increases the risk for the child or adolescent to go unnoticed and not receive adequate interventions (Merrell, 2001; Sanders, Merrell, & Cobb, 1999). Consequently, lack of and ineffective interventions increases the risk for a plethora of other, long-term consequences, such as academic failure, school-dropout, substance use and abuse, risky sexual behaviors, violent delinquent behaviors, poor social relationships, unemployment, and criminal acts (Merrell, 2001; Sprague, 2006). Students with internalizing problems are particularly overlooked and underserved, thus, require immediate and ongoing mental health attention.

The need to address social and emotional challenges, particularly internalizing problems, is critical in schools. Students spend much of their time in schools and mental health services are already applied in school settings; therefore, schools are great venues to address and support social and emotional development. However, often times when schools address social and emotional problems in students and determine ways to support student mental health, reactive and fragmented approaches are frequently applied. The proliferation of service programs in schools implemented in isolation results in overworked and undertrained staff and invalidated resources. Research suggests that such reactionary and fragmented approaches are ineffective for the needs of students (Lewis, Sugai, & Colvin, 1998; Zins, et al., 2004). Additionally, general school practices regarding intervention of disruptive behaviors can increase student problems (Sprague, 2006; Sprague & Horner, 2006). Sprague and Horner suggest that a “get tough”
approach, such as school suspensions or expulsions provide immediate, short relief which consequently is ineffective as the problem is displaced somewhere else, such as the home. Although, school-based mental health services have not produced the desired outcomes, current development of “best school-based practices” and restructuring of schools systems are beginning to take shape with validated approaches and proactive strategies to increase healthy social and emotional development and scholastic success.

A systemic framework and approach to school-based mental health service delivery can undoubtedly address the challenges in educational systems. Providing interventions “one student at a time” or a “wait to fail” or a “get tough” approach is not practical or cost-effective. Students’ social and emotional well-being and academic outcomes are at stake. Mental health prevention and intervention efforts should be approached using a public health model (Costello & Angold, 2000) as presented in a three-tiered triangle for social and emotional supports (Sugai & Horner, 2002). The three-tiered triangle adapted from the public health arena originated for disease prevention and can be applied similarly to educational systems. The three-tiered triangle of social and emotional supports encompasses prevention, early intervention, and systems-level intervention for students’ behaviors in academic settings (Sugai & Horner, 2002).

Prevention and intervention efforts are function-based on the varying needs of the student population. The three-tiered model is structured accordingly and systematically: universal level (interventions for all students, student who may exhibit low risk of mental health problems), selected level (interventions for students who exhibit some risk of mental health problems), and indicated level (interventions for students who exhibit high risk of
mental health problems). The significant value of a systems level approach is that all students benefit.

Given the mental health needs of children and youths, proactive interventions are required to prevent and intervene before internalizing behaviors develop or become severe and interfere with development and academic success. Social and emotional learning, a framework developed to address the mental health challenges confronted in schools, promotes the acquisition of social and emotional competency skills through educative, evidence-based practices which can be infused through school-based curricula or school/classroom environment (Greenberg et al., 2003; Zins et al., 2004). Social and emotional learning is defined as “the process through which children and adults develop the skills necessary to recognize and manage emotions, develop care and concern for others, make responsible decisions, form positive relationships, and successfully handle the demands of growing up in today’s complex society” (CASEL, 2002, p. 1).

The application of social and emotional learning, along with positive school climate and culture are necessary to ensure opportunities for student success. Schools can also foster academic success by establishing clear rules and expectations, ensuring positive, safe, and predictable environments, and providing firm and appropriate consequences—elements of School Wide Positive Behavioral Supports, SWPBS (see Sprague, 2006; Sprague & Horner, 2006; Sprague, Sugai, & Walker, 1998). Research on SWPBS encourages environments that sustain positivity to increase student motivation, engagement, social relationships, and academic achievement.
Strong Kids, an innovative, social and emotional learning curriculum that promotes children’s mental health and resiliency through the development of healthy competency skills can be adapted for school systems to meet the various mental health demands of students (Merrell, Carrizales, Feuerborn, Gueldner, & Tran, 2007). Strong Kids initially developed in 2001, with field trials since 2003 have examined the effectiveness and utility of the curriculum in addressing children’s mental health problems (see Castro-Olivo, 2006; Feuerborn, 2004; Gueldner, 2006; Isava, 2006; Merrell, Juskelis, Tran, & Buchanan, 2006). These studies provide strong evidence for the efficacy and utility of Strong Kids as a prevention and early intervention tool for social and emotional development.

The current study continues to examine Strong Kids as an evidence-based curriculum and its impact on the desirable variables in student outcomes in a general education setting. Specifically, this study expanded on the short-term effects of Strong Kids on internalizing behaviors, social and emotional knowledge, and social and emotional functioning (i.e., emotional intelligence) in 4th and 5th grade students. Additionally, there has not been a study to date that has examined scheduling practices of Strong Kids in optimal outcomes. Scheduling practices of massed (2 lessons a week for 6 weeks) and distributed (1 lesson a week for 12 weeks) was investigated. Moreover, the study examined social validity of Strong Kids to better understand and improve school-based practices of prevention and intervention curricula. It was hypothesized that students and teachers would benefit from the curriculum with positive appraisal of Strong Kids and the distributed condition would have better outcomes and greater social validity than
the massed condition. The goals of this study were to expand upon the research literature of social and emotional learning, specifically the *Strong Kids* curriculum and to better understand how to best support teachers and students in mental health prevention and intervention efforts. This study is intended to help move the social and emotional learning field forward in promotion efforts of development and achievement for *all* students.

*Research Questions*

Given the mental health needs of students and the ineffective, reactive school-based approaches, the current study examined an innovative educative tool and approach to prevention and early intervention of social and emotional problems. The current study examined the following research questions:

1. What are the short-term effects on internalizing symptoms (e.g., distress, affect), social and emotional knowledge, and social and emotional functioning for 4th and 5th graders who participate in the *Strong Kids* curriculum?
2. Are there significant differences in curriculum outcomes between treatment groups based on practice schedules, where Treatment Group 1 (Massed Condition) receives 2 lessons per week for 6 weeks and less rest time between lessons, and Treatment Group 2 (Distributed Condition) receives 1 lesson per week for 12 weeks and more rest time between lessons?
3. What are teachers’ and students’ overall perceptions of participation in the *Strong Kids* social and emotional learning curriculum and are there differences in perceptions of social validity based on scheduling practices or tempo of intervention?
CHAPTER II
LITERATURE REVIEW

This chapter provides a literature review that expands on the mental health needs of children and youths. The literature review conducted should not be considered exhaustive, but sufficient to understand the current state of the field in order to provide justification for this study. The information obtained in the literature review, supported the development of the research questions and methodology of this study. Keywords used in scholarly databases (ERIC, PsyInfo, Academic Search Premier, Article First, and Google) include the following terms: social and emotional learning, resiliency, internalizing and externalizing problems, children’s mental health, prevention science, massed and distributed practice schedules, school-based interventions, behavior problems, academic problems, child development, and positive behavioral supports.

The Mental Health Dilemma in Schools

Social and emotional problems of students in schools require considerable time and energy from staff and administration. Prevalence rates of mental health problems in school-aged children are inconsistent in the research literature; however, one estimate suggested that between 15 and 22 percent of U.S. children and youths have social and emotional difficulties; specifically 7.5 million children suffer from one or more mental disorders, yet 75 to 80 percent of these youths do not receive appropriate interventions (Greenberg et al., 2001; Greenberg et al., 2003). Within any given year, an estimated
20% of school-age children experience mental health problems (Coie, Miller-Johnson, & Bagwell, 2000). Social and emotional problems are genuine threats to a student’s academic performance (Sprague, 2006). Conversely, students at risk for school failure are particularly vulnerable to social and emotional problems (Elksnin & Elksnin, 2003; Sprague, 2006).

Unfortunately, students may be faced with a host of challenges that place them at increased risk for school problems, such as economic and social pressures, alterations in family composition and stability, weakening of community institutions, and exposure to media that encourages health damaging behaviors (Zins, Weissberg, & O’Brien, 2003). Research has indicated that less extreme but chronic behavior problems put children at risk for more severe antisocial behaviors and other later life difficulties (Sprague & Horner, 2006; Walker, Colvin, & Ramsey, 1995). Despite this knowledge, state and local budgetary restraints combined with stringent accountability measures, often force districts to focus their resources on issues that more directly impact a student’s academic life such as literacy and numeracy. Although externalizing behavioral problems such as violence and truancy receive administrative attention and the validation of budgetary support, resource allocation still tends to center on those disorders that are directly disruptive to the academic process, while internalizing problems are left untreated which may lead to increased detrimental effects on functioning (Sanders et al., 1999; Weissberg, Kumpfer, & Seligman, 2003). Consequently, the need for and focus of school-based prevention and intervention efforts should not only address behaviors that are externalizing or have visibility, but also behaviors that are internalizing or less visible.
**Internalizing and Externalizing Domains**

Emotional and behavioral disorders are dichotomized into two primary dimensions: internalizing and externalizing domains (Achenbach & McConaughy, 1992; Merrell, 2003). These disorders may result and intensify from internal characteristics, such as limited coping mechanisms and skills to manage and deal with daily life and school stressors or genetics that places the child at increased risk. As well, negative external variables could increase the child’s risk for development of emotional and behavioral disorders, such as inconsistent/harsh parenting, poor social relationships, family and community discord, drug use/abuse, and poverty (Doll & Lyon, 1998; Sprague, 2006). Researchers suggest that these risk factors significantly increase the risk for forming healthy families and being productive members of society.

Externalizing problems are those in which the young person’s problems are turned outward and they are manifested in behavioral problems or actions that are readily visible to others, such as aggression or disruptive behaviors. Externalizing behaviors are undercontrolled and these individuals often “lash out at the world” (Achenbach, 1982; Sanders et al., 1999). Externalizing behaviors can include: conduct disorder, attention deficit hyperactivity disorder, and antisocial-aggressive behaviors (Merrell, 2003; Sanders et al., 1999).

Contrary to externalizing behaviors, internalizing disorders are inner-directed and overcontrolled (Achenbach, 1982; Sanders et al., 1999). These individuals often have both negative connotations of the world and of themselves; their outlook on life and others and their self-perception are extremely critical and pessimistic. Internalizing
problems include a broad domain of symptoms related to depression, anxiety, social withdrawal, and somatic complaints. According to Merrell (2003) depression as a symptom involves dysphoric mood state—feelings of unhappiness, sadness, miserable, melancholy. Major depressive disorder is a leading cause of disability, especially for children (Herman, Merrell, Reinke, & Tucker, 2004). Anxiety includes subjective feelings (discomfort, fear, dread), overt behaviors (avoidance, withdrawal), and physiological responding (sweating, nausea). Social withdrawal, a related internalizing disorder, includes social isolation, social skills deficits, and behavioral inhibition to unfamiliarity. Somatic complaints may also occur along with depression and anxiety in which there are complaints of physical ailments that have no medical cause, such as feeling tired, dizzy, or body aches (Merrell, 2003). Unfortunately in many cases, because of their insidious characteristics, such as depression and anxiety, internalizing disorders are not noticed by education professionals until the behaviors associated with the disorders have attained some level of visibility (such as suicide attempts or specific phobias), or when students are referred for academic problems.

Prevalence rates for internalizing disorders are difficult to ascertain accurately, but estimates from epidemiologic studies indicate that 1% to 5.9% of children meet criteria for depression, and up to 8.9% of children meet criteria for anxiety disorders in normal samples (Costello, 1989). Internalizing problems are more difficult to assess or detect than externalizing problems because they are less visible, and often times the symptoms are mingled (Merrell, 2003). Merrell (2003) suggested that although there is a lack of precision in prevalence rates of internalizing problems in children and
adolescents, conservative estimates should be cause for concern; that is, at least 1 or 2 children in each class of 30 are likely afflicted or exhibit significant internalizing problems that interfere with their academic and personal judgment. The lack of detection and attention of internalizing problems is a distressing issue. These children and adolescents are often overlooked, thus the possibilities of internalizing symptoms intensifying and interfering with school, home, and community are increased. However, once internalizing symptoms are “visible,” they require immediate and intensive individual attention, which from a systems-level perspective, can be both restrictive and expensive (Coie, et al., 2001; Greenberg et al., 2001). In the long term, waiting until internalizing behaviors are visible or have interrupted the learning environment will require greater attention and resources, which is already limited in schools.

**Comorbidity of Internalizing and Externalizing Disorders**

Often times, it can be difficult to distinguish between internalizing and externalizing behaviors as they can co-exist. As well, multiple behaviors within a specific domain can co-occur. Comorbidity occurs when there is a presence of one or more disorders or behaviors, in addition to the primary behavior. Sanders et al. (1999) cite several studies that examined comorbidity. These studies indicate that depression and anxiety often coexist; somatic complaints correlate with depression and anxiety. The co-existence of symptoms can increase psychosocial maladjustment (Angold, Costello, & Erkanli, 1999). The concurrent existence of several psychopathic disorders/behaviors raises considerable concern and need for comprehensive interventions.
Current School-Based Social and Emotional Interventions

Unfortunately, current intervention practices in educational systems are ineffective, fragmented, and often target only specific problems (Greenberg et al., 2003; Elias, Zins, Crazyk, & Weissberg, 2003. Such efforts to reduce mental illness and enhance development are unstructured, and fail students who are in dire need of mental health services. These issues have received minimal attention at the federal, state, and local levels (Weissberg et al., 2003). Moreover, responding to problem behaviors through the use of reactive and punitive approaches is ineffective (Lewis, et al., 1998; Sprague & Horner, 2006). Reactionary approaches, such as school suspension or expulsion briefly eliminate the problem in the school context, while placing the problem elsewhere, such as the home (Sprague & Horner, 2006). Without teaching students the expected behavior and skill, and punishing them for “bad behaviors” the problem will only continue to reoccur and increase.

Instead of using traditional approaches, research has indicated a need and an understanding for more systemic preventative and proactive approaches for addressing school problems and how school problems or dysfunction is related to the larger system (Coie, et al., 2000; Lewis et al., 1998; Sheridan & Gutkin, 2000). Addressing school problems one student or one problem at a time is not efficient, nor is it effective in reducing problem behaviors or psychopathology (Merrell, Ervin, & Gimpel, 2006; Walker & Shinn, 2002). Consequently, schools need an evidence-based proactive, educative prevention and early intervention program that targets all students to prevent and reduce social and emotional problems, while enhancing student functioning
Prevention and Intervention through Social and Emotional Learning

The 21st century has placed greater demands on schools to not only educate a diverse array of students, but to also effectively address the mental health needs of diverse students using evidence-based programs and approaches. Research has indicated that students with mental health problems and social-emotional deficits often have difficulty learning and disrupt the educational experiences of others. Children who are hurting in this manner cannot learn effectively, and their presence in school requires attention when problems become severe, which drains energy, focus, and potential from the learning environment. Schools have limited resources for each individual student problem; those with mental health problems are not receiving appropriate services (Greenberg et al., 2001). Schools are faced with more challenges, and cannot effectively support students one at a time (Merrell, Ervin et al., 2006).

Social and emotional learning (SEL) is an important and emerging focus in education and children’s mental health that is aimed at prevention of student problems and education of healthy social and emotional functioning. The Fetzer Group first introduced the term social and emotional learning (SEL) in 1994 as a conceptual framework to address both the needs of young people and the fragmentation that typically characterizes the response of schools to those needs (Greenberg et al., 2003). Focusing solely on academic instruction and behavior management may not be sufficient to help students attain academic success, nor create the ideal learning environment (Zins, 2001; Zins, Weissberg, Wang, & Walberg, 2004). SEL should be a third category in schools of social and emotional development that fits into the two
other core school categories of instruction and behavioral management for ideal outcomes. These three elements in educational settings should be integral, cohesive, and reinforce one another. That is, social and emotional learning should not be “in addition” to what is currently being implemented in the classrooms, but it should be linked to the curriculum and a necessary aspect in promoting success for all students (Zins et al., 2004).

SEL includes a broad range of tools and systematic techniques used to promote mental health, teach social, emotional, and life skills; and prevent negative life outcomes, through effective curricular programming as an integral part of a school program (Ragozzino, Resnik, O’Brien, & Weissberg, 2003; Zins et al., 2004). Core SEL programming includes using effective curricula to teach students to recognize and manage their emotions, understand others perspectives, develop positive goals, responsible decision making, and dealing with interpersonal situations. SEL programming promotes a positive environment that supports students in schools, community, and life through classroom learning and effective instruction. Studies on SEL have found an increase in attendance and decrease in drop out rates (Ragozzino et al., 2003), while enhancing students’ connections to school through supportive environments (Greenberg et al., 2003). Social and emotional learning is a proactive and educative approach to decreasing problem behaviors, while enhancing essential life skills and resiliency to be successful in school and in life. Schools are excellent venues for applying SEL learning, given that 75% of child mental health services are provided in schools (Hoagwood & Erwin, 1997).
The increase in student mental health problems and SEL as prevention and early intervention efforts have been well documented (Greenberg et al., 2001; Greenberg et al., 2003; Ragozzino et al., 2003). Studies have found the usefulness in SEL programs in improving student attitudes, behaviors, and academic performance (see Greenberg et al., 2003). Figure 1 depicts the association of social and emotional learning and paths to success in school and life (Adapted from Zins et al., 2003). By incorporating evidence-based social and emotional learning curricula, positive environments are created that enhance and teach healthy adaptive functioning to increase opportunities for school and life success. Sprague and Horner (2006) suggests that positive environments that are safe and predictable, foster emotional development and social interactions will increase student engagement and behavior.

Figure 1. Model of social and emotional learning and paths to success.
Three-Tier Model for Students with Emotional and Behavioral Problems

For schools to be most efficient and effective in providing social, emotional, and behavioral supports, student outcomes should be approached through an avenue of prevention, early intervention, and systems-level intervention (using evidenced-based, educative approaches (Greenberg et al., 2003; Sugai & Horner, 2002; Walker & Shinn, 2002).

When approaching emotional and behavioral problems through an avenue of prevention, one popular model used in the field of education (for academic and behavioral functioning) is the public health model most often represented by a three-tiered triangle (see Figure 2). The three-tiered triangle has been used extensively in disease prevention in the public health arena (Costello & Angold, 2000; Walker, Horner, Sugai, et al., 1996). Because behavioral factors contribute directly to academic functioning, the same public health model is now becoming valuable in the prevention, early intervention, and systems-level intervention for students’ behaviors in academic settings (Sugai & Horner, 2002). The underlying assumptions behind the three-tiered prevention approach for academic and behavioral problems are (a) a prevention-focused continuum of support, (b) proactive instructional approaches to teaching and improving social behaviors, (c) conceptually sound and empirically validated practices, (d) systems change to support effective practices, and (e) data-based decision making (Sugai & Horner).
Figure 2. Three-Tiered Triangle of support for emotional and behavioral problems.

At the universal prevention level (Tier 1), universal support at the school/classroom-wide system is provided to all teachers and students to create an environment that encourages pro-social behaviors, predictability, and positive school/classroom climate, such as teaching school-wide behavioral expectations. Based on the three tiered triangle, at any given point in a school year, 80% of the students will fall into a low-risk category for behavioral, academic, or emotional problems (the base of the triangle). Students who are considered low-risk will not need additional services of prevention and intervention supports. Students who do not benefit from primary intervention efforts are provided with more specialized interventions. At the selected level (Tier 2), about 15% of the students will be at some risk for academic and behavior issues (the middle of the triangle) and will need increased support, such as peer tutoring. At the indicated level (Tier 3), about 5% of students will fall into a high-risk category.
exhibiting behaviors that require more immediate and specialized interventions, such as individualized social skills training (see Sugai & Horner, 2002).

Students may and will exhibit a multitude of school-related problems and needs. Schools should be ready, able, and capable to address the various behavioral and social and emotional concerns. Importantly, the three-tiered model is proactive in addressing students’ needs before they intensify. As well, the three-tiered model presents comprehensive interventions targeting the specific needs of students based on risk and intensity of emotional and behavior disorders. Although students will have varying needs and intensity of problem behaviors, prevention and early intervention is most cost-effective and efficient at targeting all students in a school system through universal approaches. Consequently, the three-tiered model of prevention and early intervention supports students’ academic success and social and emotional development.

*Massed and Distributed Practice Schedules for Optimal Outcomes*

Prevention and early intervention in schools is a necessary strategy that will vary according to the needs of students at different levels of the triangle of behavioral and emotional support. Not only is a continuum of services imperative to school-based efforts, but understanding and applying treatment approaches that produce optimal outcomes is vital if schools are to forge ahead in mental health change. Desired treatment outcomes are more likely to occur if the practices are research-based and clear on the theoretical underpinnings of how these practices affect those that use them. One way to better understand and identify optimal treatment is through practice schedules. Examining practice schedules of school-based social and emotional learning that would
produce optimal outcomes that maximizes and increases students’ opportunities for success and healthy social and emotional development is warranted if schools are to provide efficacious mental health prevention and intervention services.

Research examining practice schedules in social and emotional learning is sparse. There is much research, however, investigating practice schedules in the early learning and memory research literature. There is strong emphasis on understanding how certain practices affect learning and outcomes. As with any effort, it would be practical to apply what is most effective or produce the desired results with the least amount of effort or time. The theory of practice schedules identifies the degree of distribution of learning that produces the greatest effect (Williams, 2003). Practice schedules using the terminology of massed practice schedule and distributed practice schedule have commonly been used in the literature to examine schedule of work and rest time, also known as the spacing effect on outcomes. The spacing effect refers to information with repetition that is separated by time or other events are remembered better than information occurring in immediate succession that is massed (Toppino & Schneider, 1999). Grote (1995) defined massed practice schedule as one lengthy exposure to a set of materials; whereas, distributed practice schedule includes several sessions of exposure to the material. It is important as well to take into account that learning is different for individuals. Learners come into situations with prior knowledge or preconceived ideas which affect their overall ability to learn and retain information (National Research Council, 2000).

The distributed practice schedule can be argued as a more effective way of learning as the learner is exposed to the material repeatedly, over several sessions rather
than one lengthy session. Experimental evidence indicates that learning is better when practice is distributed rather than massed (Bloom & Shuell, 1981; Metalis, 1985; Grote, 1995; Krug, Davis, & Clover, 1990). A study by Metalis (1985) examined practice schedules in video gaming. Their participants were randomly assigned to either playing videogames in 10 successive sessions (massed) or 2 minutes of reading a newspaper in between the 10 videogame sessions (distributed), and points were given based on performance. Results indicated that participants in the distributed schedule had higher scores and more improvement than the participants in the massed schedule. In another study, Krug et al., (1990) found that distributed practice lead to better performance. The authors suggested that distributed practice provided the learner the time needed for deep, elaborate processing required for paraphrasing materials. Similarly, Grote (1995) examined the spacing effect with high school students in a physics class. Students were randomly assigned to treatment groups to control for existing differences. Students were exposed to the two differing conditions, massed and distributed, on learning two different physics topics (Strings law and Hooks law). Results indicated superior achievement in the distributed group and the mastery of the materials by the students was constant for 6 weeks by the distributed group.

Fishman, Keller, & Atkinson (as cited in Williams, 2003) examined massed and distributed practice schedules in learning instruction for computerized spelling drills with elementary-aged students. The distributed condition received 2 set of 3 words, once every other day over six days; whereas the massed condition received 6 set of words in one day. Results indicated that the probability of correct words were higher for the massed
condition than the distributed condition in the learning sessions; however, retention was greater for the students in the distributed condition, 10-20 days later. The authors suggest that more learning occurs when information is distributed. Contrary, a study by Williams (2003) examined schedule practices in learning sight words with elementary school students in an alternating treatment design. The author investigated schedules of learning twice a week, four times a week, and once a week. Results indicated that schedules of once and four times weekly were equally effectively, and more effective than once weekly. Follow-up data indicated four times weekly was superior.

Research studies indicate that there are differences in learning and student outcomes based on schedule practices, and that schedule practices continue to require further investigation. It is difficult to ascertain the implications from the early learning and memory literature to social and emotional learning outcomes. The material and conditions in these studies appear to be different than what is ordinarily expected in mental health services where students are required to apply and understand behavioral concepts in their school and personal life. The application of social and emotional learning is different in comparison to learning sight words, for example. The concept of practice schedules or the spacing effect can be utilized in prevention and intervention efforts to better understand optimal outcomes; consequently, practice schedules is of importance and should be examined to better understand it’s applicability in mental health services.
Barriers to Prevention and Intervention Efforts

Although SEL is a systematic, proactive approach to student problems, several barriers exist in prevention and promotion efforts. Zins (2001) suggested that such barriers include: (a) fragmented and uncoordinated efforts; (b) limited training of staff to employ SEL; (c) confusion about who initiates and directs SEL; (d) school staff and personnel may feel less involved and less ownership if not involved at varying levels of implementation; (e) leadership issues; and (f) the implementation process is not documented. These issues are critical and should be addressed if SEL programming is to be effective, sustainable, and successful in schools. For SEL prevention and promotion efforts to be successful, there should be support to school personnel, documented implementation efforts, a strength-based and needs based approach in natural settings, good communication amongst school personnel, and involvement from individuals with shared interests (Elias et al., 2003; Zins, 2001; Zins et al., 2003).

Social Validity for Improved Intervention and Prevention Efforts

One approach to consider in addressing barriers to SEL implementation is social validity. Gresham and Lopez (1996) defined social validity as “the assessment of social significance of goals of intervention procedures, the social acceptability of interventions to attain those goals, and the evaluation of the social importance of the effects produced by those intervention procedures” (p. 204). Thus, social validity appears to be an essential component to determine the needs of the particular schools, students, and those implementing SEL programs so that interventions are matched to those needs, hence
increasing program effectiveness and sustainability, and successful outcomes for both teachers and students.

Social validity can be examined through evaluative feedback from the consumers, in this case teachers and students who apply social and emotional learning practices. Without the understanding of SEL programming, research-based programs may not find utility or effectiveness for the consumers that it was developed for. These research-based programs may not produce desirable results that it was intended to do in addressing children’s mental health needs. Time and energy in schools is scarce, and if the argument is for social and emotional learning practices to be applied, a better understanding of how school-based mental health efforts can and should be used for greatest effect is necessary. The most robust way in addressing social validity is through subjective evaluation (Kazdin, 1977; Wolf, 1978). Gauging the social acceptability and the importance of program goals, procedures, and outcomes can be useful in assessing treatment outcomes (Foster & Mash, 1999). If teachers, students, and school administrators are consumers of intervention and prevention efforts, they are the most valuable resource in guiding these efforts.

*The National and International Movement in Social and Emotional Learning*

The federal and state government and the public have only begun to realize the extent of mental health problems in today’s schools, from Kindergarten to College. There is a stronger stance now than several years ago for prevention and intervention efforts to decrease the rise in emotional and behavioral disorders. Social and emotional learning is supported by several national organizations, such as Learning First Alliance,
National Collaboration for Youth, Nation’s League of Cities, and the Collaborative for Academic, Social, and Emotional Learning (CASEL). CASEL is one of the leading promoters and advocates of prevention and early intervention efforts through social and emotional learning. The mission of CASEL (2007) is to “enhance children's success in school and life by promoting evidence-based social, emotional, and academic learning as an essential part of education, from preschool through high school”. CASEL as an organization, collaborates, publishes, and disseminates critical information relating to children’s mental health and promotion efforts. Their primary goal is to bridge the gap between research and practice by fusing science and theory in real world settings.

In 2004 at the federal level, following a tragic death of Senator Gordon Smith’s son, Congress passed a Bill (Garrett Lee Smith Memorial Act; see http://gsmith.senate.gov), which represented an awareness for prevention and intervention efforts and an important first step in establishing critical and needed support for mental and behavioral health services to students on college campuses. Further, it acknowledges the significant toll of mental health problems on the ability to succeed in college. A majority of the funds authorized in the bill are dedicated to statewide Youth Suicide Early Intervention and Prevention Strategies.

At the state level, the state of Illinois mandated the use of social and emotional learning programs in its public schools due to the high rates of mental health problems in children and adolescents in the state. The State estimated that 1 out of 10 children in Illinois suffer from mental health problems serious enough to cause impairment. The Children’s Mental Health Act (2003) was an initiative in Illinois with an allocation of
$5 million dollars for enhancing screening, assessment, and support services (SAS) for children and adolescents to address mental health crisis. The Illinois Mental Health Partnership was formulated in which they developed a blueprint that outlined comprehensive, coordinated efforts to address the mental health needs in their State. The policy addressed teaching and assessing social and emotional skills and protocols for responding to children with social, emotional, or mental health problems, that impact learning ability. The Illinois Learning Standards (ILS) were created that defined what all students in all Illinois public schools should know and be able to do in the seven core areas as a result of their elementary and secondary schooling. Recently, the state of New York in 2006 also required legislation on social and emotional development in 20 piloting schools using the CASEL model.

The SEL movement has spread internationally as well. In Europe, in which many cultural, ethnic and religious groups must live and work together, there is a clear need to support social and emotional learning in the classroom. E-CIRCUS aims to develop conceptual models and innovative technology to support social and emotional learning through role-play and affective engagement for personal and social education. UNICEF and partners in Nigeria in 2002 aimed at creating school environments friendly to children. Other international efforts include Singapore, Australia, United Kingdom, and Israel.
Every student in the public school system should be given the opportunity to live a satisfying life while meeting life’s challenges through achieving personal goals, fulfilling family responsibilities, producing high quality work, succeeding in school, enjoying good health, and contributing to their community (Zins et al., 2003). It is evident that student outcomes and healthy successful development can be enhanced through social and emotional learning. Students with acquired healthy social and emotional skills and behaviors in school will be productive, more satisfied, and responsible adults in society. Without the implementation of SEL in school settings, students’ social and emotional well being and academic performance are jeopardized and more intensive and individualized interventions may be necessary to support later, severe student problems, which will require greater resource allocation. Current resources and energy in schools then should be used toward implementing SEL at the universal level, for all students, to support and help teach skills that are necessary and essential for social and emotional and academic success.

The Strong Kids curriculum (2007; see Appendix A) developed by Dr. Kenneth Merrell and members of the Oregon Resiliency Project, is an innovative, evidence-based social and emotional learning curriculum aimed at promoting resiliency and coping skills through cognitive and behavioral re-structuring of internalizing behaviors. Resiliency is defined as “successfully coping with or overcoming risk and adversity or the development of competence in the face of severe stress and hardship” (Doll & Lyon, p.
According to Rutter (1985), negative or stressful life experiences are often implicated in the development of mental health problems. Consequently, *Strong Kids* is based on the premise that social and emotional skills can be taught to deal with adversity (stressors, negative experiences, risk factors) and help build resiliency and coping skills to deal with stressors. *Strong Kids* was designed to target the five pathways to wellness advocated by Cowen (1994). These pathways include: (a) early attachments that are “wholesome,” (b) becoming competent with developmentally appropriate skills, (c) being exposed to settings that encourage wellness, (d) feeling a sense of empowerment or being in control of one’s future, (e) possessing coping skills to deal with stress effectively.

*Strong Kids* incorporates components suggested by researchers in the field of education and mental health to be critical programming characteristics that make a program effective, such as the focus on multiple domains, behavioral approach, modeling, practicing, testing, and effective teaching principles (see Greenberg et al., 2003).

The *Strong Kids* curriculum—Grades 3-5 is aimed for students in intermediate elementary grades (ages 8-12). The *Strong Kids* curriculum consists of 12 easy-to-use lessons designed for small group or large classroom presentation. These lessons engage students through class activities that develop vital skills for the prevention and early intervention of mental health problems that can be used in all aspects of life. Skills taught in *Strong Kids* include understanding emotions, identifying comfortable and uncomfortable feelings, looking for cues to situations, anger management, relieving stress, interpersonal problem solving skills, and setting goals. The carefully designed 45-55 minute lessons feature teacher scripting for ease of implementation, skills instruction,
role-play and modeling, practice scenarios and activities, discussion questions, and in-class and homework handouts as methods of teaching social and emotional concepts and knowledge. The 12 lessons of the *Strong Kids* curriculum are as follows:

- **Lesson 1:** About *Strong Kids* (purpose of *Strong Kids*, overview of curricula, pre-test, rules and expectations, introductory activities)
- **Lesson 2:** Understanding Your Emotions, Part 1 (increasing awareness of emotions and emotional variability)
- **Lesson 3:** Understanding Your Emotions, Part 2 (increasing awareness of ways of expressing emotion, comfort and discomfort with emotions, connections between feelings and events)
- **Lesson 4:** Dealing With Anger (learning to express anger in appropriate rather than maladaptive ways)
- **Lesson 5:** Understanding Other's Feelings (empathy training)
- **Lesson 6:** Clear Thinking, Part 1 (introduction to cognitive processes)
- **Lesson 7:** Clear Thinking, Part 2 (cognitive restructuring)
- **Lesson 8:** Power of Positive Thinking (learned optimism and attribution retraining)
- **Lesson 9:** Solving People Problems (conflict resolution training)
- **Lesson 10:** Letting Go of Stress (relaxation training)
- **Lesson 11:** Achieving Your Goals (goal setting and increasing positive activities)
- **Lesson 12:** Finishing UP! (review, post-test, how to get help if needed)
Evidence for Strong Kids Curriculum

Since 2003, there have been extensive efforts to experimentally test the impact, efficacy, and social validity of Strong Kids and Strong Teens (an upward extension of Strong Kids) and continuous improvements have been made to the curricula. The programs have been tested in a variety of conditions, such as in general education classrooms (prevention approach) with elementary and middle school students; pull-out program for at-risk students (early intervention approach); special education ED/BD classrooms, and residential treatment/day treatment settings, and general education with English Language Learners (ELL). In general, studies have produced positive results indicating that exposure to Strong Kids significantly and meaningfully increased healthy social and emotional knowledge and concepts. In some studies, decreases in knowledge were found. As well, minimal cost and time commitment and strong user satisfaction were indicated.

Feuerborn (2004) conducted two studies examining the efficacy of the Strong Kids curriculum in a small sample in elementary and middle school children in Oregon identified as “at-risk.” Results indicated significant increases in knowledge of healthy social and emotional behaviors and decreases in symptoms of emotional distress in comparison to students who did not receive the curriculum. Additionally, studies by Merrell, Juskelis et al., (2006) evaluated the effectiveness of the Strong Kids in a general education setting in middle school and Strong Teens as a tertiary intervention program with emotionally disturbed adolescents in a special education high school. These studies found that students who participated in the program had an increase in knowledge related
content and decrease in symptoms of emotional and behavioral problems. The research evidence for \textit{Strong Kids} continues to build indicating that it is a positive social and emotional learning curriculum in building healthy social and emotional knowledge and resiliency skills (see Berry-Krazmien & Torres-Fernandez, 2007; Castro-Olivo, 2006; Gueldner, 2006; Faust & Larson, 2007; Isava, 2006).

\textbf{Purpose and Rationale for the Current Study}

The current study is based on the premise that students’ mental health is at risk, particularly for social and emotional problems (e.g., depression, anxiety, social withdrawal; see Figure 3). Systems level prevention and intervention is an avenue that targets all students and at varying levels of need. Social and emotional learning, using the \textit{Strong Kids} curriculum at the universal level would provide students with the opportunities for healthy social and emotional development, through teaching competency and resiliency skills for the prevention and early intervention of emotional and behavioral problems.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3.png}
\caption{Conceptual framework of current study.}
\end{figure}
This dissertation study investigated the short-term impact of the *Strong Kids* curriculum to build resiliency skills and increase healthy social and emotional knowledge and behaviors. Specifically, to further address students’ mental health needs and help move the social and emotional learning field forward, the *Strong Kids* curriculum was used to investigate scheduling practices of massed (2 lessons a week for 6 weeks) and distributed (1 lesson a week for 12 weeks) on student outcomes. Given the scarcity of empirical studies examining social and emotional learning and treatment outcomes based on schedule practices, this study proved to be a valuable addition to school-based prevention and intervention efforts. In addition, the study qualitatively addressed social validity by obtaining feedback from the participants on their experiences and perceptions of the *Strong Kids* curriculum as social validity is a core component of program effectiveness and sustainability.

The findings from this study may benefit social and emotional learning in countless schools across the country, and inform training practices by: (a) Identifying SEL practice schedules that produce optimal outcomes in students’ social and emotional functioning; (b) Continuing to field test and validate an evidence-based SEL curriculum for schools to use and incorporate into their classroom curriculum; (c) Providing avenues that support teacher implementation through examining social validity; and (d) Providing necessary improvements in *Strong Kids* to be more useful and viable for teachers to implement successfully.
CHAPTER III

METHOD

This chapter provides an overview of the study design, participants and settings, independent variables, dependent variables and pre- posttest measures, treatment integrity measure, interrater reliability for treatment integrity, and study procedures.

Design

A 2 x (2) mixed factorial pretest-posttest design (see Table 1) was used to evaluate the effects of the Strong Kids social and emotional learning curriculum. A mixed factorial was useful to determine the effects of the curriculum and differences between groups before and after treatment (Keppel & Zedeck, 1989). This study was quasi-experimental in that there was not true random assignment of participants into each condition; however, the participating classrooms within each school were randomly assigned to one of the two conditions, with the participants nested within classrooms. A quasi-experiment is an approximation to an experiment or “near experiment” (Sansone, Morf & Panter, 2004), which is generally often used in schools due to the limitation of true random assignment. Similarly to randomized experiments, quasi-experiments provide a useful estimate of the effects of one or more treatments on one or more variable outcomes. This study used both between-subjects and within-subjects elements within the design.
The two independent variables for this study were (1) *Time*, with two levels: Time 1: Pretest and Time 2: Posttest, and (2) *Treatment Group*, with two levels: Treatment Group 1: Massed and Treatment Group 2: Distributed. Both groups received the *Strong Kids* curriculum and the pre- posttests. The Massed condition received the curriculum for 6 weeks at 2 lessons a week, whereas the Distributed condition received the curriculum for 12 weeks at 1 lesson a week.

**Participants and Setting**

Participants were selected from existing 4th or 5th grade classrooms or 4th/5th grade combination classrooms in Eugene and Springfield, Oregon schools. Eugene and Springfield are bordering cities located at the south end of Willamette Valley. Eugene’s population is approximately 149,000 and Springfield’s population is approximately 57,000. Participation was based on the school principals’ approval for the classrooms to participate in this study and the pre-identified grade levels for this study. A total of four elementary schools participated. Two schools were located in the Eugene area and two

---

**Table 1**

*Research Design*

<table>
<thead>
<tr>
<th>Between Subjects</th>
<th>Time 1: Pretest</th>
<th>Within Subjects</th>
<th>Time 2: Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Group 1: Massed (6 weeks)</td>
<td>O</td>
<td>X</td>
<td>O</td>
</tr>
<tr>
<td>Treatment Group 2: Distributed (12 weeks)</td>
<td>O</td>
<td>X</td>
<td>O</td>
</tr>
</tbody>
</table>
schools were located in the Springfield area. At the time of the study, School A had an approximate enrollment of 436 and 57% of the students qualified for free or reduced lunch. The demographics of School A included: 81% White, 14% Hispanic, 2% American Indian/Alaskan Native, 2% Black, and 1% Asian/Pacific Islander. School B had an approximate enrollment of 412 students and 38% of the students were eligible for free or reduced lunch. Seventy-nine percent of the students identified as White, 9% Hispanic, 4% American Indian/Alaskan Native, 2% Asian/Pacific Islander, less than 1% Black, and 5% identified as Other. Schools A and B were from the same school district. School C had an enrollment of about 223 students and 28% of these students were eligible for free or reduced lunch. Seventy-eight percent of the students at this school were White, 8% Asian/Pacific Islander, 3% Hispanic, 2% Black, 1% American Indian/Alaskan Native, and 8% Unspecified. School D had an enrollment of approximately 218 students and 54% of these students were eligible for free or reduced lunch. Seventy-two percent identified as White, 6% Hispanic, 4% American Indian/Alaskan Native, 3% Asian/Pacific Islander, 1% Black, and 14% Unspecified. Schools C and D were from the same school district.

Student Participants. Student participants were recruited from 4th and/or 5th grade classrooms, depending on the school principals’ consent of particular grades/classrooms to participate in this study. Students from 10 general education classrooms participated. Schools A, C, and D had two participating classrooms within the school and School B had four participating classrooms. The students’ participation was based on their willingness to participate in this study and their parent’s consent for them to participate.
A total of 272 students were eligible to participate in this study. Of these students, 16 (6%) declined participation or their parents declined to have their students participate. Table 2 indicates demographic information for students who participated (N = 256).

Of the students who participated, 51% were in Treatment Group 1 (Massed Condition) and 49% were in Treatment Group 2 (Distributed Condition). Of these students, 54% were males and 46% were females. There was a relatively equal distribution of students in grades 4 (51%) and grades 5 (49%). Less than 1% of the students were 8 years old, 39% were 9 years old, 45% of the students were 10 years old, and 15% were 11 years old at the time of the study. Based on the schools, 18% of the participating students were from School A, 35% from School B, 35% from School C, and 19% from School D. There was no exclusion of student participation in the identified grades.
### Table 2

**Participating Student Demographics**

<table>
<thead>
<tr>
<th></th>
<th>Treatment Group 1 (Massed)</th>
<th>Treatment Group 2 (Distributed)</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>72</td>
<td>66</td>
<td>138</td>
</tr>
<tr>
<td>Female</td>
<td>59</td>
<td>59</td>
<td>118</td>
</tr>
<tr>
<td><em>Total</em></td>
<td>131</td>
<td>125</td>
<td>256</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8/9</td>
<td>59</td>
<td>36</td>
<td>95</td>
</tr>
<tr>
<td>10/11</td>
<td>63</td>
<td>81</td>
<td>144</td>
</tr>
<tr>
<td><em>Total</em></td>
<td>122</td>
<td>117</td>
<td>239</td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>80</td>
<td>50</td>
<td>130</td>
</tr>
<tr>
<td>5</td>
<td>51</td>
<td>75</td>
<td>126</td>
</tr>
<tr>
<td><em>Total</em></td>
<td>122</td>
<td>117</td>
<td>239</td>
</tr>
<tr>
<td><strong>School</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>27</td>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td>B</td>
<td>43</td>
<td>46</td>
<td>89</td>
</tr>
<tr>
<td>C</td>
<td>37</td>
<td>34</td>
<td>71</td>
</tr>
<tr>
<td>D</td>
<td>24</td>
<td>25</td>
<td>49</td>
</tr>
<tr>
<td><em>Total</em></td>
<td>131</td>
<td>125</td>
<td>256</td>
</tr>
</tbody>
</table>
Teacher Participants. A total of 10 teachers participated from the 4th or 5th or 4/5th combination general education classrooms. These teachers had been teaching at their respective schools for a number of years, with the exception of one student teacher who was completing her teaching credential. The mean number of years of teaching experience was 13 years, excluding the student teacher. The range of number of years teaching was 7 to 29 years. Participation was based on the school principal’s identification of the teachers and the teachers’ willingness to participate in this study. Of these teachers, nine were female and one was male. The one male teacher taught the first lesson of the curriculum and was on paternity leave thereafter. This teacher’s replacement was another male teacher who was a long term substitute and who had prior teaching experience. Another participating teacher was a student teacher who implemented the curriculum from beginning to ending of the study due to the primary teacher being on personal leave. This student teacher participated in the in-service training as part of this study provided to all teachers. Teachers were asked that if they were absent for an assigned Lesson day, that they do not have their substitute teacher teach the Strong Kids in order to keep consistency within the study. The teachers were asked to move the Lesson to another day of that week. Teachers and their classrooms were randomly assigned to one of the two treatment conditions; that is, five teachers/classrooms were randomly assigned to Treatment Group 1 and the other five teachers were randomly assigned to Treatment Group 2. There were at least two classrooms at each school, with the exception of one school that had four participating classrooms. Within each school, there was at least one Massed Condition group and one Distributed Condition group. See
Table 3 for demographic information and treatment assignment of the teachers/classrooms.

Table 3

*Classroom Demographics and Random Treatment Assignment of Conditions*

<table>
<thead>
<tr>
<th></th>
<th>Grade</th>
<th>Treatment Group 1: Massed</th>
<th>Treatment Group 2: Distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom 1</td>
<td>4</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Classroom 2</td>
<td>4</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>School B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom 3</td>
<td>5</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Classroom 4</td>
<td>5</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Classroom 5</td>
<td>5</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Classroom 6</td>
<td>4</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>School C</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom 7</td>
<td>4/5</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Classroom 8</td>
<td>4/5</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>School D</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom 9</td>
<td>4/5</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Classroom 10</td>
<td>4/5</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Independent Variables

There were two qualitative independent variables for this study. Time and Treatment Group. Time had two levels: Time 1 (Pretest) and Time 2: Posttest. Treatment group had two levels: Treatment Group 1: Massed Condition and Treatment Group 2: Distributed Condition. Due to the two differing treatment conditions and pacing of the lessons, the Strong Kids curriculum was implemented and completed at different times. That is, at certain points of this study, the two treatment groups existed concurrently, but at different lessons in the curriculum. Importantly, all the classrooms in Treatment Group 1 started and completed the curriculum at the same time. Similarly, all the classrooms in Treatment Group 2 started and completed the curriculum at the same time.

Time. The quantitative dependent measures were administered to participating students at Lesson 1 of the Strong Kids curriculum (Time 1). The same dependent measures were administered again to participating students approximately one week after completing the Strong Kids curriculum (Time 2). At Time 2, participating students were administered an additional quantitative satisfaction survey asking them to respond to their perceptions and attitudes after participating in the curriculum. As well, at Time 2, teachers participated in a semi-structured interview to evaluate their attitudes and perceptions toward the curriculum and to obtain feedback for social validity. The time difference in administration between the groups was not significant between the groups.

Treatment Groups. Participating classrooms were randomly assigned to one of the two treatment conditions. Treatment Group 1 was the Massed Condition that received the Strong Kids curriculum for 6 weeks at 2 lessons a week. Treatment Group 2 was the
Distributed Condition that received that *Strong Kids* curriculum for 12 weeks at 1 lesson a week. Participating students in both groups received the *Strong Kids* curriculum and the quantitative dependent measures at Time 1 and Time 2. Refer to Tables 1 and 3 for assignment to the Treatment Conditions, participation in the *Strong Kids* curriculum, and Time of the dependent measures.

**Dependent Variables and Measures**

The quantitative dependent variables are the pre and post measures used at Time 1 and Time 2. The measures were intended to assess social and emotional content knowledge and coping strategies, internalizing symptoms, and social and emotional functioning. The following are measures that were used for this study: *Strong Kids Symptoms Test*, *Strong Kids Knowledge Questionnaire*, and *BarOn Emotional Quotient Inventory-Youth Version*. An additional dependent measure, *Strong Kids Satisfaction Survey* was administered only at Time 2 (Posttest) to assess students’ social validity of participation. A qualitative dependent variable was included at Time 2 to examine social validity (feedback, satisfaction, and acceptability) of the *Strong Kids* curriculum from participating teachers. The qualitative independent variable consisted of a semi-structured interview with teachers. All measures were administered by doctoral-level students familiar with the *Strong Kids* curriculum and this project.

*Strong Kids Symptoms Test*. The 10-item self-report Symptoms Test is a brief experimental measure and is designed to be used along with the curriculum as pre-test/post-test (see Appendix B). The Symptoms Test measures emotional distress, negative affect, and associated cognitive-behavioral symptoms. Each item is rated along a
four-point (0-3) continuum, with the higher numerical values associated with increased distress or negative affect. Sample items include, “I can’t deal with my problems; I worry about things; I feel depressed or sad.” Previous experimental studies that have used the Symptoms Test have found statistically significant and meaningful changes in the desired directions; that is, a decrease in emotional distress and negative affect (see Feuerborn, 2004; Isava, 2006; Merrell, Juskelis, et al., 2006). These studies and other research investigations using the Symptoms Test have demonstrated that internal consistency reliability of the measure has ranged from .68 to .79, depending on the specific population. This level of reliability is considered to be acceptable for research and administrative purposes.

*Strong Kids Knowledge Questionnaire.* The 20-item self-report Knowledge Questionnaire is designed to be used as pre-test/post-test to assess knowledge of healthy social-emotional behavioral skills, specifically concepts taught within the *Strong Kids* curriculum (see Appendix C). The Knowledge Questionnaire is essentially a measure of what students have learned, specifically social and emotional coping strategies and knowledge, by being exposed to the content taught in the curriculum. The items consist of true-false and multiple choice items and are each scored as correct or incorrect, using a scoring key provided in the curriculum. Correct responses are each assigned 1 point, with a maximum of 20 points for completing all test items correctly. The final correct score can be converted into a percentage of correct responses. Sample items include: Mark True or False-- “Self-esteem is your feelings of worth for yourself,” Multiple Choice-- “An example of an emotion that is uncomfortable for most people is (a) Excited, (b)
Frustrated, (c) Curious, (d) Content. The *Strong Kids Knowledge Questionnaire* has been used in several pilot research studies (see Castro-Olivo, 2006; Feuerborn, 2004; Faust, 2006; Gueldner, 2006; Isava, 2006; Merrell et al., 2006). Previous studies indicate that this 20-item measure is sensitive to student changes in knowledge as a result of participating in the program. The internal consistency reliability (Cronbach’s alpha) ranges from .60’s to .70s, which is considered adequate for a research measure of this length that is not used for making decisions regarding individual students.

*BarOn Emotional Quotient Inventory: Youth Version (BarOn EQ-i:YV).* The BarOn EQ-i:YV developed by Bar-On and Parker in 2000 (see Plake, Impara, & Spies, 2003) assess emotional and social functioning in children and adolescents (ages 7 to 18; see Appendix D). Specifically, it assesses the understanding of oneself and others, relating to people, and adapting to and coping with the immediate surroundings in dealing with environmental demands. The EQ-i:YV was derived from the original adult version in theoretical foundation, purpose, and general format. The youth self-report scale is available in both long (60 items) and short (30 items) versions. Due to administration and the allotted time, the short version was used in the testing. The short version was derived from the long version and differs on one domain. The short version scale yields an overall emotional intelligence score, which is subdivided into scores on four domains: (A) Intrapersonal—ability to understand one’s emotions and express one’s feelings and needs, (B) Interpersonal—ability to have interpersonal relationships and understand and appreciate others’ feelings, (C) Stress Management—ability to respond to stress, and (D)
Adaptability—ability to manage change. Additionally, EQ-i:YV also measures socially desirable responding (Positive Impression Scale—presentation of self to others).

Individuals are asked to respond to a 5-point Likert scale to indicate the degree to which each statement is true for them. Response options range from “Very Seldom True of Me” to “Very Often True of Me.” Of the items, 15-20% require reverse scoring. Higher scores indicate higher levels of emotional intelligence. Sample items include: “It is hard to talk about my deep feelings; I am good at understanding the way other people feel; It is hard to control my anger.” A large norming sample was used (n=9,172) and contains separate norms for males and females, as well as for separate age groups (7-9 year olds, 10-12 year olds, 13-15 year olds, and 16-18 year olds). The sample consists of students from elementary, junior high, and high schools in the United States and Canada from regular education classes.

Psychometric properties for the EQ-i:YV are acceptable. Coefficients reported for internal consistency ranged from .65 to .90 for all domain scales, correlations of items within scales ranged from .14 to .55, test-retest reliability ranged from .77 to .89. Correlations of the EQ-i:YV to the Children’s Depression Inventory, NEO-Five Factor Inventory, Conners-Wells Adolescent Self-Report Scale, and the Conners Parent Rating Scale were moderate and negative. The highest correlations (.85) were between the EQ-i:YV Stress Management scale and the Anger Control Problems of the Conners-Wells Scale. The EQ-i:YV is a newly developed test and has adequate validity and reliability, though not as extensive as the adult version; however, this test may be useful for screening and research purposes, but use for clinical purposes is unclear (Plake, Impara,
Because there is not another measure of ‘emotional intelligence’ available for use in school-aged children and that the test is relatively new, use of this measure was necessary for the present investigation.

**Strong Kids Satisfaction Survey.** The *Strong Kids* Satisfaction Survey was developed to be used along with the *Strong Kids* curriculum (see Appendix E). The 17-item survey asks students questions regarding their satisfaction in the curriculum. Sample items include: “*Strong Kids* was fun; I learned a lot from *Strong Kids*; and I think that what I learned in *Strong Kids* will help me in the future.” Individuals are asked to respond to each item by marking “YES” or “yes” or “Not sure” or “no” or “NO.” By marking “YES or NO” individuals are indicating that they either strongly agree to strongly disagree with that item. By marking “yes or no” individuals are indicating that they somewhat agree or disagree with that item. Data gathered from this survey provided quantitative information on avenues to make the *Strong Kids* curriculum more effective and enjoyable for students.

**Qualitative Dependent Variable (Semi-structured Teacher Interview).** A semi-structured interview for participating teachers was conducted at completion of the *Strong Kids* curriculum. The interview qualitatively examined, using guidelines set by Wolf (1978) for assessing social validity (see Appendix F), the social importance and acceptability of treatment goals, procedures and outcomes. The teachers were asked to provide feedback acceptability after completion of the curriculum and posttest in their classrooms. The 20-25 minute interview consisted of a variety of questions eliciting teachers’ feedback regarding their experiences. Examples of the interview questions...
include: “How long did it take to deliver each lesson? How did students respond to
*Strong Kids*? What are the most positive and useful features of *Strong Kids*? What was it
like to implement the program in 6 weeks versus 12 weeks? Was implementation at those
levels feasible and realistic for your classroom/students?

The purpose of assessing qualitatively allows for obtaining rich information.
Interviewing permits for examining the natural behaviors of human beings and making
meaning out of their experiences (Sansone et al., 2004). By requesting qualitative
feedback from the teachers who implemented the *Strong Kids* curriculum, we are able to
provide a more socially valid and effective SEL program that can be sustainable and
implemented with fidelity or adherence.

*Scoring procedures for dependent measures.* The Project Investigator scored and
entered all student data from the dependent measures at Time 1 and Time 2 for both
Treatment Groups. Scores from the dependent measures were entered into SPSS
GradPack Version 14.0 for Windows at the item-level for each dependent measure. The
scores were tabulated and summative totals for each dependent measure was calculated
by SPSS. The Project Investigator also conducted the semi-structured interviews with all
participating teachers. Information gathered from the interviews was categorized based
on commonality of responses. Themes were generated based on the teachers’ responses.

*Treatment Integrity/Adherence Measure*

Treatment fidelity or also known as treatment adherence plays an important role
in research to ensure that a treatment has been implemented as intended and that the
treatment has been accurately tested. Baer, Wolf and Risely (1987) argued for the
importance of treatment fidelity in that “fidelity to original procedures is recommended because those procedures have been studied and are known to be effective. Their variations and alternatives usually have not been studied, so nothing can be said about their effectiveness…(p. 321). Additionally, treatment fidelity is critical to ensure internal validity (decrease Type I and II errors). Ensuring fidelity of implementation increases research power by reducing unintended variability in the treatment effect. As well, treatment fidelity supports external validity in that the study can be replicated and disseminated. Moreover, the benefits of ensuring treatment fidelity provides for (1) linking assessment to intervention (Carta, 2002; Costello-Ingham & Riley, 1998), (2) promoting generalization across settings (Halle, 1998); (3) ensuring and achieving lifestyle changes and social outcomes (Turnbull & Turnbull, 2000), and (4) enhancing rigor of scientific research by establishing a functional relationship.

Treatment fidelity was measured in this study to ensure that the curriculum was implemented as intended. Three of the Strong Kids lessons (Lessons 1, 4, and 8) had corresponding treatment fidelity measures (see Appendix G). Teachers had prior notifications for each observation. Doctoral level research students who were assisting in data collection and familiar with the Strong Kids curriculum conducted direct classroom-based observations measuring fidelity of implementation from all participating teachers for the identified Lessons. The observations lasted the entire duration of the Lesson implementation, approximately 45-50 minutes long. The observer, utilizing the treatment checklists, endorsed items on the checklist to indicate the extent to which each component of each lesson was observed to be implemented. After each core component, the observer indicated whether the items under that
component were “Fully Implemented, Partially Implemented, or Not Implemented.” The observer was able to provide additional comments under each component that may be relevant to the observation. Fidelity of implementation was determined by dividing the total number of items possible for each lesson by the number of items checked-off or observed as implemented. The product can be multiplied by 100% to yield the percentage of components implemented for each lesson. A higher percentage indicates that the treatment (lesson) was implemented with fidelity, whereas a lower percentage indicates that there was low treatment fidelity.

It is important to note that originally 6 of the 12 Lessons were intended to have fidelity measures; however, due to the number of classrooms/teachers involved in this study, there were barriers in scheduling so many observers to be available in the classrooms. In addition, one of the teachers was observed implementing Lesson 11 rather than Lesson 1 due to scheduling conflicts. Another teacher was observed implementing Lesson 11 rather than Lesson 8 due to scheduling conflicts. The observations of the two different lessons did not provide any changes or fluctuation in the treatment fidelity data.

Communication of treatment fidelity was not provided to the teachers after the observations or any time in the study in order to maintain consistency across observations, classrooms, and treatment conditions. Given that there were different observers for the classrooms, the limited communication regarding treatment fidelity prevented any biases that may occur due to the interactions between the observers and teachers. Figure 4 provides the results of treatment fidelity data collected across 30 classroom observations for participating teachers. The figure illustrates observations
across three points in time for all 10 teachers in this study. Overall, treatment integrity data indicated an average of 84% implementation adherence rate for participating teachers. Interestingly, only one of the teachers had a significant decrease in treatment integrity over the three observation period (Teacher 9). This teacher was the student teacher with one year of teaching experience.

![Figure 4. Treatment fidelity data across three observations for all teachers where the percentage of lesson components implemented indicates the ratio of components implemented out of a total possible for each lesson.](image_url)

As part of the direct-classroom observation and treatment fidelity, a behavioral observation form was utilized in addition to the Lesson Checklist for each classroom observation (Lessons 1, 4, and 8) to measure the teaching practices of the teacher and classroom climate/culture as it relates to the *Strong Kids* lesson implementation (see Appendix H). Observers were asked to rate teachers in the areas of (1) Lesson Discussion, (2) Role Play (presentation of the materials), and (3) Classroom Climate (student engagement, encouragement, support). Observers were asked to rate each item
within the primary component areas on a scale of 0-2, where 0 indicates “Not Observed” and 2 indicates “Observed Often.” For example, within the category of Lesson Discussion, the observer rated whether the “Teacher presents ideas and concepts clearly.” Another example, within the category of Role Play, the observer rated whether the “Teacher models the skills to practice.” An example in the last category, Classroom Climate, the observer rated whether the “Teacher provides reinforcement when students are engaged or uses skills taught.” The highest score possible on each observation was 18. Observers also noted relevant information regarding students’ behavioral responses during lesson instruction.

The behavioral observation checklist was a useful tool, in conjunction with the Treatment Checklist, in providing valuable information about effective teaching practices and classroom climate. Figure 5 provides an illustration of data gathered in the direct-behavioral observations. Based on 18-points possible in each observation, in Observation 1: teachers’ averaged 13.6 points, in Observation 2: teachers’ averaged 14.9 points, and in Observation 3 teachers’ averaged 15.2 points. Overall, teachers’ had high ratings in Lesson Discussions, Role Play, and Classroom Climate. The figure indicates a positive trend on targeted behaviors and variables as this research study progressed, thus suggesting that Strong Kids had an impact in classroom climate/culture.
Behavioral Observations as Part of Treatment Fidelity

Figure 5. Mean of total points from three behavioral observations conducted as part of treatment fidelity on an 18-point scale, where higher scores indicate positive instruction and lower scores indicate less positive instruction.

Interrater Reliability for Treatment Fidelity

Data on interrater reliability (interobserver agreement) was collected to determine the extent to which two, independent observers agree they observed the same events/behaviors at the same time during the observed lesson implementation. Interrater reliability was assessed for two of the three observed lessons where treatment fidelity data was collected. The following lessons were randomly assigned for interobserver agreement observations: Lessons 1 and 8. A graduate student knowledgeable about the Strong Kids curriculum served as the treatment fidelity reliability observer along with another graduate student assisting on this project. The same treatment fidelity observation forms were used by both observers. The frequency of observations with agreement was divided by the total number of observations then multiplied by 100%. Professional standards require an interobserver agreement of 85% (Kennedy, 2005). The average
agreement between the observers in Observation 1 (Lesson 1) was 97% interobserver agreement. The average agreement between the observers in Observation 2 (Lesson 8) was 95% interobserver agreement.

 Procedures

 Recruitment. The Project Investigator wrote a letter to the participating school districts’ research board indicating an interest in data collection in their district and provided some detailed information regarding the rational of this study. The Project Investigator then met with the research committee from the two participating school districts to present on the purpose of this study, data collection criteria, and the benefits of their schools participation. Once the research committee from the school districts approved data collection, the Project Investigator forwarded an introductory email (information about the Project Investigator, purpose of study, criteria for participation, and benefits to participation) and to ascertain interest from elementary school principals in the two school districts. The introductory email also included a flyer for teacher recruitment (see Appendix I). Interested principals responded through email whether they were interested in participating in the study. The principals identified the teachers in the targeted grades who may have an interest in this study, as well. The Project Investigator contacted the identified teachers, based on their school principal’s interest. The Project Investigator communicated through email and phone in obtaining the teachers’ interest and verbal agreements to participate in this study. The school principal from the participating schools provided an agreement letter indicating their commitment to the requirements of this study and that the Strong Kids curriculum will be used as a pilot
curriculum in their 4th and/or 5th grade general education classrooms during their Health subject or in lieu of another social skills program currently used by the teachers as part of this study (see Appendix J).

Teacher Training. Approximately two weeks prior to data collection, teachers were provided with a 2 ½ hour in-service training on this research project, particularly focusing on the Strong Kids curriculum and lesson implementation based on assignment to one of the two conditions. Two separate trainings were conducted, one for the teachers in Springfield and one for the teachers in Eugene. The two different training times were necessary due to scheduling issues from the school districts. The two in-service offered the same information in which an interactive power-point format was used to provide training by the Project Investigator. The in-service entailed an overview of the research on social and emotional learning, the theoretical basis of the Strong Kids curriculum, organization and materials needed for each lesson, components or skills to be taught in each lesson, and the dependent measures used for pre- posttest were presented. Participating teachers were then provided with an in-depth training of the 12 Strong Kids lessons and discussed the activities and supplements within each lesson. Teachers were asked to practice some of the instructional activities during this training. Project Investigator reviewed and discussed with the teachers about potential barriers during implementation. The teachers were provided with time to ask further questions about this study or pertinent implementation issues. Teachers were ensured that the Project Investigator would be available for implementation supports throughout the duration of this project.
At this time, teachers were provided with all the necessary research study materials organized in an easy to carry case, such as the *Strong Kids* curriculum and instructional supplements and handouts. The instructional supplements, handouts, and transparencies were photocopied for the teachers to use during their instruction. A total of 30 copies were made of each handout or supplement used for the lessons provided to the students. The student assent and parent consent letters were reviewed during training. The parent consent letters were provided to the teachers, as well, to distribute to their students during the first week of school as part of their take home packet, as this study began shortly after the start of the new school year. Teachers supported in tracking the returned letters and contacted parents for participation if needed. Teachers were provided with extra student assent and parent consent letters to follow-up with parents when necessary.

Teacher consent forms were reviewed and signatures from participating teachers were obtained. At this time, teachers were provided with the assignment to their treatment group. Random assignment of the teachers/classroom occurred prior to the in-service training. Finally, teachers were provided with the data collection and program implementation schedule (see Appendix K). Teachers were given the option to choose the days for program implementation. For teachers assigned to the Massed Condition, they were asked to have a separation of at least one day in between lesson implementation. Teachers were asked to keep the days consistent and follow the data collection schedule and curriculum with consistency and integrity. At the end of this training, teachers had a complete schedule of start and end dates, weekly implementation of the lessons,
treatment integrity observation dates, and contact information for the Project Investigator and participating data collectors.

Consent Procedures. All consent and assent letters for participation in this research study were approved by the University of Oregon Human Subjects IRB Committee, the school district’s Research Committee and Review Board, and the participating school principals.

Teachers reviewed and signed consent letters for participating in this research study at the in-service training (see Appendix L). Parent consent letters were provided to the teachers at in-service and distributed to their students to take home to their parent(s) or caregiver(s). The data collection occurred around the start of the 2005-2006 school year (Fall 2006); thus, consent letters were provided to the parents in the students’ informational take-home packet, rather than U.S. mailing the letters. Additionally, this process was expedited by providing the consent letters in the students’ informational packet as the Project Investigator could not mail the consent letters directly to the students’ home due to confidentiality laws and the mailing time would have increased if a staff within the school mailed the letters home to the parents as this would have taken additional steps. The parent consent letter provided an overview of this research study and asked the parent(s) or caregiver(s) to sign and return the letters back to their classroom teacher for their child’s participation in this project (see Appendix M). As well, a Spanish version parent consent form was available for parents who were non-English speakers (see Appendix N). The Spanish parent consent form was translated by a member of the Oregon Resiliency Project who was familiar with the curriculum and
fluent in Spanish. The parent letters provided a contact number of the Project Investigator and Project Supervisor for additional questions pertaining to the project. The participating teachers also made themselves available to address any concerns parents may have about their child’s participation. There were a few parents who expressed concerns regarding the content provided in the *Strong Kids*, or that they felt their child did not need to learn these skills at this time. The teachers supported these parents in their decision to not have their child participate and informed the parents that their child would not be evaluated negatively.

Student assent letters were provided at Time 1 (Pretest), prior to starting *Strong Kids*. The student assent letters described and overviewed this research study and asked students to sign for participation (see Appendix O). The assent letter was read aloud to all students by the data collector. At this time, students were informed that participation was voluntary and they could withdraw from this study at any time. They were allowed to ask questions if needed. Additionally, the students were informed that their participation was also contingent on their parents’ consent for them to participate in this study. Students were directed to another classroom for independent study time for the duration of the lesson implementation if consent and assent were not obtained. As well, these students did not participate in the pre- posttest.

All consent and assent letters were gathered by the data collector at Pretest and filed by the Project Investigator for tracking purposes. Names of students not participating in this study were noted on the roster so that the student was excused from
the lessons and pre-posttest. Teachers were also reminded throughout the study to exclude the non-participating students from the Strong Kids activities.

*Data Collection Preparation and Modifications.* Originally, this study intended to incorporate five quantitative dependent measures. The first classroom that received the five Pretest measures resulted in the teacher indicating that the five measures total took too long to complete, and was not feasible within specified time allotments. The total pretest time for this classroom was approximately 75 minutes. Originally, the Investigator thought that the five measures would take approximately 50-55 minutes. The teacher reported that the students were exhausted after completing the five pretest measures and then having to learn Lesson 1 in one sitting. A decision was made by the Projector Investigator and Project Supervisor to eliminate two of the five measures. Specifically, the measures that were determined to be removed from the assessment battery included: the Self-Perception Profile for Children (SPPC), a self-report measure that assesses multidimensional self-concept and the Social-Emotional Resilience and Asset Scale (SEARS), a self-report pilot assessment aimed at measuring positive assets, coping skills, self-concept, social-emotional knowledge, and social-emotional resilience of children and adolescents.

The situation in the first classroom of pretest resulted in a decision to decrease the number of measures from five to three (*Strong Kids Symptoms Test, Strong Kids Knowledge, and BarOn*). The decision for these measures was based on the primary research questions addressed in this study. In consideration of the length of time in completing the pretest measures, posttest occurred on a separate day from Lesson 12.
(within a week of completing the curriculum) rather than immediately after completing Lesson 12 as originally planned. These slight modifications were positive for both teachers and students and did not appear to affect the outcomes of the data.

Prior to starting *Strong Kids*, code names were developed by participating students for use in this study. Teachers obtained code names on an index card from their students the day before pretest due to confidentiality of the data. The code names of the participating students included: dad’s first name, mom’s first name. The students were also told that if they did not live with their mom or dad, then they put the first name(s) of the adult person that they live with. The code names were used as a way to match the student to their questionnaires without having identifying information. The code names were also transferred onto the class roster. The note cards with code names were collected at pretest by the data collector.

_Treatment Group 1: Massed Condition_. Classrooms assigned to the Massed Condition group received the *Strong Kids* lessons 2 times weekly for 6 weeks. The classrooms were randomly assigned to this treatment group and the students were nested within the classrooms. Data collected for Treatment Group 1 (Pretest and Lesson 1) began during the week of October 2, 2006 at Time 1 (refer to implementation schedule Appendix M). Time 2 (Posttest) occurred the following week of completing Lesson 12, week of November 13, 2006. Given that the teachers were with these students throughout their school day, the teachers had flexibility as to when the lessons where implemented in their classrooms. However, these teachers were asked to keep their implementation days
and times consistent throughout the duration of the study. The lessons took approximately 50-60 minutes to implement.

_Treatment Group 2: Distributed Condition._ The classrooms in Treatment Group 2: Distributed Condition functioned similarly to Treatment Group 1. The exception and only difference between the two groups was the pacing of the _Strong Kids_ lessons. The students in Treatment Group 2 received the lessons once weekly for 12 weeks. The lessons took approximately 50-60 minutes to implement. For this group, data collection began during the week of September 18, 2006 at Time 1 (Pretest and Lesson 1). Treatment Group 2 completed the curriculum during the week of December 4, 2006 and Posttest occurred within a week of completion of Lesson 12 at Time 2.

In general for both treatment groups, prior to starting the _Strong Kids_ curriculum, data collectors arrived at these classrooms and read student assent letters aloud and obtained student signatures for participation. The data collectors compared for parent consent and student assent. Students who did not have consent or assent were sent to a neighboring classroom during the pre- posttest sessions and lesson implementation. The three pretest measures (_Strong Kids Symptoms Test_, _Strong Kids Knowledge Test_, and _BarOn_) were administered at Time 1 of the study (prior to Lesson 1). Students wrote their code names on each of the questionnaires at pretest and the same code names were used again at posttest. The same three measures were administered again at Time 2 (approximately one week after Lesson 12). An additional satisfaction survey was administered to the students at Time 2. The pre- posttest took approximately 35-40 minutes to complete in all. Data collectors read the directions aloud to all students for
each questionnaire. Along with information provided on the assent letter and directions read aloud, students were informed to do their best and that there was no right or wrong answers. Questionnaires were administered separately by the data collector. That is, when one questionnaire was completed, it was gathered from all students and the next questionnaire was administered. The sequential administered and gathering of the data continued until all measures were administered and collected.

In some classrooms, teachers requested that the data collector read the questionnaires aloud to the entire class. Due to the needs of the classroom students and the request of the teacher, reading aloud the individual items to the students was accommodated. There were some students with extremely low reading abilities and required additional support from the teacher or the data collector to read the questionnaire items directly to them. For the most part, the classroom teachers were able to provide additional assistance to the student without influencing their responses. Overall, students raised their hands for clarification or explanation. For students who asked questions due to limited understanding of the specific concept, they were told by the data collector to do their best in their response and that there was no right or wrong answers.

Upon completing the posttest measures, students participated in a classroom pizza party to congratulate them on completing the *Strong Kids* program. The Project Investigator provided the students with pizza and drinks. The students were very ecstatic about the pizza party and clapped and smiled as the pizza and drinks were delivered to their classrooms.
Treatment integrity checks were conducted at Lessons 1, 4, and 8. Inter-observer agreements were conducted at Lesson 1 and 8. Data collector(s) arrived at the schools, checked-in at the office, and went to their designated classrooms for the direct observations. Data collector(s) brought with them the Lesson checklist for the particular lesson and behavioral observation form. Data collector(s) situated themselves quietly in the back of the room and allowed the teachers to implement the lesson as they typically do. The data collector(s) endorsed items observed based on the checklist. The checklist was submitted to the Project Investigator for tabulation.

It is important to note that when there was a holiday, parent conference days, or early dismissal, teachers rearranged their schedules in order to maintain the pacing of the schedule. Teachers were flexible and willingly adapted their schedules accordingly.

Throughout the duration of the project, the Project Investigator kept close contact with the teachers from both conditions through email and phone and ensured that teachers were supported and on schedule based on their assignment to the treatment conditions. The Project Investigator sent weekly schedules as a reminder to the teachers of their pacing. The Project Investigator also had check-in calls/electronic mails with the teachers to obtain progress or answer any questions as the project progressed. The weekly phone calls and electronic mail check-ins by the Project Investigator was essential given that an observation was not conducted on all the lessons and that the Project Investigator was not present in the schools for all fidelity measures. The check-ins also made the teachers accountable to their commitment in participation and allowed for open communication in fostering successful implementation.
During the week of December 4, 2006, the teachers participated in semi-structured interviews. The interviews were grouped based on the schools. Teachers participated in 20-25 minute semi-structured interviews to obtain social validity after implementing the *Strong Kids* curriculum. Teachers were also provided with surprising incentives throughout the study, as teachers were not told that they would get or earn something in return for their participation. These incentives were positive reinforcers for the teachers. Teachers in both conditions received each a $50.00 gift certificate for participating in the in-service training, a $10.00 gift certificate at midpoint of the curriculum, and a $50.00 gift certificate upon completing the study.
CHAPTER IV

RESULTS

This chapter presents results examining the short-term effects of the Strong Kids curriculum as an intervention in two different Treatment groups. Results from this study are addressed in the order of the research questions under examination. Descriptive and statistical analyses are reported to answer the research questions. In addition to addressing the specific research questions, internal consistency for quantitative dependent measures and convergent and discriminant validity for the quantitative dependent measures were also performed. The following research questions are addressed in this chapter:

1. What are the short-term effects on internalizing symptoms (e.g., distress, affect), social and emotional knowledge, and social and emotional functioning for 4th and 5th graders who participate in the Strong Kids curriculum?
2. Are there differences in curriculum outcomes between Treatment Groups based on practice schedules, where Treatment Group 1 (Massed) receives 2 lessons per week for 6 weeks and less rest time between lessons, and Treatment Group 2 (Distributed) receives 1 lesson per week for 12 weeks and more rest time between Lessons?
3. What are teachers’ and students’ overall perceptions of participation in the Strong Kids social and emotional learning curriculum and are there differences in...
perceptions of social validity based on scheduling practices or tempo of intervention?

**Statistical Analyses**

A 2 x 2 (Time by Treatment Group) multivariate analysis of variance (MANOVA) was conducted with repeated measures to evaluate the effects of *Strong Kids* and to test the overall effects of treatment. A MANOVA was a useful analysis to determine intervention impact on outcomes by examining all the dependent measures simultaneously. That is, MANOVAs provides evaluations of mean differences on all dependent variables, while controlling for intercorrelations (Bray & Maxwell, 1985). A MANOVA is most functional when there are several dependent variables (Grimm & Yarnold, 1998; Keppel & Zeddick, 1989). MANOVA provides information on the predictive power of the IV or the impact of the intervention. The fundamental question in this study is “Do the groups differ on one or more of the DVs or a linear combination of the DVs?” The omnibus or overall $F$ test was used to test the null hypothesis if there are differences in the means of the dependent variables for the two groups. To determine the statistical significance between groups, Wilks’ lambda was used (Grimm & Yarnold, 1998). Wilk’s lambda is the most common test when there are more than two groups formed by the independent variable.

**Level of Significance**

For the purposes of this study, level of significance (alpha) was established at $p < .10$, rather than the traditional stringent $p < .05$ or $p < .01$. Typically alpha is set small so that the probability of making a Type I error is low (Thompson, 1994). The chosen alpha
level for this study of $p < .10$ indicates the upper limit in the probability of making an erroneous decision (Type I error). It is important to note that the probability of making a Type I error or false positive increases when alpha is set high (Thompson, 1994). That is, observing a difference when in truth there is none. On the contrary, the concern of a small alpha increases the risk of failing to reject the null hypothesis, thus making a Type II error or false negative. That is, the error of failing to observe a difference when in truth there is one. The two sources of errors have been universally accepted as part of research. The elimination of errors is impossible and the reduction of one error increases the other error. In addition, Casico & Zedek (1983) suggests that alpha levels should be adjustable for increasing power to detect actual effects. For the purposes of this study, alpha was set high (.10) to detect small effects, particularly due to the sample of this study—general education population not exhibiting social and emotional disorders. These students are low on internalizing problems, consequently, increasing alpha can detect small changes.

*Power Estimate*

To improve the likelihood of detecting the effect of an independent variable is by conducting high-power research (Whitley, 1996). High statistical power is necessary to avoid false negative results (Whitley, 1996). Cohen (1992) suggests a level of .80. The larger the power, the larger the sample size required which protects from making a Type II error. A power analysis program, G*Power was used to estimate power post-hoc (see http://wwwpsychouni-duesseldorfdedebteilungenaap/gpower3/download-and-register).
With a sample size of 256, effect size was calculated at .82 with 2 groups and 4 repetitions. Power was established at .95, indicating that this was a high power study with a large sample size.

*Effects of Strong Kids on Symptoms, Social and Emotional Knowledge, and Social and Emotional Functioning*

In addressing the first research question and also addressing the second research question simultaneously: What are the effects on internalizing symptoms (e.g., distress, affect), social and emotional knowledge, and social and emotional functioning for 4th and 5th graders who participate in the *Strong Kids* curriculum? and Are there significant differences in curriculum outcomes between Treatment Groups based on practice schedules (i.e., Massed versus Distributed), where Treatment Group 1 (Massed Condition) receives 2 lessons per week for 6 weeks and less rest time between lessons, and Treatment Group 2 (Distributed Condition) involves 1 lesson per week for 12 weeks and more rest time between Lessons?

Descriptive statistics were generated to describe the mean differences between the Treatment groups before and after the curriculum, average change between the groups, and mean differences within the groups before and after the curriculum at pre- posttest on all quantitative measures (see Table 4). Results indicate that both treatment groups had significant decreases in symptoms from pre to posttest (approximately half a point decrease from pre to posttest). Both treatment groups had significant increases in knowledge from pre to posttest (approximately 3 points). The distributed group was noted to have an increase in social and emotional functioning, whereas the massed group
had a slight decrease in social and emotional functioning from pre to posttest. The
differences in the groups from pre- posttest were not statistically significant on the social
and emotional functioning variable. As well, the mean differences between the treatment
groups on all dependent variables were not significantly different (approximately half
point difference), suggesting that schedule practices of 6 and 12 weeks did not produce
differences on students’ outcomes.

Table 4

Means and Standard Deviations for Quantitative Dependent Measures at Pre- Posttest
for Within and Between Groups

<table>
<thead>
<tr>
<th>Dependent Measures</th>
<th>Massed Schedule</th>
<th>Distributed Schedule</th>
<th>$M$ Differ.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong Kids Symptoms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>13.39</td>
<td>5.15</td>
<td>12.29</td>
</tr>
<tr>
<td>Posttest</td>
<td>12.81</td>
<td>5.12</td>
<td>11.94</td>
</tr>
<tr>
<td>$M$ Difference (+/-)</td>
<td>(- .58)</td>
<td>(- .35)</td>
<td></td>
</tr>
<tr>
<td>Strong Kids Knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>11.49</td>
<td>3.12</td>
<td>10.99</td>
</tr>
<tr>
<td>Posttest</td>
<td>14.05</td>
<td>3.59</td>
<td>14.00</td>
</tr>
<tr>
<td>$M$ Difference (+/-)</td>
<td>(+ 2.56)</td>
<td>(+ 3.01)</td>
<td></td>
</tr>
<tr>
<td>BarOn: Emotional Quotient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>77.25</td>
<td>9.43</td>
<td>77.44</td>
</tr>
<tr>
<td>Posttest</td>
<td>76.84</td>
<td>9.05</td>
<td>78.53</td>
</tr>
<tr>
<td>$M$ Difference (+/-)</td>
<td>(- .41)</td>
<td>(+ 1.09)</td>
<td></td>
</tr>
</tbody>
</table>
Table 5 presents descriptive statistics for combined groups (Massed + Distributed) at pre- posttest on all quantitative measures. For all participating students as an entire group, *Strong Kids Symptoms* at pretest \((M = 12.86, \ SD = 4.99)\) and *Strong Kids Symptoms* at posttest \((M = 12.39, \ SD = 4.93)\) indicates a -.47 change at posttest. Regarding *Strong Kids Knowledge*, students had an increase from pretest \((M = 11.25, \ SD = 3.18)\) to posttest \((M = 14.03, \ SD = 3.50)\) on social and emotional knowledge with a group mean of 2.78 points increase. The *BarOn* indicates students’ scores at pretest \((M = 77.34, \ SD = 9.30)\) remained relatively the same at posttest \((M = 77.66, \ SD = 8.92)\) with a +.31 difference.

Table 5

*Means and Standard Deviations for Quantitative Measures for Combined Groups (Massed and Distributed) at Pre- Posttest*

<table>
<thead>
<tr>
<th>Dependent Measures</th>
<th>Pretest</th>
<th>Posttest</th>
<th>M Differ.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time</strong></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>Strong Kids Knowledge</td>
<td>11.25</td>
<td>3.18</td>
<td>14.03</td>
</tr>
<tr>
<td>BarOn: Emotional Quotient</td>
<td>77.35</td>
<td>9.30</td>
<td>77.66</td>
</tr>
</tbody>
</table>

Descriptive statistics were also calculated for the individual subscales on the *BarOn Emotional Quotient Inventory*. Table 6 provides descriptive statistics presented as scale scores and standard scores for each subscale for Within Groups on the *BarOn* measure at Pre and Posttest. The subscales include: Intrapersonal Scale, Interpersonal Scale, Stress Management Scale, Adaptability Scale, Total Emotional Quotient Score,
and Positive Impression Scale. The scale scores are converted to standard scores using a matrix provided in the scoring manual. The standard scores indicate the following interpretations: 130+ (Markedly High—atypically well developed emotional and social capacity); 120-129 (Very High—extremely well developed emotional and social capacity); 110-119 (High—well developed emotional and social capacity); 90-109 (Average—adequate emotional and social capacity); 80-89 (Low—underdeveloped emotional and social capacity, with some room for improvement); 70-79 (Very low—extremely underdeveloped emotional and social capacity, with considerable room for improvement); Under 70 (Markedly Low—atypically impaired emotional and social capacity). Interpreting standard scores, high scores represent higher level of emotional intelligence; lower scores represent lower levels of emotionally intelligent behavior.

The Intrapersonal Scale, students’ raw scores at Pretest ($M = 14.30, SD = 2.92$) and Posttest ($M = 14.39, SD = 2.99$) indicates on average adequate emotional and social capacity for both males and females. The Interpersonal Scale, students’ raw scores at pretest ($M = 19.40, SD = 3.27$) and posttest ($M = 19.57, SD = 3.06$) indicates adequate emotional and social capacity for males and high average for females. The Stress Management Scale, students’ raw scores at pretest ($M = 12.87, SD = 4.03$) and posttest ($M = 12.61, SD = 3.86$) indicates underdeveloped emotional and social capacity for males and females. The Adaptability Scale, students’ raw scores at pretest ($M = 16.44, SD = 3.67$) and posttest ($M = 16.78, SD = 3.85$) which indicates adequate emotional and social capacity for males and females. The Total Emotional Quotient Score, students’ pretest ($M = 63.02, SD = 7.90$) and posttest ($M = 63.35, SD = 7.68$) indicates low average emotional
and social capacity for males and average social and emotional capacity for females. The Positive Impression Scale, students’ pretest ($M = 14.5, SD = 3.15$) and posttest ($M = 14.35, SD = 3.05$) indicates underdeveloped emotional and social capacity with considerate room for improvement in this area for both males and females.
Table 6

Descriptive Statistics for BarOn Emotional Quotient Subscales at Pre- Posttest for Within Groups

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Standard Score (Age 7-12)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>A. Intrapersonal Scale (Group)</td>
<td>14.30</td>
<td>2.92</td>
<td>14.39</td>
</tr>
<tr>
<td>Male</td>
<td>13.90</td>
<td>3.01</td>
<td>14.08</td>
</tr>
<tr>
<td>Female</td>
<td>14.76</td>
<td>2.76</td>
<td>14.76</td>
</tr>
<tr>
<td>B. Interpersonal Scale (Group)</td>
<td>19.40</td>
<td>3.27</td>
<td>19.57</td>
</tr>
<tr>
<td>Male</td>
<td>18.52</td>
<td>3.43</td>
<td>18.83</td>
</tr>
<tr>
<td>Female</td>
<td>20.42</td>
<td>2.74</td>
<td>20.45</td>
</tr>
<tr>
<td>C. Stress Management Scale</td>
<td>12.87</td>
<td>4.03</td>
<td>12.61</td>
</tr>
<tr>
<td>Male</td>
<td>12.87</td>
<td>3.99</td>
<td>12.56</td>
</tr>
<tr>
<td>Female</td>
<td>12.86</td>
<td>4.08</td>
<td>12.67</td>
</tr>
<tr>
<td>D. Adaptability Scale (Group)</td>
<td>16.44</td>
<td>3.67</td>
<td>16.78</td>
</tr>
<tr>
<td>Male</td>
<td>16.66</td>
<td>3.99</td>
<td>16.99</td>
</tr>
<tr>
<td>Female</td>
<td>16.20</td>
<td>2.74</td>
<td>16.53</td>
</tr>
<tr>
<td>E. Total EQ (Group)</td>
<td>63.02</td>
<td>7.90</td>
<td>63.35</td>
</tr>
<tr>
<td>Male</td>
<td>61.96</td>
<td>8.59</td>
<td>62.46</td>
</tr>
<tr>
<td>Female</td>
<td>64.24</td>
<td>6.88</td>
<td>64.41</td>
</tr>
<tr>
<td>F. Positive Impression Scale</td>
<td>14.53</td>
<td>3.15</td>
<td>14.35</td>
</tr>
<tr>
<td>Male</td>
<td>14.39</td>
<td>3.07</td>
<td>14.18</td>
</tr>
<tr>
<td>Female</td>
<td>14.70</td>
<td>3.25</td>
<td>14.56</td>
</tr>
</tbody>
</table>

*Note.* High scores represent higher level of emotional intelligence; lower scores represent lower levels of emotionally intelligent behavior ($M = 100$, $SD = 15$).
A MANOVA was performed to evaluate the effects of participation in the Strong Kids on the dependent repeated measures variables and the independent variables. The within subjects factor was Time (Time 1-Pretest and Time 2-Posttest) and between subjects factor was Group (Treatment Group 1: Massed Condition and Treatment Group 2: Distributed Condition. The multivariate Wilks’ Lambda criterion was used to test the main effects of Time and the interaction effects of Time by Group.

*Intervention Effects for Time by Group (Between Groups).* A nonsignificant multivariate interactional effect for Time by Group (Between Groups) was found, Wilks’ Lambda = .96, $F(6, 231) = 1.63, p = .14$. The effect size was .04 and an observed power of 1.00. A nonsignificant main effect was found for Time by Group on Internalizing Symptoms, Wilks’ Lambda = 1.00, $F(1, 242) = .09, p = .76$. The effect size was <.01 and observed power was .12. A nonsignificant main effect was found for Time by Group on Social and Emotional Knowledge, Wilks’ Lambda = .99, $F(1, 245) = 1.55, p = .21$. The effect size was <.01 and observed power was .35. A nonsignificant main effect was found for Time by Group on Social and Emotional Functioning, Wilks’ Lambda = .99, $F(1, 242) = 1.07, p = .30$. The effect size was <.01 and the observed power was .27.

*Intervention Effects on Symptoms.* A significant main effect was found for Time on Internalizing Symptoms from pre- posttest, Wilk’s Lambda = .99, $F(1, 242) = 3.14, p = .08$. The effect size was .01 and the observed power was .55. Figure 6 provides an illustration of the significant decrease in symptoms from pre- posttest.
Figure 6. Effects of Strong Kids on symptoms within groups on the time variable.

Intervention Effects on Social and Emotional Knowledge. Significant main effect was found for Time on Knowledge from pre- posttest, Wilks’ Lambda = .58, $F(1, 245) = 180, p < .01$. The effect size was .42 and the observed power was 1.00. Figure 7 provides an illustration of the significant knowledge gains from pre- posttest.

Figure 7. Effects of Strong Kids on knowledge within groups on the time variable.
**Intervention Effects on Social and Emotional Functioning.** A nonsignificant effect was found for Time on Social and Emotional Functioning from pre- posttest, Wilks’ Lambda = .99, \( F(1, 242) = .34, p = .56 \). The effect size was <.01 and the observed power was .16.

![Figure 8. Effects of Strong Kids on social and emotional functioning within groups on the time variable.](image)

**Effect Sizes to Determine Magnitude of the Treatment Effects**

Effect sizes were calculated to measure the magnitude of the treatment effect between group means, specifically for *Strong Kids Symptoms* and *Strong Kids Knowledge* on Time (Pretest and Posttest). Cohen (1988) defined effect sizes as small, \( d = .2 \), “medium, \( d = .5 \),” and “large, \( d = .8 \).” Calculation of effect sizes included subtracting the mean from group 1 from the mean of group 2 divided by the pooled standard deviation from both groups. A positive effect indicates a desired direction, whereas a negative effect indicates an undesirable or an unanticipated direction. Knowledge scores
evidenced a large effect for within groups from pre- posttest (ES = -.83). About 83% of the variation in scores from pre- posttest is due to the *Strong Kids*. Symptoms scores evidenced a small effect for within groups from pre- posttest (ES = .09). About 9% of the variation in scores from pre- posttest is due to the *Strong Kids*. Table 7 presents effect sizes on the significant dependent variables at pre- posttest.

Table 7

*Magnitude of Treatment Effects at Pre- posttest on Dependent Measures*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Both Treatment Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Kids Symptoms</td>
<td>.09*</td>
</tr>
<tr>
<td>Strong Kids Knowledge</td>
<td>-.83***</td>
</tr>
</tbody>
</table>

*Note:* *small; **medium; ***large effect

**Social Validity of the Strong Kids Curriculum**

To address the third question of this research study, “What are teachers’ and students’ overall perceptions of participation in the *Strong Kids* social and emotional learning curriculum and are there differences in perceptions of social validity based on scheduling practices or tempo of intervention?” quantitative and qualitative measures were provided to students and teachers. Students completed a *Strong Kids Satisfaction Survey* at posttest only. Teachers participated in a semi-structured interview to assess social validity of the *Strong Kids* at posttest.

*Quantitative Variable for Social Validity.* Participating students completed the *Strong Kids Satisfaction Survey* at Time 2 only for social validity purposes as a means to assess their perception of *Strong Kids* curriculum after participation. The purpose was to
evaluate whether *Strong Kids* was a program that they enjoyed and learned from. Students provided ratings from a scale of 0 to 4, with higher numbers indicating positive perception. Only item number 17 was on a scale of 1 to 3, with 3 being more positive. Table 8 provides descriptive statistics for items from the Satisfaction Survey for both treatment groups. Also included in the Table is the overall mean from the Satisfaction Survey for Massed and Distributed Conditions. Results indicate that participating students rated participating in *Strong Kids* curriculum positively. Students appear to feel that they learned a lot of skills from *Strong Kids* and have a better understanding of their emotions and others’ emotions. Additionally, students rated highly that the skill learned will help them and that they will use these skills in the future. Moreover, students felt that the teachers providing the instruction were supportive and knowledgeable on the skills being taught. Overall, students in the Distributed Condition ($M = 51.10$, $SD = 14.37$) rated slightly higher in satisfaction of the *Strong Kids* curriculum than the students in the Massed Condition ($M = 50.46$, $SD = 13.55$), although this difference is not significant or meaningful.
Table 8

Descriptive Statistics of Student Ratings from Strong Kids Satisfaction Survey Where Scores Range from 0 (Strongly Disagree) to 4 (Strongly Agree)

<table>
<thead>
<tr>
<th>Item</th>
<th>Massed M</th>
<th>SD</th>
<th>Distributed M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strong Kids was fun.</td>
<td>2.82</td>
<td>1.20</td>
<td>2.84</td>
<td>1.25</td>
</tr>
<tr>
<td>2. I learned a lot from Strong Kids.</td>
<td>3.24</td>
<td>.93</td>
<td>3.28</td>
<td>1.00</td>
</tr>
<tr>
<td>3. I feel that I can understand my emotions…</td>
<td>3.04</td>
<td>1.11</td>
<td>3.13</td>
<td>.98</td>
</tr>
<tr>
<td>4. I feel like I can handle anger better after…</td>
<td>2.98</td>
<td>1.18</td>
<td>2.94</td>
<td>1.15</td>
</tr>
<tr>
<td>5. I feel that I can understand other people’s…</td>
<td>3.02</td>
<td>1.05</td>
<td>2.95</td>
<td>1.10</td>
</tr>
<tr>
<td>6. I feel that I understand negative thoughts…</td>
<td>2.94</td>
<td>1.09</td>
<td>3.06</td>
<td>1.02</td>
</tr>
<tr>
<td>7. I think more positively because of…</td>
<td>2.96</td>
<td>1.08</td>
<td>2.94</td>
<td>1.16</td>
</tr>
<tr>
<td>8. I feel like I can solve arguments and…</td>
<td>2.89</td>
<td>1.15</td>
<td>2.98</td>
<td>1.08</td>
</tr>
<tr>
<td>9. I feel like I can handle being worried…</td>
<td>2.83</td>
<td>1.17</td>
<td>2.75</td>
<td>1.20</td>
</tr>
<tr>
<td>10. I feel like I can handle stress better…</td>
<td>2.94</td>
<td>1.09</td>
<td>3.14</td>
<td>1.10</td>
</tr>
<tr>
<td>11. I feel like I can continue to use…</td>
<td>3.03</td>
<td>1.05</td>
<td>3.22</td>
<td>.99</td>
</tr>
<tr>
<td>12. I think what I learned in Strong Kids…</td>
<td>3.10</td>
<td>1.02</td>
<td>3.16</td>
<td>1.03</td>
</tr>
<tr>
<td>13. I feel strong because of Strong Kids.</td>
<td>2.71</td>
<td>1.26</td>
<td>2.82</td>
<td>1.29</td>
</tr>
<tr>
<td>14. I would recommend Strong Kids to…</td>
<td>2.74</td>
<td>1.25</td>
<td>2.77</td>
<td>1.31</td>
</tr>
<tr>
<td>15. The Strong Kids leaders were caring…</td>
<td>3.38</td>
<td>.95</td>
<td>3.42</td>
<td>.81</td>
</tr>
<tr>
<td>16. The Strong Kids leaders knew a lot…</td>
<td>3.46</td>
<td>.85</td>
<td>3.34</td>
<td>.89</td>
</tr>
<tr>
<td>17. Strong Kids was:</td>
<td>2.37</td>
<td>.89</td>
<td>2.32</td>
<td>.93</td>
</tr>
<tr>
<td>Overall Score</td>
<td>50.46</td>
<td>13.55</td>
<td>51.09</td>
<td>4.37</td>
</tr>
</tbody>
</table>

Note. Higher scores indicate stronger satisfaction, lower scores indicate lower satisfaction.
Qualitative Variable for Social Validity: Teacher Interview. The data gathered through qualitative methods is presented in descriptive format. Responses from the teacher interviews were aggregated into themes of common responses that represent their experiences in participation of the Strong Kids curriculum. Qualitative data was critical in this study to better understand social validity in Strong Kids and how improvements may be made to enhance optimal outcomes in students’ social and emotional behaviors, while increasing the utility of Strong Kids as an evidence-based proactive, educative, social and emotional learning curriculum.

Teachers overall were responsive to criteria set for this project. Teachers provided similar overall responses between and within groups to the qualitative interview questions conducted after posttest (see Table 9). Teachers’ responded positively to participating in this project, and specifically having high ratings of the Strong Kids curriculum in comparison to another Social and Emotional Learning curriculum used by their district. They felt that the information provided in the curriculum was valuable for their students to learn since many of the students are not being taught these skills at home. Teachers felt that the curriculum was easy to follow and the semi-scripting was useful. Teachers allowed approximately 15 minutes of prep time to review prior to lesson implementation. Students overall enjoyed the activities (role plays, scenarios, group discussion) in which the teachers would like more of these activities in the curriculum, while decreasing teacher led instruction. Teachers expressed seeing their students apply these skills outside of the classroom. In regards to areas of improvements, teachers felt that the lessons were lengthy and that the lessons could be split in half. In addition, since
the concepts and definitions were challenging for their students, splitting the lessons would allow for more additional instruction. As well, they expressed having visual aids of the skills/concepts from the lesson, such as a poster board of the thermometer to remind students of the particular skill. In regards schedule practices, many of the teachers expressed that the 6 week condition was too much information in a short amount of time. Students in the 6 week condition expressed feeling tired of the program and that they were overwhelmed with receiving so much information within a week period. Teachers felt that the 12 week condition was more manageable to the natural settings of the school environment. In sum, teachers appreciated having the manual provided to them and all supplements and handouts copied for them in advance. Overall, Strong Kids produced strong user satisfaction as teachers expressed using the curriculum again. The qualitative data gathered in this study is consistent with other empirical studies examining social validity of the Strong Kids (Gueldner, 2006; Merrell, Juskelis, et al., 2006).
<table>
<thead>
<tr>
<th>Teacher Interview Questions</th>
<th>Responses Aggregated Into Common Themes</th>
</tr>
</thead>
</table>
| Do you feel that it is important to implement a social and emotional learning program in schools? If not in schools, then where would an appropriate setting be to implement such program? | ● Concepts were applicable to real life.  
● Schools should implement since parents are not teaching these skills at home. |
| How long did it take to deliver each lesson? How much effort was required in implementing the *Strong Kids* program? What was your prep time? | ● Range from 45-70 minutes to teach one Lesson.  
● 10-15 minutes to review lesson as part of prep time. |
| What was it like to implement the program in 6 weeks OR 12 weeks? Was implementation at that level feasible and realistic for your students? Do you think tempo of a program (6 or 12 weeks) make a difference in student outcomes or how you might view or enjoy using such program? | ● 12 weeks, implementation easier, not much time in a week.  
● 6 weeks, students overwhelmed with concepts and tired of learning the information. |
| How did your students respond to *Strong Kids*? | ● Students enjoyed the role plays.  
● Students enjoyed the scenarios. |
| Did you observe any differences in outcomes (behaviors) in your students? Did you notice students using any of the skills in other settings? | ● Students used the skills learned outside of the Lessons.  
● Students applied skills, such as conflict resolution. |
| What was the most positive or useful feature about *Strong Kids*? | ● *Strong Kids* manual was easy to follow.  
● Scenario and activities were fun. |
| What was negative or needs improvement in *Strong Kids*? | ● Vocabulary too difficult for students.  
● Less teacher talk and more activities.  
● Lessons were too long. |
Table 9 (continued)

*Teacher Interview Responses Aggregated Into Common Themes*

<table>
<thead>
<tr>
<th>Teacher Interview Questions</th>
<th>Responses Aggregated Into Common Themes</th>
</tr>
</thead>
</table>
| What components would be useful or essential in a prevention/intervention program or as part of a research study to help with implementation? | ● Visual aids in the classroom of concepts.  
● Provide incentives for student participation. |
| Any other comments about the research study or *Strong Kids*? | ● Helpful to have materials ready and copied for teachers beforehand |

*Internal Consistency for Quantitative Dependent Measures*

Internal consistency, one form of measuring reliability, was assessed in this study as a way to ascertain how consistently the students responded to the items on all the dependent measures. Although internal consistency was not one of the primary research questions, the importance of evaluating for such addresses any errors that may occur because of the different measures used in assessing the construct. Cronbach’s Alpha coefficients were used to provide an estimate of internal consistency in measuring the proportion of variance in the test scores that could be attributed to the true score variance (Sansone et al., 2004). Internal consistency for *Strong Kids Symptoms* scores were the same at Time 1 ($\alpha = .75$) and Time 2 ($\alpha = .75$), and were at a level consistent with previous research on this tool. *Strong Kids Knowledge* items produced internal consistency coefficients of $\alpha = .73$ at Time 1 and $\alpha = .62$ at Time 2 (see Table 10). Again, these reliabilities are consistent with what has been shown in previous studies on the *Knowledge* measure, but suggest that some work on this instrument is needed.
BarOn: Emotional Quotient Inventory scores produced an internal consistency coefficient of \( \alpha = .67 \) at Time 1 and \( \alpha = .72 \) at Time 2. The Strong Kids Satisfaction Survey items had a very high level of internal consistency (\( \alpha = .95 \)).

Table 10

Internal Consistency Coefficients (Cronbach’s Alpha) for Quantitative Dependent Measures at Time 1 and Time 2

<table>
<thead>
<tr>
<th>Measure</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Kids Symptoms Test</td>
<td>.75</td>
<td>.75</td>
<td>.75</td>
</tr>
<tr>
<td>Strong Kids Knowledge Questionnaire</td>
<td>.73</td>
<td>.62</td>
<td>.73</td>
</tr>
<tr>
<td>BarOn: Emotional Quotient</td>
<td>.67</td>
<td>.72</td>
<td>.67</td>
</tr>
<tr>
<td>Strong Kids Satisfaction Survey</td>
<td></td>
<td></td>
<td>.95</td>
</tr>
</tbody>
</table>

Interrelationship for Quantitative Dependent Measures

Pearson Product-Moment correlations were computed to measure the strength or the magnitude of the relationship between the four quantitative independent variables at pretest (see Table 11). The coefficients are useful to predict direction and the degree of the value of one variable given the value of the other variable (Larson & Farber, 2000). Pretest scores of the dependent variables were used to measure these correlations, as these scores do not have any effects from the intervention and are not influenced by any other instruments. A few significant correlations were detected amongst some of the dependent variables. The correlation between Strong Kids Knowledge and Strong Kids Symptoms (\( r = -.27, p < .01 \)) was negative and moderate, indicating a somewhat moderately inverse relationship between social-emotional knowledge and self-report of
emotional problem symptoms. Results also indicate correlations between *BarOn: Emotional Quotient* and *Strong Kids Symptoms* measures \((r = .15, p < .05)\) were statistically significant, although rather small. As well, *BarOn: Emotional Quotient Inventory* and *Strong Kids Satisfaction* were correlated \((r = .04, p < .01)\).

Table 11

*Interrelationship for Dependent Measures at Pretest*

<table>
<thead>
<tr>
<th>Measures</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strong Kids Symptoms</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Strong Kids Knowledge</td>
<td>-.27**</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>3. BarOn: Emotional Quotient</td>
<td>.15*</td>
<td>.04</td>
<td>–</td>
</tr>
</tbody>
</table>

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

Correlation coefficients were also computed on the quantitative measures at posttest to determine the relationship of the variables after influence of the intervention (see Table 12). Results indicate *Strong Kids Knowledge* and *Strong Kids Symptoms* measures have a negative correlation \((r = -.23, p < .01)\). *Strong Kids Satisfaction* measure was correlated with *BarOn: Emotional Quotient* measure \((r = .26, p < .01)\).
Table 12

*Interrelationship for Quantitative Dependent Measures at Posttest*

<table>
<thead>
<tr>
<th>Measures</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strong Kids Symptoms</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Strong Kids Knowledge</td>
<td>-.23**</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. BarOn: Emotional Quotient</td>
<td>-.01</td>
<td>.11</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>4. Strong Kids Satisfaction</td>
<td>-.11</td>
<td>-.06</td>
<td>.26**</td>
<td>–</td>
</tr>
</tbody>
</table>

*Note.* **p<.05

Correlation coefficients from Table 11 and 12 indicate that the constructs in the *Strong Kids Symptoms Test* and *Strong Kids Knowledge Questionnaire* are related to each other. The negative correlation of symptoms and knowledge suggests that more knowledge is associated with fewer reported symptoms and vice versa. That is, as knowledge increases, symptoms decrease. In Table 12, an alpha coefficient of .26 *Strong Kids Satisfaction* and *BarOn* may suggest that students’ satisfaction is related to their social and emotional functioning, which is in the adequate range. Students are functioning adequately, thus they are satisfied.
CHAPTER V
DISCUSSION

This chapter includes a summary of the main findings of this study and a discussion pertaining to interpretation of these findings. This discussion is organized according to the research questions proposed. A discussion will also be presented on how the results on this study compare to previous studies in this area. Limitations of the study are reviewed and implications for future research and clinical applications are discussed.

Summary of Main Findings

The goal of this dissertation study was to investigate the short-term impact of an evidence-based social and emotional learning curriculum—*Strong Kids*—as a universal program to understand how to implement social and emotional learning programs for optimal outcomes. Specifically, student and teacher outcomes were evaluated using *Strong Kids* in massed and distributed practice schedules with two differing experimental conditions: a massed practice schedule of two lessons per week for 6 weeks where there is less rest time between lessons, and a distributed practice schedule of one lesson per week for 12 weeks where there is more rest time between lessons. This study examined if there are differences in outcomes between the two differing treatment conditions based on schedule practices of the *Strong Kids* lessons in pre- posttest measures. As well, this study examined the overall effects of the *Strong Kids* curriculum on student’s internalizing symptoms (e.g., distress, affect), social and emotional knowledge, and social
and emotional functioning. Additionally, social validity is an important component to program or intervention success and utility; thus, teachers’ and students’ attitudes relating to their participation in this study were examined through interviews or a survey at completion of the Strong Kids curriculum. The effects of the Strong Kids were examined in a general education setting with 4th and 5th grade students with the classroom teacher implementing the lessons.

Overall, the results from this study indicated significant main effects for Time on students’ internalizing symptoms and healthy social and emotional knowledge from pre-posttest. That is, students who participated in the Strong Kids curriculum demonstrated significantly improved knowledge of social and emotional skills and concepts at completion of Strong Kids regardless of treatment condition. The magnitude of improved knowledge of social and emotional skills was large, indicating that Strong Kids had a meaningful effect on students’ knowledge. Importantly, knowledge gains were strong without respect to treatment condition. In addition, students’ demonstrated significantly decreased internalizing symptoms of distress and affect, with a small magnitude in change. Moreover, a nonsignificant effect was found for Time on students’ social and emotional functioning on pre-posttest. Students’ did not have significant changes in their emotional intelligence after participating in the Strong Kids curriculum. A nonsignificant interaction effect was found for Time by Group (Between Groups). No significant differences between the massed and distributed treatment groups in pre-posttest measures were found, indicating that schedule practices as examined in this study had no differences in students’ outcomes. In general, teachers and students had positive feedback
and satisfaction of the *Strong Kids* curriculum. Importantly, social validity was greater in a 12 week, one lesson per week schedule practice over a 6 week, two lessons per week schedule practice. Teachers and students felt that the skills and concepts in the *Strong Kids* curriculum were important and useful in school and life.

**Research Question 1**

In addressing Research Question 1, “What are the effects on internalizing symptoms (e.g., distress, affect), social and emotional knowledge, and social and emotional functioning for 4th and 5th graders who participate in the *Strong Kids* curriculum?” Pre- posttest measures were conducted to examine this question.

**Effects on Internalizing Symptoms.** One of the goals of the *Strong Kids* curriculum is to decrease internalizing symptoms. Internalizing symptoms often include problems related to anxiety, fear, shyness, low-self esteem, sadness, social withdrawal, depression, and somatic complaints. Internalizing behaviors are problematic and negatively impact students in many domains—cognitive functioning (Plante & Sakora, 1994) and social and interpersonal relationships (Falk, Dunlap, & Kern, 1996). The failure to recognize children and adolescents with mental health problems is very serious. One approach to providing early intervention and prevention is to teach adaptive skills. *Strong Kids* curriculum, as a prevention tool, aims at promoting social and emotional resiliency through teaching students skills in identifying their emotions, others people’s emotions, and how to successfully cope with life’s stressors. The skills provided are intended to interrupt the progression of internalizing problems by providing proactive skills.
Although this study did not focus on the prevalence of internalizing problems, it was important to examine students’ internalizing outcomes when provided with resiliency skills. Results of this study indicated that students had a significant decrease in internalizing symptoms as measured by the *Strong Kids Symptoms Test*. Results are consistent with previous studies indicating a significant decrease in symptomology (Feuerborn, 2004; Merrell, Juskelis, et al., 2006). These authors conducted studies that investigated *Strong Kids* in an experimental and match control group design and found significant decreases in symptoms of emotional distress in comparison to students who did not receive the curriculum. Effect size estimates indicated a small effect. Approximately 10% of the symptom decrease was attributed to the curriculum. The effect size from this study was not consistent with Merrell, Juskelis, et al.’s study in which the authors found a significant effect with medium magnitude in regards to internalizing symptoms. Interestingly as well, other previous studies using the *Strong Kids* indicated that internalizing effects as measured by *Strong Kids Symptoms Test* or *Child Depression Inventory* and *Internalizing Symptoms Scale for Children* (see Gueldner, 2006) demonstrated nonsignificant effects. It appears that the demonstrated effects have not been consistent across studies measuring internalizing symptoms and *Strong Kids*. The varied effects from the *Strong Kids* studies may be attributed to treatment fidelity.

Students in this study were in a general education classroom setting, thus many or most of them are not exhibiting severe or significant internalizing behaviors that would be apparent in a measure. The students also do not exhibit behaviors that appear to interfere with their emotional functioning that warrant special education services.
Because the students are in general education, their posttest scores on Symptoms would not likely indicate large changes. In addition, it is important to note that the inconsistency in results from previous *Strong Kids* study could be that the *Strong Kids Symptoms* measure is not sensitive enough to detect internalizing changes, particularly for students in a general education—not classified as Emotionally Disturbed (ED).

*Effects on Knowledge of Social and Emotional Concepts and Skills.* Students who participated in the *Strong Kids* curriculum had significant, large gains in healthy social and emotional knowledge of concepts and skills from pre- posttest, irregardless of treatment group. The findings from this study is consistent with prior empirical studies evaluating the effectiveness and efficacy of the *Strong Kids* curriculum on social and emotional knowledge and curriculum-related content (Castro-Olivo, Faust & Larson, 2007; Gueldner, 2006; Isava, 2006; Merrell, et al., 2006). In addition, results from previous studies examining the *Strong Kids* curriculum with non-equivalent control groups found significant differences in students’ social and emotional knowledge and content related concepts between students participating in the curriculum and students not receiving the curriculum. In other words, these studies indicated that students receiving the curriculum had significant, meaningful increase in social and emotional knowledge than students not receiving the curriculum.

The current study found significant increase in social emotional knowledge and concepts with a large, meaningful effect size at posttest for Within Subjects (ES = -.83), indicating a difference in the means between pre- posttest. This finding indicates that students’ participating in the curriculum demonstrated a large degree in knowledge
increase at posttest. Approximately 80% of knowledge gains were attributed to the curriculum. The result is consistent with the goals of the curriculum and prior studies of increase in social and emotional knowledge and curriculum related concepts.

It is important to note that meaningful changes in knowledge could also be attributed to the classroom environment/culture. For example, when teachers use a social and emotional learning curriculum, they may be more aware of their interactions with the students based on the skills learned and applied. The increased acknowledgement of positive skills may enhance the classroom environment.

*Effects on Social and Emotional Functioning.* An area that has not been examined in previous studies using the *Strong Kids* curriculum is social and emotional functioning (i.e., emotional intelligence) or the ability for students to deal with daily environmental demands and pressures. Emotional intelligence (EQ) represents a capacity to validly reason with emotions and to use emotions to enhance thought (Mayer, Caruso, & Salovey, 2000). Researchers in this area suggest that emotional intelligence is a better predictor of “success” than the more traditional measures of cognitive intelligence. However, other researchers have argued that the combination of IQ and EQ is a more powerful predictor of “success” than either measure alone (Dulewicz & Malcolm, 2000). Emotional intelligence can be assessed in various ways, but commonly assessed by asking direct questions about how to solve emotional problems and evaluating the response against criteria for accuracy. Additionally, emotional intelligence is considered a “hot intelligence” as it includes several domains: social intelligence, practical intelligence, personal intelligence, non-verbal perception skills, and emotional creativity.
(Mayer et al., 2000). These components represent internal and external abilities that assist individuals in everyday activities. It appears that the higher an individual’s emotional intelligence the greater the ability to be successful in everyday activities that involve emotions.

One of the leading researchers in the area of emotional intelligence, Daniel Goldman, suggests that success is predicted in largely by social and emotional measures. Schools and parents could never start too early to help children develop their emotional intelligence. Emotional intelligence, then, appears to be a critical factor in children’s daily school activities. Due to the increased mental health needs of students and the demands on students in the 21st century, assessing for emotional intelligence is a useful strategy that can identify strengths and weaknesses that may significantly increase or decrease a child’s school and life success. However, assessing emotional intelligence alone is not sufficient, unless specific, practical approaches are incorporated to foster the development of emotional intelligence. This study examined the effects of the *Strong Kids* curriculum on student’s social and emotional functioning (i.e., emotional intelligence) through a pre- post measure using the BarOn Emotional Quotient Inventory.

Results from this study indicated that the *Strong Kids* curriculum did not have an effect on students’ social and emotional functioning. Students’ overall scores on the dependent measure, BarOn remained relatively the same on the Time variable (pre-posttest). The results suggest that the skills and concepts learned in the *Strong Kids* lessons did not have a meaningful effect on social and emotional abilities as measured by the BarOn self-report. Subscale scores indicates that students as a whole had adequate
emotional and social capacity at pre-posttest. Females tended to have higher emotional intelligence scores than males in this study. Although, gender differences were not addressed in this study, the results indicate consistency with previous studies examining gender differences and emotional intelligence (see Cruz & Virginia, 2004; Katyal & Awasthi, 2005).

Research Question 2

In addressing Research Question 2, “Are there significant differences in curriculum outcomes between treatment groups based on practice schedules (i.e., massed versus distributed), where Treatment Group 1 (Massed Condition) receives 2 lessons per week for 6 weeks and less rest time between lessons, and Treatment Group 2 (Distributed Condition) involves 1 lesson per week for 12 weeks and more rest time between Lessons? Pre-post measures were conducted to examine this question using a MANOVA to test differences Within and Between Group means on multiple dependent measures.

The ultimate goal of any prevention or intervention program is to produce meaningful changes in students’ outcomes on desirable variables. If one can better understand and identify the most effective way in teaching or learning knew concepts, then that information would be of value to all involved, particularly the learner (student). There has been considerable investigations examining spacing of learning sessions or practice schedules—massed and distributed trials (Bloom & Shuell, 1981, Metals, 1985)). Much of the research has found that distributed trials over massed trials lead to better performance. Lesgold (as cited in Williams, 2003)) suggested that expert knowledge structure is a slow process. Individuals must abstract principles from new
experiences through deep or elaborate process. Schooler (as cited in Williams, 2003) suggested that distributed practice schedules ease the burden from the learner and providing time for the acquisition of new cognitive skills. Distributed practice schedules appear to provide students the time (exposure) to practice new skills.

Although there has been much research examining massed and distributed practice schedules, there has not been a study to date examining the *Strong Kids* curriculum and practice schedules in optimal outcomes. As well, there are known studies of practice schedules in the social and emotional learning literature. This study presents an initial pilot effort in examining such question in order to better understand how to best implement a prevention and early intervention program that may produce optimal outcomes in students internalizing symptoms, social and emotional knowledge, and emotional intelligence. The results of this study indicated that there were no significant differences between the two differing practice schedules on student outcomes relating to internalizing symptoms, social and emotional knowledge, and social and emotional functioning. Students’ in the massed condition had slightly a greater decrease (-.58) on symptoms than the distributed condition (-.35) when comparing differences in group means at pre- posttest. Students in the distributed condition had slightly greater gains (+3.01) on social and emotional knowledge than students in the massed condition (+2.56) when comparing group means at pre- posttest. Students in the distributed condition had slightly greater gains (+1.09) on social and emotional functioning than the massed condition. The massed condition had a slight decrease on social and emotional functioning at posttest (-.41). In examining treatment effects, the distributed condition
had large changes on knowledge, whereas the massed condition had a medium effect in changes. It is important to note as well that the groups were different at pretest on internalizing symptoms. The massed condition group had slightly higher mean scores on internalizing symptoms at pretest than the distributed condition, a difference of (1.1) between the two groups.

The results from this study suggest that scheduling practices of 6 weeks, two lessons a week or 12 weeks, one lesson per week may not be dissimilar enough to present differences in students’ resiliency skills. Students in both conditions demonstrated similar outcomes on the dependent measures indicating that the scheduling practices of two lessons a week and one lesson a week does not appear to allow students to have significant differences in learning and practicing the Strong Kids skills. This study did not indicate changes in students’ outcomes consistent with the massed and distributed research literature. It is important to note that the research literature has investigated and defined massed as only one, comparatively lengthy exposure to the material (Grote, 1995). It is possible then that the examination of Strong Kids under a shorter setting, such as 2 weeks versus 12 weeks may produce significant differences in student outcomes between conditions. Given the short, lengthy exposure to the lessons, it can be hypothesized that the 12 week condition would have better outcomes than the 2 week condition with approximately one lesson a day. A 2 week condition would present no rest time between lessons. However, it would not be realistic to implement the Strong Kids lessons in one lengthy session, as defined by massed schedule in the literature.
Research Question 3

In addressing Research Question 3, “What are teachers’ and students’ overall perceptions of participation in the Strong Kids social and emotional learning curriculum and are there differences in perceptions of social validity based on scheduling practices? A survey was provided to the students at posttest to measure their satisfaction and interviews were conducted with the teachers’ to examine social validity.

Students overall provided positive ratings of the Strong Kids curriculum based on the Satisfaction Survey. All together, they indicated strong satisfaction with the skills that they learned and the overall goals of the program on all items on the measure. Students indicated that they learned a lot from Strong Kids, felt that they could understand their emotions better, felt that the Strong Kids leaders knew a lot of information and were caring and supportive, felt that what they learned in Strong Kids will help them in the future, felt that they can handle stress better after doing Strong Kids, and felt that they can continue to use what they learned in Strong Kids in the future. In examining differences in ratings based on the conditions, students in the distributed condition rated Strong Kids slighter higher than the students in the massed condition. This suggests that students in the distributed condition were slightly more satisfied with the curriculum than the students in the massed condition. Students in both conditions received equal amount of the lessons, overall, the only variable that was different was the pacing of the lessons. The slightly higher ratings from students in the distributed condition may suggest greater social validity for the one lesson per week over the two lessons per week. It would be interesting to examine students’ ratings if they were able to be exposed to the two
differing conditions. After exposure to the two different conditions, they may be able to provide better comparisons of which condition is more socially valid.

The teacher interviews indicated that they overall had positive perceptions of the *Strong Kids* curriculum. As a group, they reported that the concepts from the *Strong Kids* lessons were applicable to real life situations. They felt that schools were primary settings to teach students social and emotional skills as parents are not providing these skills at home for the students. Teachers felt that their students enjoyed the role-plays and the scenarios. Teachers expressed that students found role-plays to be most interesting and looked forward to that part of each lesson. Students were reported to engage and consider the role-plays as an important component to the lessons. Teachers indicated that they observed their students using the *Strong Kids* skills outside of instruction time, such as on the playground. Specifically, teachers observed students using conflict resolution. They felt that the lessons were easy to follow and lesson implementation ranged from 45 to 70 minutes of classroom instruction with 10-15 minutes of prep time. The prep time was realistic and feasible for teachers to do given their already busy schedules.

An area that many of the teachers felt that needed improvement was the vocabulary or wording of the *Strong Kids* concepts. Many felt that the vocabulary was too difficult for their students where teachers had to provide many examples or simplify the concepts with a different terminology that they felt was more age-appropriate. In addition, they felt that less teacher talk and more activities would be helpful for instruction at this age group. Teachers expressed that many of the lessons were too long, thus many of them had to provide breaks for their students throughout instruction; for
example, teachers provided students with a few minutes of break time (stand up and stretch, a quick run outside of the classroom) to regain students engagement. As well, teachers felt that visual aids provided along with the curriculum would support the instruction and assist students in further learning the concepts, such as a feelings thermometer poster in the classroom. Teachers specifically expressed that the 12 week schedule (Distributed) was more feasible for their school schedule. The teachers in the Massed condition indicated that two lessons a week was overwhelming for the students as they were tired of learning the information with little rest time between lessons. In addition, a massed schedule of two lessons a week is not feasible given the already high demands on teachers. Overall, teachers valued having the materials pre-copied and organized for them as this eliminated the extra prep time. Teachers expressed greater satisfaction of Strong Kids over other curricula that they have used in the past or that the school has adopted, such as Second Step. Second Step is curriculum that addresses violence prevention through social and emotional skill building. Teachers stated that Strong Kids was much more interactive with updated scenarios than Second Step. Most importantly, teachers appreciated the pizza party provided to their students at posttest.

Limitations

The results from this study must be considered in light of some limitations. The effect on internalizing symptoms was one of the primary research questions of this study and decreasing internalizing symptoms is a goal of Strong Kids. Strong Kids had a small effect on internalizing symptoms, which is not consistent with previous studies that have found larger effects. However, other studies that have also measured internalizing
symptoms using the *Strong Kids Symptoms Test* did not find significant changes. There appears to be inconsistency in detecting internalizing effects. The *Strong Kids Symptoms Test* may be a measure that is not sensitive enough to detect larger effects, particularly for students in a general education setting. One would think that a large increase on skills to cope with daily stressors would decrease symptomology or negative internalizing feelings with greater magnitude than found in this study. The ideas of social and emotional knowledge gains and social and emotional application are two varying concepts. A student can have the knowledge, but not have the skills to apply the knowledge. A more sensitive measure that can be used with general education students over a short period of time may be a more useful tool that can detect intervention effects.

Second, the duration of the study of 6 and 12 weeks of instruction may not constitute enough time to learn and apply the skills as posttest was conducted within approximately one week of Lesson 12. If *Strong Kids* was implemented over a longer period of time with opportunities to follow-up and learn the skills and concepts throughout the school year, a more meaningful change may be detected. For example, if *Strong Kids* was implemented at the beginning of the school year and continued throughout the school year and posttest was conducted at the end of the school year, meaningful changes may be detected on all dependent measures. With this schedule, students have many opportunities to practice and learn the concepts over a longer period of time before posttest. The repetitiveness of learning social and emotional resiliency skills over time may produce desirable outcomes.
Third, self-report measures have been found to have both advantages and disadvantages. Retrospective reports of behaviors and events are problematic not only because memory decays over time, but also because memory is reconstructive (Penrod, Loftus, & Winkler, 1982). The accuracy of self-reports are significant concerns as people have the tendency to report in positively desirable ways, rather than their true behaviors or feelings. Social and emotional behaviors and internalizing symptoms are areas that are sensitive for self-reporting as this study measured self-reflection of symptoms, knowledge, and behaviors. Although the questionnaires were anonymous, there is no guarantee that the responses provided by the students were accurate. Additionally, self-reports depend on verbal skills. The respondents must be able to understand the question, formulate a response, and express the response in the manner required by the measure (e.g., a Likert scale; Whitley, Jr., 1996). Although the measures used in this study are developmentally readable for this age group, some teachers questioned the readability of these measures for their students. Despite these limitations, self-reports are the best measurement of modality in research settings.

Fourth, this study was quasi-experimental that manipulated an independent variable in a naturally occurring setting using naturally occurring groups. Students in this study were not randomly assigned to the treatment conditions as they were “nested” within the classrooms, but rather the classrooms were randomly assigned to the treatment conditions. The lack of student randomization into treatment groups increases the chance that the effect was not attributed to the intervention, but rather by chance. In other words, when participants are not randomly assigned to the treatment groups rather than the
groups randomly assigned to the treatment, there is increased probability that the groups have pre-existing differences or nonequivalencies prior to administration of the independent measure. It is important to consider the possibility that personal characteristics of the participants differ between the groups. When there are pre-existing differences, it is difficult to concur if the independent variable had an effect or the effect was due to pre-existing differences between groups (Whitley, 1996). The “nesting” of participants cannot determine causality with certainty. However, by randomly assigning the classrooms, a limited degree of equivalency is provided (Whitely, 1998). The author further suggested that one solution to nonequivalent groups or “nesting” of participants is to conduct pretesting to ensure groups are similar on the dependent measure before introducing the independent measure. Whitely (1998) suggested that the simplest nonequivalent design with pretest is a 2 x 2 factorial design (Within and Between Subjects). In this study, pretest indicated that the groups slightly differed on the Internalizing Symptoms Test (approximately 1.1 point difference between the Massed and Distributed groups). A simple independent $t$ test indicated that the two groups at pretest were not significantly different. Whitley (1996) suggested that a possible solution to pre-existing differences is to conduct an analysis of covariance (ANCOVA). ANCOVA adjusts for group differences in pretest scores based on regression analysis of the relation between pre- posttest scores. However, there are also concerns related to using the ANCOVA (see Whitley, 1996). Osborne (2000) suggested that hierarchical linear modeling (HLM) should be considered for analysis when participants are “nested” as this procedure requires fewer assumptions and allows for cross-level interactions.
Another limitation as part of a quasi-experimental study is threat to internal validity through a pre- posttest design. It is possible that posttest scores may have been affected by the initial pretest. At posttest, students may have increased sensitivity due to prior exposure to the measures. Students may try to keep their scores consistent across different administration of a measure or try to do better on the posttest than they did on the pretest. Also, students may be more aware of the specific concepts or content as tested on the pretest, and thus increased their attention to the content during curriculum instruction and on posttest.

Finally, although this was a large sample of students and teachers, the sample population was predominately white, middle-class students in one region of United States. Generalizability of the results should be interpreted with caution to other populations and students from other communities.

Despite these limitations, the results from this study are both noteworthy and relevant for school psychologists and other educational professionals in the realm of social and emotional learning and early intervention and prevention efforts on student outcomes. This unique study extended research on Strong Kids and added to the social and emotional research literature on promotion efforts in children’s mental health.

Implications for Future Research

It cannot be argued that student success in academics and social and emotional functioning are ideal outcomes. The Strong Kids curriculum aims at promoting resiliency skills to support and foster students healthy development through the teaching of social and emotional concepts in order to successfully cope with inevitable life stressors.
Importantly, the concepts and skills from Strong Kids are intended to meaningfully decrease students’ internalizing symptoms and meaningfully increase social and emotional knowledge of skills. Measuring the accumulation of resiliency skills and the application of these skills in real life situations should be continued efforts in order to better understand prevention and intervention curricula. The curriculum-linked measures used in this study can be limited in measuring the complexity in symptoms and knowledge with this particular population. The measures used to assess internalizing and externalizing problems should then encompass sensitivity to change in this regard, particularly for general education students. Future studies can expand on measuring such changes through tools that can precisely capture the complexity of internal behaviors, knowledge, and application over a short period of time with normal to higher functioning students. Additionally, measurement tools that assess positive assets and self-concept would be useful in prevention and intervention efforts. Furthermore, along the realm of measurements, future studies may consider in addition to student self-reports, parent and teacher ratings of students’ symptoms, knowledge, and functioning. As well, hierarchical linear modeling may be valuable in examining hierarchical data structures “nesting” of participants.

Given that scholastic performance is linked to social and emotional behaviors, future studies may consider examining students’ grades or GPA. There has not been a study to date that has examined Strong Kids’ impact on academic outcomes. These studies can better understand the impact of social and emotional learning on academics.
Additionally, studies examining scholastic performance can strengthen the argument for social and emotional efforts.

Long-term maintenance or longitudinal studies of *Strong Kids* skills and concepts is highly desirable. The evaluation of the continued effects of the *Strong Kids* curriculum relating to maintenance and application of resiliency skills are critical to ensuring that the curriculums’ concepts are effective outside of the instruction and over time. Ultimately with any prevention or intervention program, its true success is when the information obtained continues to be utilized and applied in the desirable manners. Future research may consider examining the long-term maintenance of *Strong Kids* social and emotional skills and concepts over time with the sampling population. There has not been a study examining the longitudinal effects of *Strong Kids*; therefore, we are limited in making conclusions on the long term impact and effectiveness of this curriculum.

Expansion of this study by examining other scheduling practices, such as 2-3 weeks versus 12 weeks of *Strong Kids* may be useful in better understanding if a shorter-Massed Condition (one lesson daily) will provide significant differences in comparison to Distributed Condition of 12 weeks (one lesson a week). In the current study, the Massed and Distributed Conditions of 6 and 12 weeks provided no significant differences in student outcomes. The results are inconsistent with the research literature and may suggest an essential area that requires continued research.

Social and emotional concepts and resiliency skills taught in the *Strong Kids* are essential for *all* students to learn. *Strong Kids* promotes resilient behaviors through proactive education on how students can spring back from and successfully adapt to
adversity. The participants in this study were primarily Caucasian, middle-class students from a concentrated region of United States. Teachers were all Caucasians as well. It may be essential to also better understand the effects of Strong Kids on ethnic minority populations from other areas of the country and the effects with higher risk students. Higher risk students are those at greatest need for mental health interventions. Although prevention efforts are critical, intervention efforts are just as imperative in interjecting in the negative trajectory for students already identified with mental health problems. Thus, it appears essential to better understand Strong Kids applicability as a continuum of supports. In addition, the changing student demographics require schools to address students’ needs on many levels, such as cultural and ethnic differences and outcomes. Many variables impact ethnic minority students’ development, such as acculturation, generational differences, assimilation, immigration, SES, cultural/community beliefs, and familial values and expectations. Due to the combination of extraneous variables that affect development for ethnic minority students, cultural sensitivity is critical in social and emotional prevention and intervention efforts for this population.

A hierarchical linear model (HLM) may be appropriate for analyzing data from nonrandom structures. Importantly, HLM provides analyses when there are multiple variables and possible factors that may account for variability in outcomes. For example, this study included, 10 teachers who implemented the Strong Kids. There may be pre-existing differences between teachers, such as teaching practices, instructional competency, likeability from students, etc.
Implications for Practice

The results from this study show that evidence-based social and emotional learning curricula, such as *Strong Kids*, is a valuable tool that is socially valid for teaching resiliency skills in the classroom. Teachers and students indicated strong user satisfaction of the *Strong Kids* curriculum. Specifically, teachers indicated the utility and ease of the curriculum. The applicability of the skills and concepts to everyday situations for students increases the social validity of the curriculum. The teaching approach used in the *Strong Kids* engages students to learn through interactive instruction also increases the social validity of the curriculum. The students’ and teachers’ beliefs regarding social and emotional learning are aligned with the goals of the curriculum. As evident in this study, *Strong Kids* is a socially valid curriculum that increases students and teachers’ buy-in relating to social and emotional learning. It is evident that teachers are expected to do so much in a school day, but if their goals are aligned with the goals of the curriculum, social and emotional efforts would continue beyond research. Social and emotional learning, using the *Strong Kids* would then be effortless and enjoyable with longevity.

The goals of *Strong Kids* are to increase healthy social and emotional knowledge and decrease internalizing symptoms. The aims of *Strong Kids* are achievable through mere classroom instruction of either 1-lesson a week or 2-lessons a week. The effectiveness of *Strong Kids* has been demonstrated to increase social and emotional knowledge and concepts and decrease internalizing symptoms, regardless of tempo of the lessons. Participation in the *Strong Kids* benefits students by increasing the opportunity of healthy development through the learning and application of resiliency skills to cope
will daily life stressors. In the end, the benefits of *Strong Kids* decreases the time, energy, and resources that may possibly be allotted in the future in dealing with students’ mental health problems by teachers, school psychologists, school counselors, and administrators. *Strong Kids* is evident to increase students’ engagement in learning. Ultimately, learning results in success for educational systems and society.

**Conclusions**

This dissertation study presents initial efforts in examining scheduling practices of the *Strong Kids* curriculum in producing optimal outcomes. As well, this study provides continued efforts in promoting social and emotional learning in schools. Desirable results were found for large gains in social and emotional knowledge of skills and concepts regardless of treatment group. As well, significant, small changes in symptoms were found. Desirable results were also found in social validity from the participants who believed that the *Strong Kids* was useful and practical. It appears that the Massed condition of 2 lessons a week for 6 weeks and Distributed condition of 1 lesson a week for 12 weeks provided no differences in student outcomes. Both groups indicated similar outcomes on the dependent measures on the Time variable.

Several areas of future study should be considered in order to forge ahead in school-based prevention and intervention efforts in increasing healthy, successful development in students. Future efforts may include, examining *Strong Kids* goals through using other measures that may be sensitive to detect change in general education students. As well, measures that assess students’ positive assets and self-concept may be useful to better assist in social and emotional learning activities. Examining the long-term
maintenance of the skills and concepts provided in *Strong Kids* would be of value. Better understanding of the effects of *Strong Kids* on academic performance would be useful. Investigating other practice schedules and the differences between the schedules, such as daily lessons versus weekly lessons would provide additional information on optimal outcomes relating to prevention and intervention curricula. Furthermore, there is limited research on *Strong Kids* and ethnic minority and high risk populations. These continued efforts in research further addresses important questions that are of significance to social and emotional learning. These efforts provide avenue for continued prevention, intervention, and promotion efforts that supports *all* students in academic and social and emotional success.

As with any prevention and intervention program, efforts should not be shortcoming or unsupportive. Teachers should continue to reinforce resiliency skills outside of the curriculum, allow students to learn and practice the skills as frequent as possible, and model and coach healthy social and emotional behaviors in school settings. School psychologists are valuable entities in schools to support teachers, staff, and administrators by educating them on evidence-based social and emotional learning curricula and advocating for social and emotional learning to prevent and decrease mental health problems in students. School psychologists have unique skills to construct successful efforts.

The demands on today’s schools are already challenging given the high needs of students, but if schools do not address the needs of their students immediately and proactively, the future may be dim for our students. The negative effects are not only
implicated in school settings, but can affect society as a whole. Social and emotional learning, a proactive, educative and preventative approach to address the increase challenges and needs in schools is an ideal option if we are to effectively address the mental health concerns. *Strong Kids*, a social and emotional learning curriculum, evident to be an innovative, socially valid, and effective tool can address children’s mental health needs in schools.

Several states and countries have paved the way and have surged ahead to promote social and emotional learning. Additionally, social and emotional research continues to expand and increase, with strong leaders in the field and organizational advocacy. These efforts indicate that social and emotional learning is moving in a positive direction and with momentum. If we continue with current momentum in promoting social and emotional efforts, children’s academic and social and emotional success will be enhanced through using evidence based social and emotional learning curricula as a part of education for *all* students.
APPENDIX A:

STRONG KIDS CURRICULUM (SAMPLE LESSON 1)
Strong Kids Lesson 1
About Strong Kids:
Emotional Strength Training

Materials Needed:
• Supplement 1.1 (Overhead Transparency)
• Supplement 1.2 (Overhead Transparency)
• Supplement 1.3 (Homework Handout)

Purpose:
• Introduce students to the Strong Kids curriculum.

Objectives:
1. Students will identify the purpose of the Strong Kids curriculum.
2. Students will complete the pretest assessment (Optional).
3. Students will learn the expected behaviors for participation in the program.

Instruction

I. Introduction (2 – 5 minutes)
Communicate the purpose and objectives clearly: Explain to your students that they will be starting a new curriculum, Strong Kids. Explain how often it will be taught and give examples of some of the topics to be covered. Explain that the skills learned during this unit are skills that are vital to their social and emotional health, and they will be important during all phases of life.

Sample Script: Today we will begin a new unit called “Strong Kids.” In this unit, we will discuss how to understand our emotions and the emotions of others. We will also discuss how to solve problems, how to set goals, and how to think in a way that helps us in life. We will meet [once per week] for [one class period]. You will learn important new skills that will help you work well with others and that will help you make good choices. Everyone needs to be healthy—emotionally and physically healthy. This unit will help you learn skills that you may use to be emotionally healthy throughout your life.

II. Pretest Assessments (15 minutes)
Pass out the pretest and tell your students not to worry if they do not know the answers or are not familiar with the topics. Tell them that the pretest is only to test their background knowledge and measure their learning throughout the Strong Kids unit.

When each student has a copy of the pretest, provide them with the appropriate instructions and allow them 15 minutes to complete the assessment.
Sample Script: First we are going to take a brief test that will help me to know how much you already know about emotions and feelings. It will take about 15 minutes. Do your best work and answer all of the questions. Raise your hand if you need help reading or understanding any of the questions.

III. Introduction to the Topics Covered in the Curriculum (2 – 5 minutes)

Using Supplement 1.1 as an overhead transparency, introduce the topics and provide a brief explanation for each of the lessons. You may use your own words or use the script provided below.

Sample Script: During this 12 lesson program, we will be discussing these (referring to overhead) topics. In the first two lessons, we will be learning to identify our emotions and then learning good ways to express them. The next lesson talks about our anger and also gives us good ways to deal with it. The fourth lesson teaches us to notice and better understand other people’s feelings, while the next three lessons teach us to think in ways that help us in life. We will also learn how to solve people problems or conflicts. Finally, we will learn how to relax, keep active, and achieve our goals.

IV. Awareness or Disclaimer Statement: Students with Serious Problems (2 minutes)

Explain to your students that this unit will be focusing on life skills, but this may not be enough help for kids with serious emotional problems. Students experiencing large amount of depression or anxiety, for example, should be identified and helped by a professional. Use the provided script below or you may choose to use your own words to better suit your students.

Sample Script: The Strong Kids unit will be focusing on life skills and may not be enough help for students experiencing a large amount of depression or anxiety. If you feel you are experiencing these issues or you know someone that might, he or she should see me or get help from [provide names of school counselor, psychologist, or social worker].

V. Defining Behavior Expectations (2 – 5 minutes)

Explain to your students that they may be asked to share personal information with each other as they complete each lesson. Explain to your students that their participation is voluntary, and that they can choose to stop sharing their feelings or their story if they begin to feel uncomfortable. If students feel uncomfortable sharing in a large group, tell them that they may speak to you individually. Explain to your students that they are now a part of a group with important rules.
Use Supplement 1.2 as an overhead transparency to provide the class with examples and non-examples of the rules. You can also ask the class to share their own examples or non-examples.

**Sample Script:** During this unit, you may be asked to share stories about when you felt a strong emotion, such as anger or about when you’ve had a problem. You can raise your hand when you have a story to share. When someone is sharing a story, we will listen quietly and respectfully and remember that because stories might be personal they will just stay in the group. If you decide that you no longer want to share your story or if you begin to feel uncomfortable, you may stop at any time. If you do not feel comfortable sharing your story with the whole group, but you feel like you want to talk to someone, please speak to me after class.

Introduce important group/class rules for participation in *Strong Kids*.

1) Respect others  
2) Come prepared  
3) Personal things stay in the group.

**Sample Script:** You are now a part of a group with some important rules. Here are the rules:  
1) Respect others (Listen quietly when someone is speaking).  
2) Come prepared (Do homework assignments).  
3) Personal things stay in the group (Be respectful and do not gossip).

**VI. Closure (2 – 5 minutes)**
Gather your students together and review the introduction’s main points.

*Today we talked about Strong Kids, the new program we will be using. For the next few months we will be learning about our feelings, learning how to deal with them, and learning other important life skills. During this time, we need to remember our three rules: 1) Respect others, 2) Come prepared, and 3) Personal things stay in the group.*

**VII. Homework Handout (2 – 5 minutes)**
Pass out Supplement 1.3, the homework handout. Tell students that they are to finish the sentences by writing in the blank the best way they can.
Supplement 1.1 (Overhead Transparency)

**Strong Kids Lessons**

1. **About Strong Kids: Emotional Strength Training**
2. **Understanding Your Emotions, Part 1**
3. **Understanding Your Emotions, Part 2**
4. **Dealing with Anger**
5. **Understanding Other People’s Emotions**
6. **Clear Thinking, Part 1**
7. **Clear Thinking, Part 2**
8. **The Power of Positive Thinking**
9. **Solving People Problems**
10. **Letting Go of Stress**
11. **Behavior Change: Setting Goals and Staying Active**
12. **Finishing UP!**
Strong Kids Rules

1. Respect Others
   • Listen quietly when others speak!

2. Come Prepared
   • Do your homework!

3. Personal Things Stay in the Group
   • Be respectful - don’t gossip!
Introducing *Strong Kids*

Name (Optional): __________________________________________

**Directions:** Think of a time when you felt really happy. Use this memory to answer the next few questions.

1) What happened?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

2) What thoughts did you have?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

3) How did you know you were happy? What signs indicated this?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

4) How did you show others you were happy?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________
APPENDIX B:

STRONG KIDS SYMPTOMS TEST
Pretest _____  Posttest _____

**Strong Kids Unit Tests**  
*For Students in Grades 4-8*

Name ___________________________ Grade ______  Age ______

School ___________________________ Today's Date ___________

I am a: ☐ boy  ☐ girl

On the next few pages, you will be asked to answer questions about how you have been feeling over the past month. Think about how you have been feeling overall and answer the questions as well as you can. After answering those questions, you will then be asked to answer more questions to see how much you know about healthy and unhealthy ways to express feelings, thoughts, and behavior. Read each question carefully and choose what you think is the best answer to the questions.

You will not be graded on your answers. Your answers will be kept confidential. If you have any questions, please ask your teacher.
# Strong Kids Symptoms Test

**Directions:** The following statements tell some ways that kids might sometimes feel and things they might sometimes do. Read each of these statements and decide how often they are true for you for the past month. Ask yourself, is this Never True, Hardly Ever True, Sometimes True, or Often True for me? After you have decided how often the statement is true for you, make an X in the box that goes with that answer. There are no right or wrong answers, just choose the answer that tells how you feel.

<table>
<thead>
<tr>
<th></th>
<th>Never True</th>
<th>Hardly Ever True</th>
<th>Sometimes True</th>
<th>Often True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There is very little that I like to do.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>2. I can’t deal with my problems.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>3. I argue with other people.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>4. I get so mad that I break or throw things.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>5. I worry about things.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>6. I feel depressed or sad.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>7. Things don’t work out for me.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>8. I get headaches.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>9. I feel sick to my stomach.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
<tr>
<td>10. I argue with my parents.</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
</tbody>
</table>

**TOTAL SCORE**
APPENDIX C:

STRONG KIDS KNOWLEDGE QUESTIONNAIRE
**Strong Kids Knowledge Test**

**Directions:** This test has 20 questions about healthy and unhealthy ways to express feelings, thoughts, and behavior. Read each question carefully and pick what you think is the best answer.

**TRUE-FALSE.** Read each sentence. If you think it is true or mostly true, circle the T, which means “true.” If you think it is false or mostly false, circle the F, which means “false.”

1. T  F  Self-esteem is your feelings of worth for yourself.

2. T  F  When identifying a problem, it is important to describe how you feel and then listen to how the other person says they feel.

3. T  F  When most people feel embarrassed, they are likely to stand tall, smile, and talk to others.

4. T  F  Clenched fists and trembling or shaking hands are often signs of stress.

5. T  F  Your friend took the last ice cream bar at the class party and you hadn’t gotten one yet. The best way to deal with this is to first identify how you feel, figure out if you feel comfortable or uncomfortable, and then choose 3 positive ways to express your feeling.

**MULTIPLE CHOICE.** Circle the letter that goes along with the best answer for each question.

6. Devin’s gym teacher tells him to try out for the basketball team. Devin thinks that he is too short and won’t make it, so he decides to not try out for the team. What thinking error is described here?
   a. Binocular vision
   b. Black and white thinking
   c. Making it personal
   d. Fortune telling
7. An example of an emotion that is uncomfortable for most people is
   a. Excited
   b. Frustrated
   c. Curious
   d. Content

8. What is an emotion?
   a. A thought you have about a situation
   b. Your inner voice inside your head
   c. A memory you have about something that happened to you
   d. A feeling that tells you something about a situation

9. Self-talk is a way to calm down after you get angry. Self-talk includes telling yourself
   a. I don’t deserve this
   b. I should get angry when something like this happens
   c. I can work through this
   d. I need to stop getting angry so often

10. Which of the following statements best describes empathy?
    a. Knowing how you are feeling
    b. Wondering why another person is feeling sad
    c. Understanding another person’s feelings
    d. Thinking about another person

11. What is the meaning of the thinking error dark glasses?
    a. Looking at the whole picture
    b. Seeing only the part that makes you sad
    c. Trying to see things in a different way
    d. Thinking about only the negative or bad parts of things

12. Thinking errors occur when
    a. You see things differently than what really happened
    b. You see both the good and bad of each situation
    c. You think something different than your friend
    d. You tell yourself you shouldn’t try to do something
13. **Reframing** is a way to
   a. See the whole picture
   b. Think about the things that make you smile
   c. Think about the situation more realistically
   d. Think about what you will do next

14. Why would you want to know how someone else is feeling?
   a. So you can leave them alone when they’re angry
   b. To better understand that person’s feelings
   c. To tell other people about that person
   d. To act the same when you are together

15. What does the **ABCDE plan** for optimism help you to do?
   a. Look at both sites of a situation
   b. View situations more positively
   c. Control your positive and negative thoughts
   d. Realize that you sometimes have no control over things

16. **Conflict resolution** is best described as
   a. Discussing a problem until there is a winner and a loser
   b. Arguing with another person until they see your point and give in
   c. Problem-solving so you can reach an agreement
   d. Talking about the problem until something changes their mind

17. Which of the following is a **positive way** to express how scared you are for your parents to get your report card?
   a. Tell them why you are scared
   b. Hide your report card
   c. Tell your parents they are expecting too much from you
   d. Say that your grades were bad because other kids at school distracted you

18. Why is it important to **make an agreement** when you are trying to solve a problem?
   a. To understand what the other person is feeling
   b. To let the other person know what you think about the problem
   c. To make sure both people accept the solution to the problem
   d. To solve the problem more quickly
19. Which of the following is one of the better ways to relax when you are feeling stressed?
   a. Crying
   b. Talking about the problem with a friend
   c. Complaining to your mom
   d. Ignore the problem

20. Which of the following is the better way to deal with feeling very angry when the person next to you in class keeps talking and annoying you?
   a. Yell at them and tell them to stop
   b. Call out to the teacher about the student
   c. Take their backpack to get even
   d. Stop, count to ten, and try to relax
APPENDIX D:

BarOn EMOTIONAL QUOTIENT INVENTORY: YOUTH VERSION

(*Use of this measure without authorization from the publisher is prohibited.)
BarOn EQ-i: YV (S)
by Reuven Bar-On, Ph.D. & James D. A. Parker, Ph.D.

Client ID: ____________________     Age: __________
Birthdate: / /     Gender: Male Female
(Today’s Date: / / )
Name: ____________________

Instructions: Read each sentence and choose the answer that best describes you. There are FOUR possible answers:
1 = Not True of Me (Never, Seldom); 2 = Just a Little True of Me (Sometimes); 3 = Pretty Much True of Me (Often); and
4 = Very Much True of Me (Very Often). Tell us how you feel, think, or act MOST OF THE TIME IN MOST PLACES.
Choose one and only ONE answer for each sentence and circle the number that matches your answer. For example, if your
answer is “Just a Little True of Me (Sometimes),” you would circle the
number 2 on the same line as the sentence. This is not a test; there are no
“good” or “bad” answers. Please circle an answer for every sentence.

| 1. I care what happens to other people. | 1 | 2 | 3 | 4 |
| 2. It is easy to tell people how I feel. | 1 | 2 | 3 | 4 |
| 3. I like everyone I meet. | 1 | 2 | 3 | 4 |
| 4. I am able to respect others. | 1 | 2 | 3 | 4 |
| 5. I get too upset about things. | 1 | 2 | 3 | 4 |
| 6. I can talk easily about my feelings. | 1 | 2 | 3 | 4 |
| 7. I have good thoughts about everyone. | 1 | 2 | 3 | 4 |
| 8. I fight with people. | 1 | 2 | 3 | 4 |
| 9. I have a temper. | 1 | 2 | 3 | 4 |
| 10. I can understand hard questions. | 1 | 2 | 3 | 4 |
| 11. Nothing bothers me. | 1 | 2 | 3 | 4 |
| 12. It is hard to talk about my deep feelings. | 1 | 2 | 3 | 4 |
| 13. I can come up with good answers to hard questions. | 1 | 2 | 3 | 4 |
| 14. I can easily describe my feelings. | 1 | 2 | 3 | 4 |
| 15. I must tell the truth. | 1 | 2 | 3 | 4 |

Items continued on back...
BarOn EQ-i: YV (S)
by Reuven Bar-On, Ph.D. & James D. A. Parker, Ph.D.

1 = Not True of Me (Never, Seldom)  
2 = Just a Little True of Me (Sometimes)  
3 = Pretty Much True of Me (Often)  
4 = Very Much True of Me (Very Often)

<table>
<thead>
<tr>
<th></th>
<th>Not True of Me (Never, Seldom)</th>
<th>Just a Little True of Me (Sometimes)</th>
<th>Pretty Much True of Me (Often)</th>
<th>Very Much True of Me (Very Often)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>I can come up with many ways of answering a hard question when I want to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17</td>
<td>I get angry easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>I like doing things for others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19</td>
<td>I can easily use different ways of solving problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20</td>
<td>I think I am the best in everything I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>It is easy for me to tell people what I feel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22</td>
<td>When answering hard questions, I try to think of many solutions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23</td>
<td>I feel bad when other people have their feelings hurt.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24</td>
<td>I am good at solving problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25</td>
<td>I do not have bad days.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26</td>
<td>I have trouble telling others about my feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27</td>
<td>I get upset easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28</td>
<td>I can tell when one of my close friends is unhappy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>29</td>
<td>When I get angry, I act without thinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30</td>
<td>I know when people are upset, even when they say nothing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Thank you for completing the questionnaire.
APPENDIX E:

STRONG KIDS SATISFACTION SURVEY
Name__________________  Boy or Girl  Grade  Age  Date__________________

**Strong Kids Satisfaction Survey**

Please tell us how you feel about the *Strong Kids* program. Mark big **YES** or big **NO** if you strongly agree or disagree with the item. Mark small **yes** or small **no** if you somewhat agree or disagree with item. Mark **Not sure** if you do not know how to respond to the item.

1. Strong Kids was fun.
   
   **YES**  yes  Not sure  no  **NO**

2. I learned a lot from Strong Kids.
   
   **YES**  yes  Not sure  no  **NO**

3. I feel that I can understand my emotions better after doing Strong Kids.
   
   **YES**  yes  Not sure  no  **NO**

4. I feel like I can handle anger better after doing Strong Kids.
   
   **YES**  yes  Not sure  no  **NO**

5. I feel that I can understand other people's emotions better after doing Strong Kids.
   
   **YES**  yes  Not sure  no  **NO**

6. I feel that I understand negative thoughts and can handle them better after doing Strong Kids.
   
   **YES**  yes  Not sure  no  **NO**

7. I think more positively because of Strong Kids.
   
   **YES**  yes  Not sure  no  **NO**
8. I feel like I can solve arguments and conflicts better after doing Strong Kids.

YES  yes  Not sure  no  NO

9. I feel like I can handle being worried better after doing Strong Kids.

YES  yes  Not sure  no  NO

10. I feel like I can handle stress better after doing Strong Kids.

YES  yes  Not sure  no  NO

11. I feel like I can continue to use what I learned in Strong Kids in the future.

YES  yes  Not sure  no  NO

12. I think what I learned in Strong Kids will help me in the future.

YES  yes  Not sure  no  NO

13. I feel stronger because of Strong Kids.

YES  yes  Not sure  no  NO


YES  yes  Not sure  no  NO

15. The Strong Kids leaders were caring and supportive.

YES  yes  Not sure  no  NO

16. The Strong Kids leaders knew a lot of information.

YES  yes  Not sure  no  NO

17. Strong Kids was:

Too long  Too short  Just right

2 of 2
APPENDIX F:

STRONG KIDS TEACHER INTERVIEW QUESTIONS FOR SOCIAL VALIDITY
TEACHER INTERVIEW QUESTIONS

Teacher Script: Thank you again for your participation in this study. The next step in the study, after completion of the Strong Kids program is to conduct a teacher interview. This interview will ask questions about your thoughts, perceptions, and experiences with the Strong Kids curriculum. It is important for us to learn from your experiences in implementing this program so that the program can be useful and successful for teachers and students. Your responses will not be linked to you or your school. This interview will take approximately 15-20 minutes.

1. Do you feel that it is important to implement a social and emotional learning program in schools? If not in schools, then where would an appropriate setting be to implement such program?

2. How long did it take to deliver each lesson?
   • How much effort was required in implementing the Strong Kids program?
     What was your prep time?

3. What was it like to implement the program in 6 weeks OR 12 weeks?
   • Was implementation at that level feasible and realistic for your classroom/students?

4. Do you think tempo of a program (6 versus 12 weeks) make a difference in student outcomes or how you might view or enjoy using such program?
5. How did your students respond to *Strong Kids*?

6. Did you observe any differences in outcomes (behaviors) in your students?
   - Did you notice students using any of the skills in other settings?

7. What was the most positive or useful feature about *Strong Kids*?

8. What was negative or needs improvement in *Strong Kids*?

9. What components would be useful or essential in a prevention/intervention program or as part of a research study to help with implementation?

10. Any other comments about the research study or *Strong Kids*?
APPENDIX G:

TREATMENT INTEGRITY CHECKLISTS
Implementation Checklist
Lesson 1: About *Strong Kids*: Emotional Strength Training

Observation start time: ________

I. Introduction
   □ Indicated to students that new curriculum will be started
   □ Give examples of content that will be taught

Circle One: Not Implemented  Partially Implemented  Fully Implemented
Notes: ____________________________________________________________

II. Pretest Assessments
   □ Pretest assessments given to students
   □ Teacher told students that they do not need to know the answers
   □ Instructions are provided for the assessments

Circle One: Not Implemented  Partially Implemented  Fully Implemented
Notes: ____________________________________________________________

III. Introduction to the Topics Covered
   □ Supplement 1.1 is placed on the overhead projector
   □ Teacher orally reviews topics on the overhead transparency

Circle One: Not Implemented  Partially Implemented  Fully Implemented
Notes: ____________________________________________________________

IV. Awareness or Disclaimer Statement
   □ Teacher explains that these lessons may not be enough for all students
   □ Teacher indicates to students that if they are experiencing large amounts of depression or anxiety, they should access help

Circle One: Not Implemented  Partially Implemented  Fully Implemented
Notes: ____________________________________________________________

V. Defining Behavior Expectations
   □ Teacher explains that participation in sharing personal information is voluntary
   □ Teacher indicates that when someone is sharing a story, everyone else should listen respectfully
   □ Teacher indicates that if students do not want to share with the group, but would like to share with the teacher, they can do so after class
   □ Group rules are reviewed: respect, come prepared, personal things stay in group

Circle One: Not Implemented  Partially Implemented  Fully Implemented
Notes: ____________________________________________________________
VI. Closure

☐ Teacher reviews with students that they will be learning about life skills
☐ Teacher reminds students about class rules

Circle One: Not Implemented  Partially Implemented  Fully Implemented
Notes: ______________________________________________________________________

Observation finish time: ______
Number of Components Implemented:
Percentage Implemented:
Implementation Checklist
Lesson 4: Dealing with Anger

Observation start time: ________

I. Review
□ Reviewed previous lessons’/assignments’ main ideas (obtained 3-5 adequate ideas).

Circle One: Not Implemented Partially Implemented Fully Implemented
Notes: ____________________________________________________________

II. Introduction
□ Introduced the concept of appropriate and inappropriate ways of expressing anger.

Circle One: Not Implemented Partially Implemented Fully Implemented
Notes: ____________________________________________________________

III. Name and Define Anger and Aggression
□ Used Supplement 4.1 as an overhead transparency
□ Discussed the 5 vocabulary words on overhead
□ Conveyed at least 3 of 4 main ideas under Activity B
□ Asked students for examples of when they have become angry
□ Indicated anger doesn’t have to lead to aggression or frustration
□ Indicated anger is normal emotion, but aggression can lead to problems
□ Described short and long term problems for being angry/aggressive

Circle One: Not Implemented Partially Implemented Fully Implemented
Notes: ____________________________________________________________

IV. Introduce Anger Model and Definitions
□ Used Supplement 4.2 as an overhead transparency
□ Discussed the 6 vocabulary words on overhead

Circle One: Not Implemented Partially Implemented Fully Implemented
Notes: ____________________________________________________________

V. Integrate and Illustrate Anger Model
□ Used Supplement 4.3 as an overhead transparency
□ Student/teacher reviews steps of anger model with corresponding scenario components (if teacher decides to use own scenario, that’s fine)
□ Teacher discusses at least 4 out of the 5 main points under Activity B

Circle One: Not Implemented Partially Implemented Fully Implemented
Notes: ____________________________________________________________
VI. Introduce Anger Control Skills
   □ Used Supplement 4.4 as an overhead transparency
   □ Teacher reviews each of the 4 skills with students

VII. Application of Anger Control Skills
   □ Used Supplement 4.5 as in-class handout or, uses own examples to generate
     positive and negative examples of using skills
   □ Review of negative example scenario with discussion
   □ Review of positive example scenario with discussion

VIII. Practice or Application
   □ Students role play/discuss additional scenarios using the Anger Model
   □ Used Supplement 4.2 as an overhead transparency for students to reference steps
     of Anger Model
   □ Distributed Supplement 4.4 as in-class handout for students

IX. Closure
   □ Teacher reviews several main ideas from the lesson

Circle One: Not Implemented Partially Implemented Fully Implemented
Notes: __________________________________________________________

VII. Homework Handout
   □ Supplement 4.6 is distributed

Circle One: Not Implemented Partially Implemented Fully Implemented
Notes: __________________________________________________________

Observation finish time: ______
Percentage of Components Implemented:
# Implementation Checklist

## Lesson 8: The Power of Positive Thinking

**Observation start time:** __________

### I. Review

- [ ] Reviewed previous lessons’/assignments’ main ideas (obtained 3-5 adequate ideas).

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes: __________</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### II. Introduction

- [ ] Introduced the concept of positive thinking

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes: __________</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### III. Name and Define Skills

- [ ] Used Supplement 8.1 as an overhead transparency
- [ ] Reviewed 4 vocabulary terms
- [ ] Conveyed at least 3 of the 4 main ideas in Activity B
- [ ] Teacher facilitates class discussion regarding negative thinking and how to look at situations differently

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes: __________</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### IV. Introduce the ABCDE Learned Optimism Model

- [ ] Used Supplement 8.2 as an overhead transparency
- [ ] Teacher introduced model, reviewing 5 parts to model

### V. Integrate and Illustrate ABCDE Learned Optimism Model

- [ ] Used Supplement 8.3 as an overhead transparency
- [ ] Reviewed cartoon example with the class
- [ ] Reviewed parts A,B,C with the class in more detail (asked them prompt questions such as those on p. 100)
- [ ] Discussed additional thoughts and feelings students may have had to scenario
- [ ] Discussed part D with the class to generate alternative ways to look at the situation
- [ ] Discussed part E with the class to determine how case example would feel if looked at situation differently
- [ ] Generated new situations relevant to the students, using the ABCDE model to guide positive thinking

### VI. Closure

- [ ] Teacher reviews several main ideas from the lesson
- [ ] Used Supplement 8.4 to guide discussion
<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VII. Homework Handout**

- □ Supplement 8.2 is distributed

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Observation finish time:** ______

**Percentage of Components Implemented:**
Implementation Checklist
Lesson 11: Behavior Change: Setting Goals and Staying Active

Observation start time: _______

I. Review

- Reviewed previous lessons’/assignments’ main ideas (obtained 3-5 adequate ideas).

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II. Introduction

- Introduced the concept of goal setting and creating an action plan

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III. Name and Define Skills

- Used Supplement 11.1 as an overhead transparency
- Reviewed 3 vocabulary terms
- Provided/discussed at least one example of goal setting
- Provided/discussed at least one non-example of goal setting

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV. Steps to Goal Attainment

- Conveyed at least 3 of the 4 main ideas (bulleted items before Activity A)
- Used Supplement 11.2 as an overhead transparency and in-class handout
- Reviewed 6 steps of goal attainment
- Students generate their own goals using steps to goal attainment
- Used Supplement 11.1 as an overhead transparency to summarize 6 steps of goal attainment

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

V. Closure

- Teacher reviews several main ideas from the lesson

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VI. Homework Handout

- Supplement 11.3 is distributed

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Not Implemented</th>
<th>Partially Implemented</th>
<th>Fully Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Observation finish time: ______
Percentage of Components Implemented:
APPENDIX H:

TREATMENT INTEGRITY BEHAVIOR OBSERVATION
### Treatment Integrity Behavior Observation Form

Observer: ___________________________                  Date: __________________

Lesson: ______                  Time: __________________

#### Lesson Discussion

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teacher presents ideas and concepts clearly.</td>
<td>☐</td>
</tr>
<tr>
<td>2. Teacher engages students throughout lesson.</td>
<td>☐</td>
</tr>
<tr>
<td>3. Teacher corrects misunderstanding of concept.</td>
<td>☐</td>
</tr>
</tbody>
</table>

Notes:

#### Role Play

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Teacher gives clear directions for role plays or group activities.</td>
<td>☐</td>
</tr>
<tr>
<td>5. Teacher models the skills to practice.</td>
<td>☐</td>
</tr>
<tr>
<td>6. Teacher encourages participation.</td>
<td>☐</td>
</tr>
</tbody>
</table>

Notes:

#### Classroom Climate

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Teacher provides clear guidelines for student behavior.</td>
<td>☐</td>
</tr>
<tr>
<td>8. Teacher provides reinforcement when students are engaged or uses skills taught.</td>
<td>☐</td>
</tr>
<tr>
<td>9. Teacher support student questions and shared comments.</td>
<td>☐</td>
</tr>
</tbody>
</table>

Notes:

---

Total Number of Behavior Components ______
Total Number of Components Checked ______

Percent of Behaviors Observed ______
APPENDIX I:

RECRUITMENT LETTER
Recruitment Script: Administrator

“Oanh Tran, a current doctoral student at the University of Oregon in the school psychology program, will be conducting a research project this coming Fall, 2006. She is looking for teacher volunteers to participate, along with the students in those classrooms. Participation would include teaching a social and emotional learning curriculum intended to help students learn coping skills to deal with everyday life issues. If you are interested in participating, please contact me as soon as possible. Thank you.”
APPENDIX J:

SCHOOL PRINCIPAL AGREEMENT LETTER
June 19, 2006

Attn: University of Oregon Human Subjects Committee
Riverfront Research Park
1600 Millrace Drive, Suite 105
5237 University of Oregon
Eugene, OR 97403-5237
Fax: (541) 346-6224

Dear Ms. XXX,

Our 4th and 5th grade teachers at XXX Elementary in the Springfield School District will be piloting the Strong Kids curriculum in their general education classrooms for the 2006-2007 school year. The Strong Kids curriculum will be implemented as part of the dissertation research study for Oanh Tran (protocol X536-06). If you have any questions regarding our participation, please contact me at (541) 744-6418.

Sincerely,

XXX
Principal, XXX Elementary
APPENDIX K:

PROJECT SCHEDULE
**STRONG KIDS DISSERTATION SCHEDULE (FALL 2006)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 30, 2006</td>
<td>9-12 or 1-4p teacher in-service @ COE</td>
</tr>
<tr>
<td></td>
<td>• have materials ready for teachers</td>
</tr>
<tr>
<td></td>
<td>• teachers sign consent forms (located inside each manual)</td>
</tr>
<tr>
<td></td>
<td>• training on SK</td>
</tr>
<tr>
<td></td>
<td>• assignment of conditions/consultants</td>
</tr>
<tr>
<td></td>
<td>• discuss parent consent, important to contact parents for consent</td>
</tr>
<tr>
<td>September 5, 2006</td>
<td>Teachers send parent consent letters home with students</td>
</tr>
<tr>
<td></td>
<td>• track returned letters on roster</td>
</tr>
<tr>
<td>September 12, 2006</td>
<td>Follow-up with parents who have not signed consent</td>
</tr>
<tr>
<td></td>
<td>• teachers call, remind students</td>
</tr>
<tr>
<td></td>
<td>• re-send consent letters if necessary</td>
</tr>
<tr>
<td>Week of Sept 18-22</td>
<td>Teachers give notecards to students day before Pretest and write their real names (first and last) and code names. Hand cards over to consultant.</td>
</tr>
<tr>
<td></td>
<td>Condition 2</td>
</tr>
<tr>
<td></td>
<td>• Start SK and PRE TEST</td>
</tr>
<tr>
<td></td>
<td>• Lesson 1 (Fidelity check, IOA)</td>
</tr>
<tr>
<td>Week of Sept 25-29</td>
<td>Condition 2</td>
</tr>
<tr>
<td></td>
<td>• Lesson 2</td>
</tr>
<tr>
<td>Week of Oct 2-6</td>
<td>Condition 2</td>
</tr>
<tr>
<td></td>
<td>• Lesson 3</td>
</tr>
<tr>
<td></td>
<td>Teachers give notecards to students day before Pretest and write their real names and code names. Hand cards over to consultant.</td>
</tr>
<tr>
<td></td>
<td>Condition 1</td>
</tr>
<tr>
<td></td>
<td>• Start SK and PRE TEST</td>
</tr>
<tr>
<td></td>
<td>• Lesson 1 (Fidelity check, IOA)</td>
</tr>
<tr>
<td></td>
<td>• Lesson 2</td>
</tr>
<tr>
<td>Week of Oct 9-13</td>
<td>Condition 2</td>
</tr>
<tr>
<td></td>
<td>• Lesson 4 (Fidelity check)</td>
</tr>
<tr>
<td></td>
<td>Condition 1</td>
</tr>
<tr>
<td></td>
<td>• Lesson 3</td>
</tr>
<tr>
<td></td>
<td>• Lesson 4 (Fidelity check)</td>
</tr>
<tr>
<td>Week of Oct 16-20</td>
<td>Condition 2</td>
</tr>
<tr>
<td></td>
<td>• Lesson 5</td>
</tr>
<tr>
<td></td>
<td>Condition 1</td>
</tr>
<tr>
<td></td>
<td>• Lesson 5</td>
</tr>
<tr>
<td></td>
<td>• Lesson 6</td>
</tr>
</tbody>
</table>
| Week of Oct 23-27 | Condition 2  
|                  |   • Lesson 6  
|                  | Condition 1  
|                  |   • Lesson 7  
|                  |   • Lesson 8 (Fidelity check, IOA)  |
| Week of Oct 31-Nov 3 | Condition 2  
|                  |   • Lesson 7  
|                  | Condition 1  
|                  |   • Lesson 9  
|                  |   • Lesson 10  |
| Week of Nov 6-10 | Condition 2  
|                  |   • Lesson 8 (Fidelity check, IOA)  
|                  | Condition 1  
|                  |   • Lesson 11  
|                  |   • Lesson 12  |
| Week of Nov 13-17 | Condition 2  
|                  |   • Lesson 9  
|                  | Condition 1  
|                  |   • Posttest and Class Pizza Party  |
| Week of Nov 20-24 | Condition 2  
|                  |   • Lesson 10  |
| Week of Nov 27-Dec 1 | Condition 2  
|                  |   • Lesson 11  |
| Week of Dec 4-8 | Condition 2  
|                  |   • Lesson 12  |
| Week of Dec 11-15 | Condition 2  
|                  |   • Posttest and Class Pizza Party  
|                  | Condition 1 and 2  
|                  |   • Schedule Interviews with Teachers  |

Fidelity Checks (Lessons 1, 4, 8):

Condition 1
- Week of Oct 2-6 (Lesson 1)
- Week of Oct 9-13 (Lesson 4)
- Week of Oct 23-27 (Lesson 8)

Condition 2
- Week of Sept 18-22 (Lesson 1)
- Week of Oct 9-13 (Lesson 4)
- Week of Nov 6-10 (Lesson 8)

Interobserver Agreement (IOA - Lessons 1, 8)
APPENDIX L:

TEACHER CONSENT LETTER
August 30, 2006

Dear Teacher:

Your school has agreed to participate in a research study on a resiliency curriculum conducted by Oanh Tran, a doctoral student in the School Psychology Program at the University of Oregon, supervised by Ken Merrell, Ph.D., Director of the School Psychology Program. Resiliency is the capacity to bounce back when presented with life-stressors, and a child’s possession of resiliency characteristics is related to positive life-outcomes.

The study will investigate treatment outcomes when Strong Kids is implemented under two different conditions (6 weeks versus 12 weeks). Outcomes will be based on how students respond to a school-based curriculum that teaches skills such as problem-solving, positive-thinking, goal-setting, and anger-management. We would like to assess tempo or pacing of the Strong Kids for optimal treatment outcomes. That is, students in Treatment Group 1 will receive two lessons per week for six weeks (Massed Condition), whereas students in Treatment Group 2 will receive one lesson per week for 12 weeks (Distributed Condition). The study will also qualitatively investigate teachers’ perceptions and experiences in participation of this study to better enhance the utility of Strong Kids. You were selected as a possible participant in this study because the principal of your school suggested that you would be willing to learn more about this type of curriculum and be a part of this study.

If you decide to participate1, I will be conducting a 2 ½ hour in-service teacher training. The training will involve instruction regarding the curriculum and the age and grade specific requirements for its presentation. Instructional competency of the curriculum will be determined by your readiness to implement the curriculum. At this time, we will determine which condition your classroom will be assigned to and the class-time scheduled to deliver the curriculum. Consent forms will be provided to parents to gain permission for their students to participate in an in-school research study.

The impact of the curriculum will be 45-50 minutes a week for 6 or 12 weeks. At the discretion of the principal or other decision maker, the curriculum will be presented in lieu of a related class/subject. For the purposes of the research, you will be asked to assess students at the beginning of the curriculum and at the end of the six week or twelve week course. The assessment will consist of four easy questionnaires that the students fill out themselves. The questionnaires ask simple questions about their feelings about themselves, their relationships, and their abilities and would take approximately 30-40 minutes to complete. The scores from these questionnaires will be used to

1 School and district decision-makers are welcome to view the curriculum materials prior to making a decision to participate. For a general overview of the scope and nature of the curriculum log on to http://orp.uoregon.edu
determine the curriculum’s impact on students’ knowledge of resilience, and on their resilience skills. The four assessments include: *Strong Kids Symptoms Test*, *Strong Kids Knowledge Questionnaire*, *BarOn Emotional Quotient Inventory: Youth Version (BarOn EQ-i: YV)*, and *Strong Kids Satisfaction Survey*. If you are not already familiar with these measures, you will be provided with training to assist in administering these measures. These will be used as a validation tool to determine how closely aligned the *Strong Kids* curriculum are to tools currently being used for the same purposes. As part of this study you will also be observed by a university researcher during instruction time of the lessons. Finally, you will be asked some interview questions at the end of the program relating to your experiences implementing the *Strong Kids*.

The questionnaires that you will be asked to administer to students and the observation during your lessons and the interview are of minimal psychological risk. Responding to questions regarding feelings could possibly be unpleasant or mildly upsetting to students. The university investigator will monitor this procedure and will respond as appropriately. The presence of an observer in the classroom and responding to general program implementation could possibly be unpleasant. The university researcher is trained to monitor these situations closely and respond as appropriate.

To maintain the anonymity of participants, any written information that is obtained in connection with this study will be securely coded and only demographic information, such as gender, years of teaching, and subject area taught will be attached to the codes. Participation of districts, schools, teachers, and students is voluntary. Your decision whether or not to participate will not affect your relationship with the University of Oregon, the Department of School Psychology, your school, or the school district. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without penalty.

If you have any questions, please feel free to contact Oanh Tran at (541) 346-2680 or Dr. Ken Merrell at (541) 346-2414. If you have questions regarding your rights as a research participant, contact the Office of Human Subjects Compliance, University of Oregon, Eugene OR 97403, (541) 346-2510. You will be given a copy of this form to keep.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to participate, that you may withdraw your consent at any time and discontinue participation without penalty, that you will receive a copy of this form, and that you are not waiving any legal claims, rights or remedies.

________________________________________
Print Name and Title

________________________________________
School/Grade(s)

________________________________________
Signature and date
APPENDIX M:

PARENT CONSENT LETTER, ENGLISH VERSION
Parent Consent Form

August 30, 2006

Dear Parent/Legal Guardian,

Your child’s school has volunteered to participate in a research study piloting the Strong Kids program in the general education classroom. The Strong Kids was designed by the University of Oregon to build resiliency skills by teaching students how to handle typical stress and social situations in a positive manner. Resiliency skills are the skills that students use everyday to overcome minor problems in their environment. Since resiliency is the ability to bounce back, some of the skills covered in the resiliency program will be problem-solving, positive-thinking, goal-setting, and anger-management. This program will begin in approximately two weeks.

This study is being conducted by Oanh Tran, M.A., a doctoral student at the University of Oregon and supervised by Dr. Ken Merrell, the director of the School Psychology Program at the University of Oregon. Your child was selected as a possible volunteer because he/she will be receiving these lessons as part of the instruction in his/her classroom. His/her teacher has been trained to present these lessons. The lessons will be presented in approximately 50-minute sessions once a week for twelve weeks or twice a week for six weeks during a regularly scheduled class. It is anticipated that students will learn social and emotional strategies to foster resiliency and prevent social, emotional, and behavioral problems.

As part of this study, pre and post questionnaires will be conducted to check on the effectiveness of the resiliency lessons. Your child will be given four short questionnaires before the lessons are presented and then again the same four short questionnaires at the completion of Lesson 12. Participation is voluntary. The questionnaires will take approximately 35-45 minutes to complete. The questionnaires are easy to complete and will ask questions about their feelings about themselves, their relationships, and their abilities. There is no grade attached to your child’s performance on the pre and post questionnaires or for their performance throughout the twelve lessons. Information gathered in this project will not be shared with your school. **Your child’s name will not be associated with any of the information gathered.**

The questionnaires that your child will be asked to complete present minimal psychological risk. Responding to questions regarding feelings could possibly be unpleasant or mildly upsetting to students. Your child’s teacher is trained to monitor these situations closely and to anticipate concerns that may be unique to his or her students. The researcher will also be monitoring these procedures.

To respect your child’s privacy, any written information will be given a code and will not be attached to his or her name. All of the coded information will be kept at the
University of Oregon, and only general information like age, grade, gender, and ethnicity (if provided) will be attached to the code.

Your decision whether or not to participate will not affect your relationship with your child’s district, school, teacher, or with the University of Oregon. If you decide that your child will not participate in this study (Lessons and pre/post activities), a supervised and structured activity will be provided for your child. Because the Lessons and questionnaires will take 35-60 minutes to complete, the activity will most likely be a study session or library time. If you decide to participate, you may still withdraw your consent and discontinue your child’s participation at any time without penalty. At the completion of the Strong Kids program, your child’s classroom will receive a pizza party.

If you have any questions, please feel free to contact Oanh Tran at (916) 217-4426 or Dr. Ken Merrell at (541) 346-2414. If you have questions regarding your or your child’s rights as a research participant, contact the Office of Human Subjects Compliance, University of Oregon, Eugene OR 97403, (541) 346-2510. You will be given a copy of this form to keep.

By signing this letter and having your child return it to the classroom teacher indicates that you have read and understood the information provided above, that you willingly agree that your child may participate in the pre and post questionnaires, that you know that you may withdraw your consent at any time and discontinue participation without penalty, that you will receive a copy of this form, and that you are not waiving any legal claims, rights or remedies.

Sincerely,

Oanh Tran, M.A.
University of Oregon
School Psychology Doctoral Candidate

____________________________________________________________________________
Child’s Name and Grade

____________________________________________________________________________
School

____________________________________________________________________________
Parent/Guardian Print Name

____________________________________________________________________________
Parent/Guardian Signature and Date
APPENDIX N:

PARENT CONSENT LETTER, SPANISH VERSION
Parent Consent Form

August 30, 2006

Queridos Padres de Familia/Guardian Legal,

La escuela de su hijo/a ha decidido participar en un estudio piloto de investigación del programa *Chicos Fuertes* en el salón general de educación. El programa de *Chicos Fuertes* fue diseñado por la Universidad de Oregon para crear habilidades de resistencia social y emocional. Estas habilidades se crean, enseñándole a los estudiantes como manejar estreses típicos y situaciones sociales de una manera positiva. Habilidades de resistencia emocional y social son las habilidades que los estudiantes usan todos los días para sobrepasar problemas pequeños en su medio ambiente. Ya que la resistencia social y emocional es la habilidad de rebasar los problemas, algunas de las habilidades que serán cubiertas en este programa serán: resolviendo problemas, pensando positivamente, estableciendo metas, y controlando el enojo. Este programa empezará en aproximadamente dos semanas.

Este estudio esta siendo conducido por Oanh Tran, M.A., una estudiante de doctorado de la Universidad de Oregon, quien esta siendo supervisada por el doctor Ken Merrell, director del programa de Psicología escolar de la Universidad de Oregon. Su hijo/a ha sido escogido como un posible voluntario porque el/ella recibirá estas lecciones como parte de la instrucción de su salón. Su maestra/o esta siendo entrenada/o para poder enseñar estas lecciones. Las lecciones serán presentadas en sesiones de 50 minutos una vez por semana por doce semanas o dos veces por semana por seis semanas durante una clase/horario regularmente designada. Anticipamos que los estudiantes aprenderán estrategias de resistencia social y emocional y que les ayudarán a prevenir problemas sociales, emocionales y de conducta.

Como parte de este estudio, los estudiantes llenarán unos cuestionarios antes y después del programa para chequear la efectividad de las lecciones del programa. Su hijo/a recibirá cuatro cuestionarios cortos antes de las lecciones y los mismos cuatro cuestionarios al terminar las 12 lecciones. Participación es voluntaria. Los cuestionarios toman aproximadamente 35-45 minutos. Los cuestionarios son fáciles de completar y preguntarán cosas acerca de sus sentimientos, relaciones y habilidades. El rendimiento de su hijo/a en estos cuestionarios o en las lecciones de este programa no será calificado. La información colectada en este proyecto no será compartida con la escuela de su hijo/a. **El nombre de su hijo/a no será asociado con ninguna de la información coleccionada.**

**Los cuestionarios que su hijo/a recibirá representan un riesgo psicológico mínimo. Respondiendo a algunas de las preguntas relacionadas con los sentimientos pudiera ocasionar sentimientos incómodos y hasta molestar ligeramente a los estudiantes. El maestro de su hijo/a ha sido entrenado/a para monitorear estas situaciones y**
anticipar problemas que puedan ser únicos para sus estudiantes. El investigador también estará monitoreando estos procesos.

Para respetar la privacidad de su hijo/a, toda la información escrita recibirá un código que no será acompañado al nombre de su hijo/a. Toda la información con los códigos será mantenida en la Universidad de Oregon y solo información general como edad, grado, sexo, y grupo étnico (si dado) acompañará al código.

Su decisión de participar o no, no afectará su relación con el distrito, la escuela, el maestro/a, o la Universidad de Oregon. Si usted decide que su hijo/a no participe en los cuestionarios, una actividad estructurada y supervisada será proveída para su hijo/a. Ya que los cuestionarios tomarán 35-45 minutos para ser completados, la actividad será una sesión de estudio o tiempo en la biblioteca. Si usted decide participar, usted todavía podrá remover su permiso y descontinuar la participación de su hijo/a a cualquier hora sin ninguna penalidad. Al terminar el programa de Chicos Fuertes, el salón de su hijo recibirá una fiesta de pizza.

Si usted tiene alguna pregunta, por favor sientase libre de contactar Oanh Tran al (916) 217-4426 o a Dr. Ken Merrell al (541) 346-2414. Si usted tiene preguntas acerca de sus derechos o los derechos de su hijo/a como participantes de investigaciones, contacte a la oficina de Human Subjects Compliance, University of Oregon, Eugene OR 97403, (541) 346-2510. Usted recibirá una copia de esta forma para su archivo.

El firmar esta carta y hacer que su hijo/a la regrese a la maestra de su salón indica que usted a leído y entendido la información proveída, que esta dispuesta/o a permitir que su hijo/a participe en los cuestionarios, que usted puede remover su permiso y descontinuar su participación sin ninguna penalidad, que usted recibirá una copia de esta forma, y que usted no esta sus derechos.

Sinceramente,

Oanh Tran, M.A.
Universidad de Oregon
Candidate de Doctorado
Programa de Psicología Escolar

<table>
<thead>
<tr>
<th>Nombre de su hijo/a y grado</th>
<th>Escuela</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nombre del Padre de Familia/ Guardian</td>
<td>Firma del Padre de Camila/ Guardian y Fecha</td>
</tr>
</tbody>
</table>
APPENDIX O:

STUDENT ASSENT LETTER
Student Assent Form

Dear Student:

I am a student at the University of Oregon. I am interested in helping kids like you to stay strong even when upsetting or difficult things happen in your life. I have done a lot of work to find out what helps students to stay strong when things go wrong and have figured out some of the best things that help. Your teacher, ____, has read our materials and agrees that these are some good things to help kids to stay strong, and s/he would like to help me to find out the best way to teach these things to students in your grade.

For the next (twelve or six weeks), ____ is going to teach the lessons (once a week/twice a week) about some of the important things that we are interested in, like the best thing to do when you feel angry or sad. Before ____ starts to teach these lessons, s/he is going to give you four questionnaires to find out how much you already know about what makes you feel strong. Then, at the very end of the (six/twelve weeks), s/he’ll give you four more easy questionnaires that take about 10 – 15 minutes each and find out what you have learned. Filling out these questionnaires should help us to understand how well the lessons help you learn skills to deal with life’s problems and stay strong.

We don’t think that the questions you are asked to answer will bother you, but some of the questions ask you about your feelings and what you would do in possible life situations, such as what to do if you are angry or stressed. ____ has been trained to make sure that even these examples about things going wrong don’t bring up any bad feelings for you, and ____ will help you to remember that the situations are not real. We can help you with any bad feelings or problems that may come up after filling out these questionnaires.

Your parents have already told us that it is alright if you participate in the lessons and questionnaires. You will not receive any money for filling out the questionnaires, but we would still like you to complete them. You do not have to fill out the questionnaires and if you decide not to, you will not get into any trouble. If you decide that you will fill them out, just sign your name on the line below.

Even if you sign, if you change your mind later on, just let the teacher or your parent know that you don’t want to complete the questionnaires, and you won’t get in any trouble for changing your mind. Remember, that completing these questionnaires will happen during the school day, not before school or after school, and the scores you get on them are not counted on your report cards. In fact, all of the work that you do in this class will be kept confidential so that no one knows whose work it is. We will use a code name instead of your name and the code name will only tell us if you are a girl or a boy, and what grade you are in, what age you are, and maybe what race you are (if you decide to say so).
If you are thinking about signing but still don’t feel sure what this is asking about, ask your parents about it, or ask if you can log onto http://orp.uoregon.edu on the internet to learn more, or you can call me, Oanh Tran, at my office at the University of Oregon: (541) 346-2680 or Professor Ken Merrell at (541) 346-2414. You will get a copy of this letter to keep and take home.

Sincerely,

Oanh Tran, M.A.

I, ______________________________, have decided to take part in this project.

Signature
BIBLIOGRAPHY


