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*Brigham Young University*

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Social-Emotional Learning in High School: A Mixed-Methods  
Evaluation of the *Strong Teens* Program

Oscar Olaya

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Educational Specialist

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## ABSTRACT

### Social-Emotional Learning in High School: A Mixed-Methods Evaluation of the *Strong Teens* Program

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*Strong Teens* is a curriculum designed to help students develop the social-emotional skills needed to manage challenges and become successful socially and academically (Carrizales-Engelmann et al., 2016). *Strong Teens* has shown promise among adolescents, but this was the first study to evaluate the newly updated version of the intervention in a high school setting. The curriculum was implemented by a special education teacher with students at-risk for emotional and behavioral disorders. A mixed method design was used to evaluate outcomes with 16 ninth grade students. Overall findings suggest that *Strong Teens* was effective at improving students' social emotional knowledge over a 3-month period. However, there was a worsening of students' internalizing symptoms and teacher-student relationships. The teacher implemented the curriculum with low to moderate fidelity. Students were mostly neutral in their view of *Strong Teens*, while the teacher held a more favorable view. Future studies should include a larger sample size, offer training to educators on the implementation of *Strong Teens*, and consider using a more effective collection method to ensure students' anonymity.

Keywords: social and emotional learning, high school, internalizing symptoms, teacher-student relationships, *Strong Teens*

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Finally, I dedicate my thesis to my dad, Antonio Olaya, who passed away several weeks before the completion of it. He was instrumental in raising me into the man I am and instilling in me dedication, determination, and integrity. I hope to continue to make him proud.

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## CHAPTER ONE

### Introduction

For many students, high school can be burdensome academically and socially. Students should expect increases in class sizes and workload when transitioning to high school. Grades are of more significance and have a greater impact on students' future outcomes. Social life becomes more complex as students navigate through peer acceptance, dating, and developing an identity. As a result, many adolescents perform poorly academically, putting them at risk of dropping out and inheriting many negative life outcomes (Dupéré et al., 2015). Adolescents with emotional and behavior disorders (EBD) are at greater risk of academic failure, school dropout, and delinquency (Kincaid & Sullivan, 2019; Wagner et al., 2005).

Being competent in social and emotional skills has been linked to academic success (Oberle et al., 2014). Social and emotional learning (SEL) is a tool used in various educational settings that promote improvement in social, emotional, and academic abilities. SEL can take the form of free-standing lessons, teaching practices which promote SEL, integration of SEL and academic curriculum, and organizational strategies that advance SEL as a school-wide initiative (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2019). While SEL programs are developed for the general student body, students with or at risk for EBD can benefit greatly from them, resulting in an increase in the emotional and behavioral competencies needed to succeed in academics and in their community.

*Strong Teens* is an SEL program that has found success in improving social-emotional knowledge, decreasing internalizing behaviors, and increasing social-emotional competence (Caldarella et al., 2019; Merrell et al., 2008). The purpose of this study was to assess the effectiveness of the *Strong Teens* curriculum in a high school setting among students at risk for



EBD. *Strong Teens* was administered in a classroom setting designated for targeted help for those who are at risk for EBD and are falling behind academically. This study addresses the following research questions:

1. Was the participating teacher able to implement *Strong Teens* with fidelity?
2. Does implementation of *Strong Teens* increase students' social and emotional knowledge?
3. Does implementation of *Strong Teens* lead to a decrease in students' internalizing symptoms?
4. Does implementation of *Strong Teens* improve the teacher-student relationship?
5. Do the participating teacher and students perceive *Strong Teens* as socially valid?

## CHAPTER TWO

### Literature Review

#### High School

The transition from middle school to high school is difficult for many adolescents. Ninth-graders experience class size increases, a greater academic workload, an increase in the number of teachers per day, diversity of peers and teachers, and greater emphasis on grades (Mizelle & Irvin, 2000). Environmental and social factors also contribute to adolescents experiencing as much, if not more stress than any other age group (Lin & Yusoff, 2013). The onset of puberty, resulting in rapid physical and emotional changes is another challenge that adolescents encounter (Young et al., 2011). This transitioning period, with all its side effects, can take a toll on the academic outcomes of adolescents (Martin & Steinbeck, 2017).

A particular facet of high school that impacts adolescents is peer pressure. Even though peer pressure is not new to students entering high school, there are greater consequences in these years due to the prevalence of drugs, promiscuity, and delinquent behaviors (Choukas-Bradley et al., 2014; Giancola, 2000). Inside the classroom, negative peer influence can lead to adolescent misbehavior, causing distractions to the teacher and other students, and ultimately a decrease in learning engagement (Collins et al., 2016; Shin & Ryan, 2017). Another component to peer influence is peer rejection, which leads students to feel socially isolated and to become academically discouraged (Wentzel, 1999). One study found that peer academic aspirations or lack thereof, was a factor that predicted high school graduation or dropout (West et al., 2019). Thus, we can see that the academic and social attitudes and behaviors of peers play an integral role in adolescents' educational outcomes (South et al., 2003)

The academic course load in high school can be challenging for adolescents. For many, a rigorous course load can cause students to burnout and fail in school (Allensworth & Easton, 2005). On average, ninth graders have a decline in GPA for all courses compared to their performance in eighth grade (Rosenkranz et al., 2014). Once students start to experience course failure and poor test performance, they can become caught in a cycle of continual academic decline (McKee & Caldarella, 2016). It is often difficult for such students to get back on track, eventually leading many to drop out of high school (Cohen & Smerdon, 2009), thus making ninth grade a crucial year (McCallumore & Sparapani, 2010).

It is important for adolescents to have a smooth transition into high school. A negative transition experience can adversely affect adolescents' academic and psychosocial prospects (Benner & Graham, 2009). Those who end up failing to graduate high school are more likely to get incarcerated, be unemployed, and be unhealthier than those who graduate (Bridgeland et al., 2006). Bridgeland and colleagues (2006) highlighted the effect that high school dropouts have on the community and nation, such as the high cost associated with incarceration, healthcare, and social services. A sobering perspective to consider is that the United States spends more than twice as much incarcerating a person than educating them (DeBaun et al., 2013).

### **Teacher-Student Relationships**

One of the key elements in a high school student's experience that affects academic outcomes is the Teacher-Student Relationship (TSR). Positive teacher-student relationships have been shown to be positively associated with student achievement and motivational outcomes (Gehlbach et al., 2012). When students perceive that their teachers notice them, and are invested in them, they experience positive academic and socioemotional growth (Yu et al., 2018). When teachers set high expectations, students perceive that teachers care about them and desire their

long-term academic and life success (Kiefer et al., 2014). Students who exhibit problem behaviors in their early years are more likely to see a reduction in those behaviors when their teachers provide frequent, consistent, and positive feedback (Hamre & Pianta, 2001). Roorda et al. (2011) found that students who perceive a more positive TSR have higher engagement levels in the classroom. Martin and Collie's (2019) study supported Roorda et al.'s finding regarding academic engagement increases due to positive TSRs, which was manifested by an increase in students' participation, enjoyment, and aspirations.

Low quality TSRs have been found to positively correlate with lower academic achievement and GPA (Hamre & Pianta, 2001; Roorda et al., 2011). Poor TSRs also correlate with students exhibiting an increase in depressive symptoms and the development of low self-esteem (Tennant et al., 2015). Students who receive more negative feedback from their teachers are less likely to engage in prosocial behaviors in the classroom (Wentzel, 2002). When adolescents perceive apathy and/or criticism from their teachers, they are more likely to cause discipline problems in the classroom (Murdock, 1999). Student dependency, or an overreliance on the teacher as a source of support, also has a strong positive correlation with students not being able to meet many of the academic and social demands of school (Birch & Ladd, 1997). Such overreliance puts a cap on students' learning potential (Mazenod et al., 2019).

An effective scale that will allow school personnel to precisely measure the TSR is essential before developing interventions for improving this relationship and students' development (Brinkworth et al., 2018). Over the years, many TSR scales have been used in studies, but there is no consensus regarding which is the most effective. The measurement used for the present study was the Hunter Gehlbach Teacher-Student Relationship Scale (Gehlbach et al., 2011). One of the distinguishing features of this scale is the inclusion of both the teachers'

and students' perspective of the TSR and the positive and negative aspects of this relationship. These components of the scale contribute to a more comprehensive view of the TSRs and can assist practitioners in where to intervene to improve this relationship (Gehlbach et al., 2011).

### **Emotional and Behavior Disorders**

Adjustment to high school can be particularly trying for those who are diagnosed with, or at risk for emotional and behavioral disorders (EBD). These disorders are manifested externally and internally, with the former exhibited by visible attributes such as aggression and disorderly conduct (Loeber et al., 2000), and the latter manifested by less visible traits such as anxiety or depression (Cosgrove et al., 2011). Students with EBD face various academic and social challenges including academic achievement deficits and higher dropout rates than those with other disabilities or no disabilities (Nelson et al., 2004). These students are more likely to face incarceration, struggle with post-schooling employment, and independent living challenges (Freeman et al., 2019).

Some of the social difficulties that students with EBD encounter include social withdrawal, rejection by peers, and challenges maintaining positive relationships with others (Anderson et al., 2018; Weeden et al., 2016). These social deficits may contribute to a sense of withdrawal from classmates and classwork, which can negatively affect their academic outcomes (Caprara et al., 2000). Not only do they suffer academically, but their behaviors often negatively affect the academic performance of those without EBD (Gottfried & Harven, 2015). Teachers can make a significant impact in helping students with EBD overcome social barriers by creating structured and positive learning environments (Sutherland, 2000; Sutherland & Oswald, 2005). These environments are embodied by teacher care and support of these students. When teachers do not provide safe environments and are inept in providing care and support to students with

EBD, these students are likely to have negative school experiences, including detention, suspension, and removal from the regular school setting (Zolkoski, 2019).

Teachers' efforts to create positive, highly effective classroom settings are often hampered by the behaviors of students with EBD. Classroom disruption and other inappropriate behaviors can interrupt the delivery of teacher instruction, affecting the learning experience for everyone in class (Joslyn et al., 2019). When disrupting and often harmful behaviors occur in the classroom, valuable time and resources from school-based mental health practitioners, teachers, and administrators are often directed to responding to these occurrences. These efforts by school personnel are more burdensome given educator shortages in schools and districts, leading teachers to experience emotional burnout and resulting in weakened relationships with students and decreases in teacher efficacy (Pas et al., 2010). Under such conditions, an unhealthy school climate can develop, making it more difficult for those with EBD to stay engaged and prosper academically (Young et al., 2011).

Some of the positive attributes found in academically successful students are engagement, motivation, and positive behaviors in the classroom (Barriga et al., 2002). These qualities are more challenging to maintain for students with EBD. Disengagement is prevalent for students with EBD, often due to a history of academic failure (Scott et al., 2014). Their externalizing and internalizing symptoms, which are often expressed in disruptive behavior, contribute to their lack of motivation in the learning environment (Cortez & Malian, 2013). Competence in social and emotional skills can alleviate many of the difficulties afflicting those with or at risk for EBD and their educators (McDaniel et al., 2017).

## **Social-Emotional Learning**

For many years, educators and researchers have sought to find an efficient way to help students become successful academically, socially, and emotionally (Butzer et al., 2016). In the 1980's schools started to implement prevention strategies to teach social, emotional, and cognitive skills to children and youth (Jenson, 2006). Since then, Social-emotional learning (SEL) has garnered much interest among educators, researchers, and child advocates, as schools nationwide have implemented these types of programs (Humphrey et al., 2013).

SEL is the process of developing social and emotional skills that are vital for success in various aspects of life (CASEL, 2019). It is how students can develop skills to manage their emotions, and in turn, succeed academically (Finn et al., 2019). In a structured curriculum, or within the existing educational curricula, students are taught emotional and social competencies that are essential for them to adapt to the unique societal challenges that await them (Buchanan et al., 2009). There is robust evidence that SEL is effective in not only improving students' social and emotional competency, but also their attitudes, behavior, and academic outcomes (Dobia et al., 2019).

SEL can be implemented as part of multi-tiered systems of support (MTSS). This three-tiered approach promotes a data-driven, problem solving model that identifies students in need of additional support, implement interventions, and monitor progress to guide decisions that best meet the needs of students (Eagle et al., 2015). In Tier 1, all students in the school would receive universal instructions, such as SEL, and evaluations would determine which students need additional support (Wexler, 2017). In Tier 2, students who were not responsive to tier 1 intervention, are targeted with supplemental instruction in a group setting. Tier 3 intervention

involves more intensive support in an individualized setting for those with significant challenges (Wexler, 2017).

### **Implementation of SEL**

For SEL programs to be successful in the educational setting, there needs to be effective implementation of the program by teachers and other school personnel. The fidelity of implementation of a program can help to explain why such a program was successful or not in meeting its objective (Dusenbury et al., 2003). Gottfredson and Gottfredson (2002) highlighted four factors that influence implementation of programs in a school setting:

1. **Organizational capacity-** this is illustrated by high staff morale, a history of successful intervention implementation, and optimism about a program's likelihood of succeeding in their school.
2. **Organizational support-** quality training, supervision, and administrative support strengthens implementation efforts.
3. **Program features-** manuals that are highly structured and easy to follow are beneficial in the implementation process.
4. **Integration to normal school operations-** the extent to which a program can be implemented by normal school staff in their regular school function (i.e., teaching).

When educators are coached adequately and have support from their administrators, they are better able to implement SEL in their classrooms (Kendziora & Yoder, 2016). Anyon et al. (2016) found that a stakeholder's belief system, particularly if it ran counter to the program intervention, affected implementation efforts. The social-emotional competence of teachers has also been cited as influential in implementation, due to the nature of their interaction with students in an instructional and interpersonal level (Martinsone & Damberg, 2017). Teachers



with high levels of stress and burnout inadvertently create a hostile classroom environment which is not conducive to optimal academic and social-emotional learning (Schonert-Reichl, 2017).

### **Strong Teens**

Merrell and his associates (2008) developed Strong Kids, a series of SEL programs along the K-12 spectrum, designed to promote social and emotional competence, decrease internalizing disorders, and enhance problem-solving skills. *Strong Teens* is the version designed for high school settings (Merrell et al., 2007). There are 12 lessons in the curriculum that cover key SEL components including, stress management, understanding thoughts and feelings, goal setting, and problem-solving techniques (Gueldner & Feuerborn, 2016). The lessons found in the *Strong Teens* manual are brief and semi-scripted, and adaptable to a wide range of students in various settings (Merrell et al., 2008). Even though *Strong Teens* is not an all-inclusive program in preventing bullying and antisocial behaviors, it may assist in addressing these social emotional difficulties (Carrizales-Engelmann et al., 2016). With the capability of being implemented in any tier of MTSS in schools, *Strong Teens* is a cost and time effective approach to helping adolescents manage the physical, academic, and social demands of being a high school student (Caldarella et al., 2019).

Seven studies have evaluated the impact that *Strong Teens* has on high school age students (see Table 1). In a pilot study conducted of 14 high school students, it was noted that students increased their knowledge of social emotional concepts, developed effective coping skills, and had a decrease in self-reported social emotional problems (Merrell et al., 2008). *Strong Teens* has proven to be adaptable to students who are culturally and linguistically diverse, while resulting in improved social emotional skills (Castro-Olivo, 2014). In Castro-Olivo's

(2014) study, 102 Latino English language learners (ELL) participated in a *Strong Teens* cultural adaptation called *Jovenes Fuertes*, resulting in favorable student social validity scores and an increase in student resilience.

**Table 1**

*Summary of Previous Strong Teens Research*

Year	Authors	Grades	Participants	Measures	Findings
2019	Caldarella et al.	9-12	N=28	Social Skills Improvement System-Student Scale, Social Skills Improvement System-Teacher Scale, Social-Emotional Assets and Reliance Scales-Adolescent, Social-Emotional Assets and Reliance Scales-Teacher, Treatment Fidelity Checklist, Social Validity Survey	There was a reduction in students' self-reported internalizing symptoms. Study reported positive social validity.
2017	Marvin et al.	9-12	N=36	<i>Strong Teens</i> Knowledge Test, Social Skills Improvement System-Student and Teacher Forms, Social Emotional Assets and Resilience Scale, Treatment Fidelity Checklist, Social Validity Survey	There was an improvement in the participants' resilience. and a decrease in their internal symptoms.
2014	Castro-Olivo	6-12	N=102	Behavior Emotional Rating Scale, <i>Strong Teens</i> Knowledge Test-Spanish Version, Social Validity: Student Report	Study found significant improvement in SEL knowledge and resilience. Students viewed <i>Strong Teens</i> Culturally responsive.
2012	Castro-Olivo & Merrell	9-12	N=40	Internalizing Symptoms Test, <i>Strong Teens</i> Knowledge Test. Societal Attitude Familial Environment for Children-	Students increased in SEL knowledge. There were favorable social validity and acceptability scores.

				Spanish Version, People in My Life Scale, Social Validity: Student Report, Social Validity: Teacher Report	
2012	Wedam	9-12	N=45	Social Emotional Assets and Resilience Scales	There were moderate improvements in the students' social emotional competence.
2008	Merrell et al.	9-12	N=14	Social Emotional Concepts and Coping Strategies Test, Emotional Problem Symptoms and Negative Affect	Students increased their knowledge of social emotional concepts. They reported a decrease in social emotional problems and developed effective coping skills.
2006	Isava	6-11	N=36	<i>Strong Teens</i> Content Test, <i>Strong Teens</i> Symptoms Test, Children's Depression Inventory, Youth Self-Report Form, School Social Behavior Scales, Home and Community Social Behavior Scales	Students increased SEL knowledge, social competence and reduction in self-reported internalizing symptoms.

Another study evaluated the effectiveness of *Strong Teens* in an adolescent girls' residential center found improvement in the participant's resilience, and a decrease in their internal symptoms, supporting the program's generalizability (Marvin et al., 2017). The findings of decreased internalizing symptoms among the participants was significant because these symptoms had persisted for several years prior to the study. Previously, Isava (2006) conducted a study in a residential treatment center using a treatment and control group. The treatment group, those who participated in the *Strong Teens* curriculum, demonstrated a greater increase in social emotional competence than those in the control group, and a general reduction in internalizing

symptoms. Generally, studies have reported high treatment fidelity and social validity scores, attesting to the program's feasibility to implement by teachers or mental health professionals, and the positive views that these implementers have of *Strong Teens*' objectives, procedures, and outcomes (Caldarella et al., 2019; Gueldner & Feuerborn, 2016).

The studies listed previously have evaluated the original version of the *Strong Teens* curriculum published in 2007. A new version, which was published in 2016, included revisions and updates in response to advancements in the field of SEL (Carrizales-Engelmann et al., 2016). The updated curriculum's most notable addition is a new mindfulness element incorporated to start and end each lesson in the manual, which consists of students to be present, and breathing exercises at the end of each lesson. This current study is the first to evaluate the new curriculum implemented in a high school setting.

## CHAPTER THREE

### Method

#### Setting

The school that served as the site for this study was a regular high school located in a suburban area in the Mountain West region of the United States. The total population of the school was approximately 2,300 students including Caucasian (69.3%), Latino (20.4%), Pacific Islander (5.4%), Asian (3.7%), and other multicultural groups (1.2%). Approximately 32% of the student population was considered economically disadvantaged.

#### Participants

##### *Student Participants*

This study consisted of 16 students (male  $n = 13$ , female  $n = 3$ ) in ninth grade identified as at-risk for EBD. The school identified students as at-risk based on classroom behavior problems, low academic grades, and school attendance problems. The participating students' demographic was Latino (63%), Caucasian (31%), and Pacific Islander (6%). None of the students were on individual education programs (IEP's) nor received any special education services. None of the students were English language learners.

Due to attrition (consistent absences of six of the students and two students were placed in an alternate school) final evaluation data were only available on eight students. Students were enrolled in a special class for at-risk students named the Fresh Start Program, which they attended on alternating days during the first period of the day. Therefore, there were two different classrooms that received the *Strong Teens* intervention. The primary emphasis of the Fresh Start Program was to ensure that the students did not fall far behind in their schoolwork.

Most of the class time was dedicated to the teacher instructing students on Math, English, and other subjects, and assisting with homework.

### ***Teacher Participant***

The class was taught by a 43-year-old male teacher of Polynesian descent, with 17 years of teaching experience, 15 years in a special education classroom. He had no prior experience with the *Strong Teens* curriculum. At the time of this study, this was the teacher's first year teaching in the high school. He had a Bachelor of Science in Sociology and a special education endorsement. He was also on the coaching staff of the high school football team.

### **Field Notes**

The researcher attended and annotated observations for 10 of the 12 lessons taught of the *Strong Teens* program implemented in this study's setting. These field notes consisted of comments made by students, pertinent interactions between the teacher and students, and activities that were implemented during the lesson. The start and end time of each lesson were also recorded as part of the field notes.

### **Dependent Measures**

#### ***Strong Teens Knowledge Test***

The *Strong Teens* knowledge test measures competency in SEL knowledge. There are 20 items in the test which cover concepts covered in the *Strong Teens* curriculum. The items consist of true/false and multiple-choice questions. One multiple-choice item includes: "Which of the following is a helpful way to deal with a problem when you are feeling stressed?" A true/false item includes, "Emotions feel the same for everyone." Total scores range from 0 to 20, with higher scores indicating greater social-emotional knowledge. There is no psychometric information available on the *Strong Teens* knowledge test.

### ***Social Skills Improvement System (SSIS) Internalizing Scale***

The SSIS Internalizing Scale is a multi-rater instrument that measures students' internalizing symptoms (Gresham & Elliot, 2007). The teacher form of the SSIS internalizing subscale includes seven items. Teachers are asked to rate a student on a four point Likert scale (never, seldom, often, and almost always) assessing whether students exhibit behaviors such as "Acts lonely," "Acts anxious with others," and "Acts sad or depressed." The student form is composed of 10 items. Students are asked to rate themselves on a four point Likert scale (not true, a little true, a lot true, and very true) on 10 items such as "I'm afraid of a lot of things," "I can't sleep well at night," and "I feel lonely." Scores range from 0 to 21 on the teacher form, with scores of 0 to 7 in the *average* range and scores of 8 or higher in the *above average* range. Scores range from 0 to 30 on the student form, with scores of 0 to 1 in the *below average* range, 2 to 14 in the *average* range, and scores of 15 or higher in the *above average* range. Reliability evidence for the student and teacher forms is reported in the SSIS test manual (Gresham & Elliott, 2007). The internalizing subscale on the student form (13-18) had an internal consistency coefficient of .88 and test-retest reliability of .67. The internalizing subscale on the teacher form had an internal consistency coefficient of .90 and test-retest reliability of .82.

### ***Hunter Gehlbach Teacher Student Relationship Scale (TSRS)***

The Hunter Gehlbach TSRS measures the perspective that the students and teacher have on their relationship with each other (Gehlbach et al., 2011). The teacher and student version of the scale are parallel, and both consist of 14 items each rated on a five-point Likert scale. Nine items of the scale measure the positive aspects of the TSR, while five items measure the negative aspect of the TSR. Scores on the TSRS range 0 to 36 on the positive items and 0 to 20 on the negative items. Sample positivity scale items from the student version consist of questions such

as: “How friendly is (teacher’s name) towards you?” and “How often does (teacher’s name) say something encouraging toward you? Corresponding items are found in the teacher version: “How friendly is (student’s name) towards you?” and “How often do you say something encouraging to (student’s name)?” The negativity scale for the student version includes questions such as “How unfair is (teacher’s name) to you during class?” The parallel to that item in the teacher version reads as “How unfair are you to (student’s name) during class?” There are no national norms available on the TSRS.

As reported by Brinkworth et al. (2018), the internal consistency for the positivity and negativity subscales for the teacher version of the TSRS were .90 and .78, respectively. For the student version, the internal consistency was .92 for the positivity subscale and .78 for the negativity subscale. As for the test-retest reliability, the teacher version of the TSRS had a reported correlation score of .61 for the positivity subscale and .60 for the negativity subscale. The student version had reported a test-retest correlation score of .55 for the positivity subscale and .57 for the negativity subscale.

### ***Social Validity Questionnaire, Interviews, and Survey***

To assess the students’ and teachers’ perceptions of the *Strong Teens* curriculum, social validity was collected via quantitative questionnaires, one-on-one open-ended interviews, and qualitative surveys (for students). The social validity questionnaires were completed at the end of the *Strong Teens* intervention by the participating teacher and students. The questionnaires were adapted from Kramer et al. (2014) and included 27 items for the teacher version and 25 items for the student version. Both versions used a 5-point Likert scale response that ranged from *strongly disagree* to *strongly agree*. The teacher’s version included questions such as: “The materials provided (manual, pictures, handouts) were sufficient to teach the curriculum,” and “The



teaching procedure for the program was consistent with my regular teaching procedures.” The student version contained items such as: “I found that *Strong Teens* was easy to learn,” and “The *Strong Teens* curriculum was appropriate for my needs.” The social validity questionnaire for both the teacher and student version included five open-ended questions which evaluated what changes or improvements to the *Strong Teens* program the teacher and students would recommend. The questions asked to students in the individual interviews were:

1. What do you think about the *Strong Teens* lessons?
2. Do you think the *Strong Teens* lessons are helping you in any way? If so, how?
3. Is there anything in the lessons you think should be changed?
4. Is there anything else you would like to tell me about *Strong Teens*?

The students also responded to the following five open-ended survey questions:

1. Overall, what is your impression of the *Strong Teens* curriculum?
2. Tell me about the skills taught in the *Strong Teens* Program.
3. From your perspective, how and when would kids use these skills? Give me some examples.
4. Of the skills taught in the *Strong Teens* which, if any, proved helpful?
5. How could we make this a better program for teenagers?

### **Independent Variable**

The independent variable in the current study was implementation of Merrell’s *Strong Teens* Curriculum for Grades 9-12, Second Edition (Carrizales-Engelmann et al., 2016). The teacher covered all 12 lessons (with a goal to teach one lesson each week) in the curriculum which consisted of SEL topics such as understanding your emotions, dealing with anger, clear

thinking, and positive living (see Table 2). The lessons are semi-scripted with various modes of instructions, including teacher directed instruction, worksheets, role-play, and group discussion.

**Table 2**

*Strong Teens Lesson Overview*

Lesson #	Lesson Topic	Lesson Overview
1	About <i>Strong Teens</i> : Emotional Strength Training	A general overview of the curriculum is presented. Key social-emotional terms are defined.
2-3	Understanding Your Emotions	Emotions are defined and the physical feelings associated with those emotions are identified.
4	Understanding Other People's Emotions	Recognizing the emotions of others and developing tolerance towards them.
5	Dealing with Anger	Anger is understood to be a normal emotion that has a purpose in helping people understand and adapt to the world.
6-7	Clear Thinking	Thought patterns are recognized and techniques are taught to reframe negative thoughts.
8	Solving People Problem	A guideline to resolving conflicts is presented.
9	Letting Go of Stress	Stress is examined and strategies to deal with it are proposed.
10	Positive Living	Healthy habits and activities are promoted. Balance and personal control are taught.
11	Creating Strong and SMART Goals	Students are taught how to set and achieve goals that are specific, measurable, attainable, relevant, and timely.
12	Finishing Up	Key terms and concepts are reviewed and information for emotional social resources are given.

To assess whether *Strong Teens* was implemented with fidelity, a researcher observed 83% of the lessons, or 10 out of 12 lessons. Two lessons were taught without observations as the researcher awaited approval from the institutional review board. The observer completed fidelity

checklists provided in the *Strong Teens* curriculum, which contains the major sections covered in each lesson. The sections include review of previous lesson, introduction, focusing activity, key terms, activities, and closure. The observer assessed whether the components listed in the checklist were either not implemented, partially implemented, or fully implemented.

### **Procedures**

The study began in mid-September and ended in Mid-December. Prior to commencing the study, institutional review board (IRB) approval was obtained from the sponsoring university and the participating school district (see IRB approval letter in Appendix A). Teacher consent was obtained, while student assent was not required for this study (see Appendix B). Every other week, researchers met with the teacher implementing *Strong Teens* and the vice principal of the school to discuss the progress of the intervention. Updates as to how the students were receiving *Strong Teens*, and what had been working or ineffective in the lessons were addressed during these meetings. The teacher opted to not receive any training on the implementation of the *Strong Teens* lessons due to time constraints on his schedule. However, he studied the curriculum and customized lessons to fit the students' needs. Customization of the lessons took the form of showing videos, using analogies to relate to students' experiences, and varying the duration of lessons to ensure that the students' Math and English assignments were completed. These customizations were within the design of this research study which focused on evaluating the school's natural implementation of *Strong Teens*.

Prior to the implementation of *Strong Teens*, several measures were administered to students which included: The *Strong Teens* knowledge test, the SSIS-Internalizing Scale - Student version, and the Hunter Gehlbach TSRS Scale - Student version. The teacher completed the SSIS Internalizing Scale - Teacher version, and the Hunter Gehlbach TSRS scale - Teacher

version. These measures along with a qualitative survey and interview were also administered post-intervention. All measures were administered via pencil and paper. A school counselor not associated with the study conducted individual interviews with each participating student in a private room. The interviews were recorded, and the responses were entered into a spreadsheet. For the open-ended survey questions, the teacher separately instructed each student to answer the questions listed on a sheet of paper.

The *Strong Teens* lessons were taught every day between the two classrooms. For instance, for the first week of the program, class A received the lessons on Monday, Wednesday, and Friday, while the class B received them on Tuesday and Thursday. On the following week, class A received the lessons on Tuesday and Thursday, while class B received the lessons on Mondays, Wednesday, and Friday. This pattern continued for the entirety of the study which lasted for 3 months. The teacher had access to a hard copy and an electronic copy of the *Strong Teens* curriculum. The teacher often provided printed copies of worksheets and handouts from the curriculum to the students. A researcher commenced observing the teacher and completing a fidelity checklist on the third lesson and every lesson thereafter. These fidelity observations subsequently occurred 2-3 times a week. The class period was typically 85 minutes, in which approximately 25 minutes were dedicated to the *Strong Teens* lessons, while the rest of the time was spent on Math, Reading, and other subjects. The teacher was able to cover one total lesson over two class periods, which amounted to an average of 50 minutes per lesson.

### **Design and Data Analysis**

A mixed-method evaluation design, implementing a concurrent triangulation, approach was used for this study. Quantitative data, by way of rating scales and tests, were collected along

with qualitative data, in the form of surveys and interviews. This strategy is useful when attempting to validate quantitative data with qualitative methods (Gelo et al.,2008).

The pretests' and posttests' quantitative data were compared and analyzed using a paired-samples *t*-test. Due to the small sample size, outcomes from the SSIS, TSRS, and the *Strong Teens* Knowledge test were also analyzed using Cohen's *d* to evaluate the effect size of the compared means. Treatment fidelity and the social validity questionnaire were analyzed quantitatively using descriptive statistics.

The responses to the open-ended questions of the social validity questionnaire-teacher and student versions, interviews, and student surveys were analyzed qualitatively. Interpretational analysis was used to code the response data for recurring themes and patterns. A school counselor conducted the student interviews and responses were transcribed, loaded into a spreadsheet, and organized into common themes. After evaluating the students' perception of the *Strong Teens* program, researchers decided to have the students complete a follow-up survey to extract concrete data on how the *Strong Teens* program affected the students. Two researchers conducted an interview with the *Strong Teens* teacher. This triangulation method attempted to give the study greater insight into the relationship among variables.

## CHAPTER FOUR

### Results

#### Field Notes Summary

The teacher found ways to get the students involved in the lessons. In the first lesson observed by the researcher (lesson 3 of *Strong Teens*), a student read the mindfulness script from a printed copy of the *Strong Teens* curriculum. The students were engaged and not noticeably distracted during this time. This technique took place at the beginning of the lesson. However, the teacher did not incorporate this approach again for the rest of the lessons in the program. Even though a student reading the mindfulness script was not required in the curriculum, nor did it affect fidelity, it nonetheless appeared to be an effective way for students to be engaged and focused. In other lessons, students took turns reading the scenarios included in the activities provided in the *Strong Teens* curriculum.

The teacher often adapted the *Strong Teens* lesson activities and content to fit the needs of the students. In one instance, the teacher related anger to what the students in the classroom were experiencing in other classes. Further, when the teacher taught about the concept of trigger and anger, a student asked, “what if it is hard to walk away from a situation?” The teacher responded by asking: “Have you tried (to walk away)?” The student said “yes.” The teacher continued, “Take a moment to step back. Think of the consequences.” The student asked, “What if they try to hit you?” The teacher responded by saying, “Try the steps we talked about.” The following week, the student who asked the question was involved in a physical altercation with another student on school property. Prior to the researcher coming into class to observe for that period, the teacher and students were talking about the “fight” while the student involved was present. As the teacher commenced teaching the lesson for that day, the teacher attempted to

relate the fight that had occurred to thinking traps, a cognitive distortion reviewed in *Strong Teens*. The student involved in the altercation asked that the teacher not bring up the fight.

The teacher also related several analogies to the concepts taught in the *Strong Teens* curriculum. As a running back coach for the school's football team, the teacher shared some coaching experiences as it related to letting go of stress and problem-solving techniques, two of the main components taught in the *Strong Teens* curriculum. In another comparison, the teacher used the example of golf to illustrate how golfers get out of trouble after a bad shot. At the end of another lesson, the teacher played a video clip of the Oprah Winfrey show that had an acclaimed doctor demonstrating how stress affects the body. About half of the students said they had never heard of Oprah Winfrey. More notably, the students were mostly disengaged during the video.

The students often in the class struggled to be engaged during the lessons. For a significant amount of the mindfulness portion of the lessons, typically two or three students participated by putting their head on the desk, some students would be on their phones, while others whispered to each other. Those who were most disengaged typically sat furthest away from the teacher. The seating arrangements were mostly in a circle, with a few exceptions when the students sat in small rows. On one occasion, about 10 minutes into a lesson, the teacher observed that his students were on their phones, disengaged, and involved in side conversations. He abruptly addressed the class: "Show some respect! You guys are off task. We're going to cut our lesson short because of how you are acting today. We'll continue Thursday. What do you think about what I just said or what happened today? We started this class early because you didn't want to work on math today." Some students mentioned that they were tired. The teacher continued: "We talked about the purpose of this class. We're here to help you. Your actions in and out of class affect your status in this class." The teacher ended his *Strong Teens* instruction

for the day immediately afterwards and had the students work on their schoolwork. The researcher observed another instance when the teacher discontinued a lesson early when his students were misbehaving. In those instances of early termination of a lesson, the teacher restarted the lesson where he left off the next time the class met.

Students participated in class discussions on components covered in *Strong Teens*. Some examples included when the teacher asked what aspirations the students had when they were younger. Responses included: “I wanted to be a soccer player; I don’t remember what I wanted to be when I was in fifth grade; I didn’t like school.” For a lesson discussing the principle of clear thinking, the students were asked to go on the board to write things they do to reduce their stress. Some of the things written included the following: cleaning, playing video games, playing sports, listening to music. When discussing the topic of triggers, the teacher asked a female student, if someone called you the “B” word, what would be your reaction? The student laughed. The teacher followed the question by teaching techniques suggested in the *Strong Teens* manual such as, breathing when upset, finding someone to talk to, self-talk, and finding humor.

### **Treatment Fidelity**

In addressing the first research question, fidelity of implementation was calculated by adding all the number of components for each lesson and dividing that number by the total number of components observed being implemented fully, partially, or not. All three results were multiplied by 100 respectively to get the percentage amount. Results from the fidelity checklist reveals that 52% of the lesson components were implemented fully, 18% were partially implemented, and 30% were not implemented. These results are indicative of low to moderate treatment fidelity. Components that were often omitted included: lesson review, introduction, and lesson conclusion.



Student attendance data also indicated problems with fidelity. Student attendance varied between 30 % and 90 % across *Strong Teens* lessons, averaging 71.9 % across the study.

Students who missed lessons did not participate in any make-up sessions.

### Effects on Social-Emotional Knowledge

The second research question addressed in this study examined the effect that participation in the *Strong Teens* program had on students' social and emotional knowledge. As shown in Table 3, pretest scores registered a mean of 15.63. The posttest mean score was 16.88 producing an overall effect size of .79. These results are an indication of moderate improvement in students' social and emotional knowledge.

**Table 3**

*Student and Teacher Means Standard Deviations and Effect Size Across Time and Measure*

Measure	N	Pre-Mean	SD	Post Mean	SD	Cohen's <i>d</i>
STKT	8	15.63	1.67	16.88	1.46	0.79
SSIS-I Student	7	4.17	3.43	4.50	3.62	0.09
SSIS-I Teacher	7	7.67	2.81	12.00	3.69	-1.32
TSRS (+) Student	6	32.43	3.21	30.14	3.81	-0.65
TSRS (-) Student	6	2.14	3.13	1.71	1.60	-0.17
TSRS (+) Teacher	6	25.67	2.34	26.00	3.23	0.11
TSRS (-) Teacher	6	2.17	0.98	4.00	1.67	-1.33

*Note.* SSIS-I = Social Skills Improvement System Internalizing Scale; STKT = *Strong Teens* Knowledge Test; TSRS (+) = Teacher Student Relationship Scale Positivity Scale; TSRS (-) = Teacher Student Relationship Scale Negativity Scale

### Effects on Internalizing Behaviors

The third research question explored how *Strong Teens* affects the internalizing behaviors of students. As shown in Table 3, prior to implementation of the program, the mean score produced by students' self-report of internalizing symptoms was in the *average* range of 4.17. The posttest mean score on the same scale was reported at 4.5. The effect size for students' self-rating on the SSIS internalizing scale was .09, which statistically represents no change. At pretest, the teacher report on the SSIS internalizing scale yielded a mean score of 7.67, which was very close to the *above average* range. The posttest mean score for the same measure was 12.00, or the *above average* range. The effect size was calculated as -1.32, indicating a worsening of internalizing symptoms according to the teacher report of the SSIS-Internalizing scale.

### Effects on Teacher-Student Relationship

The fourth research question assessed how the implementation of *Strong Teens* influenced the TSR. As shown in Table 3, an analysis of the teacher version of the TSRS administered at pretest revealed mean scores of 25.67 for the positivity subscale, and 2.17 for the negativity subscale. The posttest results on the positivity and negativity subscales in the teacher version of the TSRS yielded a mean score of 26.00 and 4.00, respectively. While the overall effect size for the positivity subscale was trivial, the negative subscale exhibited a significant worsening in the TSR according to the teacher's perspective ( $d = -1.33$ ). Data from the student version of the TSRS at pretest rendered mean scores of 32.43 for the positivity subscale and 2.14 for the negativity subscale. Posttest mean scores were posted at 30.14 and 1.71 for the positivity and negativity subscales, respectively. From the students' perception there was a moderate

worsening in the positivity subscale ( $d = -.65$ ), and a slight improvement in the negative subscale ( $d = -.17$ ) for the TSRS.

### **Social Validity**

The fifth research question assessed whether the participating teacher and students perceived *Strong Teens* as socially valid. Results are summarized below for the social validity questionnaires, one-on-one open-ended interviews, and qualitative surveys (for students).

### **Questionnaires**

In the quantitative component of the teacher and student questionnaires, mean scores were summarized from participant responses. The teacher responses yielded a mean score of 3.70 and the student responses produced a mean score of 3.26. The teacher had a *moderately favorable* view of *Strong Teens* (see Table 4). Results indicated that the students held a *neutral* to *slightly favorable* view of the *Strong Teens* program (see Table 5).

Tables 4 and 5 lists the questionnaire items broken down into three categories: program goals, program procedures, and program outcomes. As for the teacher's responses, he did not disagree with any item, and either felt neutral or agreed with most of the items, with the exception of strongly agreeing to: "It is important that social and emotional knowledge and skills be taught in a school setting." The teacher rated the program goals items most favorably, with no neutral responses. Most of the procedure items were rated as neutral by the teacher. The teacher's program outcomes responses revealed more positive ratings. The teacher's responses to the open-ended questions of the questionnaire indicated that lack of engagement from students and trying to customize lessons to fit their needs was a problem during implementation of *Strong Teens*. When asked what changes the teacher observed in the students, he responded: "Mainly the awareness of thinking traps."

**Table 4***Strong Teens Social Validity Questionnaire – Teacher Responses*

Items	Disagree	Neutral	Agree
<b><i>Program Goals</i></b>			
Students' social and emotional concerns are great enough to warrant use of a curriculum such as <i>Strong Teens</i> .	0%	100%	0%
A student's level of social and emotional competence is important to their academic success.	0%	100%	0%
It is important that social and emotional knowledge and skills are taught in a school setting.	0%	0%	100%
I feel that I have the necessary skills/training to help students with social and emotional difficulties.	0%	100%	0%
I am confident in my ability to implement <i>Strong Teens</i> .	0%	100%	0%
It is feasible for a regular education teacher to teach social and emotional knowledge and skills.	0%	100%	0%
<b>Total Average</b>	<b>0%</b>	<b>83.3%</b>	<b>16.7%</b>
<b><i>Program Procedures</i></b>			
The materials provided (manual, pictures, handouts) were sufficient to teach the curriculum.	0%	0%	100%
The materials needed for <i>Strong Teens</i> were easy to access.	0%	0%	100%
I found that <i>Strong Teens</i> was easy to teach.	0%	100%	0%
The teaching procedure of the program was consistent with my regular teaching procedures.	0%	100%	0%
It was reasonable to teach the curriculum as it was designed.	0%	100%	0%
I was able to reinforce the skills taught in the <i>Strong Teens</i> lessons during other classroom activities.	0%	100%	0%
The time taken to deliver the weekly lessons was acceptable.	0%	0%	100%

The length of the lessons was appropriate for my students.	0%	0%	100%
I felt that the curriculum manual alone provided sufficient training to teach the lessons.	0%	0%	100%
The preparation time required to teach the lessons was acceptable.	0%	0%	100%
<b>Total Average</b>	<b>0%</b>	<b>40%</b>	<b>60%</b>
<b><i>Program Outcomes</i></b>			
I was satisfied with the social and emotional skills demonstrated by my students during the course of the curriculum.	0%	100%	0%
<i>Strong Teens</i> was a good way to help prevent students' social and emotional problems	0%	100%	0%
I feel my students learned important skills from <i>Strong Teens</i> .	0%	100%	0%
I enjoyed teaching <i>Strong Teens</i> .	0%	100%	0%
Most teachers would find <i>Strong Teens</i> suitable For improving social and emotional competence.	0%	100%	0%
I would recommend the use of <i>Strong Teens</i> to other teachers.	0%	0%	100%
Students demonstrated a transfer of knowledge and skills from the lessons to other school situations.	0%	0%	100%
I feel my students use the skills learned from <i>Strong Teens</i> .	0%	0%	100%
My students liked <i>Strong Teens</i>	0%	100%	0%
I would like to implement <i>Strong Teens</i> again.	0%	100%	0%
Students were interested in or excited for the lessons and showed active participation in them.	0%	100%	0%
<b>Total Average</b>	<b>0%</b>	<b>72.7%</b>	<b>27.3%</b>

The students' perceptions of the program goals were somewhat positive, with over 48% of students agreeing with them. The most favorable item was "My social and emotional abilities are important to how well I do in school." Regarding program procedures, nearly 58% of the students agreed with how the curriculum was presented to them. As for the program outcomes, only 30.6% of the students had a positive view. The most favorable items pointed to students' satisfaction with skills acquired through *Strong Teens* and their confidence that they could apply those skills in other school settings. Both the teacher and students recognized the importance of social and emotional learning and the impact it can have on a student's education. Table 5 displays a breakdown of student responses to specific items.

**Table 5**

*Strong Teens Social Validity Questionnaire – Student Responses*

Items	Disagree	Neutral	Agree
<b><i>Program Goals</i></b>			
My social and emotional learning is important enough to warrant use of a program such as <i>Strong Teens</i> .	11.1%	44.4%	44.4%
My social and emotional abilities are important to how well I do in school.	0%	22.2%	77.7%
It is important that social and emotional knowledge and skills be taught in a school setting.	0%	77.7%	22.2%
<b>Total Average</b>	<b>3.8%</b>	<b>48.1%</b>	<b>48.1%</b>
<b><i>Program Procedures</i></b>			
The time taken to participate in the weekly <i>Strong Teens</i> lesson was acceptable	11.1%	33.3%	55.5%
The length of lessons was appropriate for high school students.	22.2%	22.2%	55.5%

The materials that I used for <i>Strong Teens</i> were easy to understand.	11.1%	33.3%	55.5%
The homework time required by each lesson was acceptable.	0%	44.4%	55.5%
I found that <i>Strong Teens</i> was easy to learn.	0%	33.3%	66.6%
<b>Total Average</b>	<b>8.9%</b>	<b>33.3%</b>	<b>57.8%</b>

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### ***Program Outcomes***

I feel good when I use the skills taught in the <i>Strong Teens</i> lessons during other school activities.	0%	77.7%	22.2%
I could use my knowledge and skills gained from the lessons in other school situations.	0%	33.3%	66.6%
I am satisfied with the social and emotional knowledge and skills that I am demonstrating.	11.1%	22.2%	66.6%
<i>Strong Teens</i> was a good way to help me prevent social and emotional problems.	11.1%	55.5%	33.3%
I feel I learned important skills from <i>Strong Teens</i> .	11.1%	33.3%	55.5%
I use the skills that I learned from <i>Strong Teens</i> .	11.1%	66.6%	22.2%
I liked <i>Strong Teens</i> .	22.2%	44.4%	33.3%
I was interested and excited in the lessons, and showed active participation in them.	11.1%	66.6%	22.2%
Most students would find <i>Strong Teens</i> helpful for improving social and emotional learning competence.	11.1%	77.7%	11.1%
I would recommend the use of <i>Strong Teens</i> to other students.	22.2%	66.6%	11.1%
I would like to participate in <i>Strong Teens</i> again.	33.3%	55.5%	11.1%
My peers in the group enjoyed participating in <i>Strong Teens</i> .	33.3%	55.5%	11.1%
<b>Total Average</b>	<b>14.8%</b>	<b>54.6%</b>	<b>30.6%</b>

Several themes were evident on the student version of the open-ended questionnaire items. Students were mostly neutral in their remarks about *Strong Teens*. Positive responses pointed to the program being helpful. On the other hand, students who had negative responses did not find it beneficial, and one thought the lessons were “obvious stuff” that teenagers should already know. For specifics on how the program helped students, responses included: “Helped with stress; Think about stuff differently and positively; Relaxation was helpful; Helped me for the future.”

### ***Student Survey***

In addressing the students’ overall impressions of the *Strong Teens* program, most survey responses were neutral. One student wrote: “I think it is something important to do.” Another positive remark from a student was: “It’s helpful for teens with anxiety and depression, etc.” On the other hand, one student responded: “It kind of took time away from doing schoolwork.” Further, another student stated: “Didn’t like it! It was like obvious stuff we learned.” Students listed several SEL skills that stood out to them, namely anger management, dealing with stress, and overcoming thinking traps. As far as when the skills taught in *Strong Teens* could be used, one student responded: “If they get mad, they can back away from the situation and think before they act.” Several students stated that these skills could be used at home and at school to overcome difficult situations.

In evaluating if any of the SEL skills proved helpful, one student responded: “When I would get nervous, I would breathe in and out and then I would stop being nervous.” Another student said: “When I am doubting myself, I use the mental trap method to get out of it.” “It helped me with sadness and how to handle it by myself,” responded another student. Dealing with stress and other negative emotions were common themes. Recommendations for improving



*Strong Teens* yielded suggestions to include activities and make the learning more hands-on. A couple of students suggested that the program would benefit from shorter lessons.

### ***Teacher Interview***

Apart from asking the teacher about his background, researchers asked what his perception of the *Strong Teens* program was. The teacher acknowledged that since his class' population was more at-risk, he felt that he needed to customize the lessons to fit the students' needs. The teacher stated that the dynamics of both classes were quite different which may have contributed to it being challenging to teach the lessons consistently. Additionally, he mentioned that the students in his class did not talk much, therefore discussion during the lessons were lacking. In response to how he has seen *Strong Teens* benefit the students, the teacher stated: "Some students' verbalizing skills are improving. One student is really blossoming right now and improving." The teacher stated that he plans on implementing *Strong Teens* in the upcoming semester and having a student lead some of the lessons. This was suggestive of positive social validity.

### ***Student Interviews***

The interview question addressing students' overall impression of *Strong Teens* yielded responses such as: "They're helpful; Ways to handle real problems such as stress and anger; It's helped a few of my friends and it's helped me a few times; I liked them, but I'm not the type of person that likes talking about feelings. I didn't like the feeling part." A couple of students did not find the lessons useful, while the rest of the students offered neutral or favorable comments. When asked if the *Strong Teens* program was helpful, student made the following sample comments: "Helped me with stress and relaxing exercise was helpful; I think about things differently and positively; Goal setting for other class; Helped to reduce stress; Helped me for

the future and helped me to de-stress.” There were not many responses for the last two interview questions. For the third question about changing anything in the lesson, one student remarked: “If we did physical activities.” For the last question asking students if they had any additional insight, a student stated: “It’s alright. I don’t like learning, but the lessons still help.” A couple of students gave negative remarks across the board. One of these students had participated in the *Strong Teens* program the previous year at another school. They commented: “Not helping me. Last year was the same. I liked it the first time.”

## CHAPTER FIVE

### Discussion

The present study evaluated the effects that *Strong Teens* had on participating students and a teacher in a high school setting. Measures were conducted to assess how the implementation of *Strong Teens* affected students' social-emotional knowledge, the internalizing symptoms of students, and the TSR. Additionally, this study examines if the participating teacher taught the program with fidelity and if the teacher and students perceived *Strong Teens* as socially valid.

In addressing the first research question, results of the treatment fidelity checklist reveal that the participating teacher was able to fully implement 52% of the *Strong Teens* curriculum. An adequate treatment fidelity score that produces meaningful change in the participants is usually 60% to 80% (Durlak & Dupre, 2008). The higher the treatment fidelity percentage, the greater is the likelihood that a program produces desired outcomes (Sanetti & Kratochwill, 2009). This study's treatment fidelity was inferior to other studies that implemented *Strong Teens*. For instance, Caldarella et al. (2019) found that instructors were able to fully implement 87% of the *Strong Teens* lesson components in a high school. A study conducted at a residential treatment center reported treatment fidelity at 61.95% for fully implemented lesson components of *Strong Teens* (Marvin et al., 2017). These studies also resulted in a reduction in students' internalizing symptoms, which was not the case in this current study, possibly because teachers in the prior studies were mental health professionals (i.e., counselors).

The *Strong Teens* manual suggests that the lessons take 60-80 minutes to implement (Carrizales-Engelmann et al., 2016). The participating teacher in this study was able to devote an average of 50 minutes a lesson, which was on par with other studies. However, unlike other

studies that have implemented *Strong Teens*, the teacher in this study broke up each lesson over two days rather than teaching 50 minutes in one block as has been done in other studies (Marvin et al., 2017; Caldarella et al., 2019). This might have negatively impacted treatment fidelity. Another factor to consider when assessing the treatment fidelity results is the colliding priorities between *Strong Teens* and academic outcomes. The students were placed in the Fresh Start program due to their academic and behavioral challenges, and the period was designated as a time to get caught up on their assignments. Inconsistent start and end times to the *Strong Teens* lessons, along with omissions of lesson components, gives the impression that academic outcomes were prioritized over *Strong Teens*, resulting in treatment fidelity and social validity problems. Consequently, the low to moderate treatment fidelity results in this study may explain why the implementation of *Strong Teens* did not fully meet the program's desired outcomes (Dusenbury et al., 2003).

The second research question evaluated the impact that *Strong Teens* implementation had on students' social and emotional knowledge. Pretest and posttest results indicate a moderate improvement in students' social and emotional knowledge. These results are consistent with other studies conducted on *Strong Teens* (Castro-Olivo, 2014; Merrell et al., 2008; Isava, 2006). These results are promising as social and emotional knowledge has been found to be a predictor of academic achievement and social competence (Izard et al., 2001; Leerkes et al., 2008).

Regarding the impact that *Strong Teens* had on internalizing symptoms, the finding on this study's third research question shows the teacher perceived a significant worsening in students' internalizing symptoms. According to the students' self-reports, they experienced no change in their internalizing symptoms. The discrepancy between the teacher and student report on internalizing symptoms is not uncommon, however, it is usually the students who report

higher levels of internalizing symptoms than teachers (Pederson et al., 2019; van der Ende et al., 2012). It should be noted that the students' self-reports of their internalizing behavior at pre-intervention was low (mean=4.17; SSIS possible score range= 0-30). In Gueldner and Merrell's (2011) study, there was no change in students' internalizing symptoms. They cited the low base rate in students' self-reports of internalizing symptoms as a challenge in recognizing change in internalizing symptoms. Another factor to consider was that the SSIS was administered via paper and pencil, which likely resulted in students not feeling their answers were completely anonymous. Research suggests that a greater perception of anonymity correlates with higher self-report accuracy (Bates & Cox, 2008). As for the worsening in the teacher's perception of the students' internalizing symptoms, it can be argued that *Strong Teens* had a negative impact on that measure. However, previous researchers have found that teachers have difficulties in assessing student's internalizing symptoms (Caldarella et al., 2019; Neth et al., 2020).

The fourth research question examined how *Strong Teens* affected the TSR. The teacher's and students' overall impressions of the TSR worsened. In the positivity items, the teacher perceived the TSR as slightly improving, while the students perceived it as moderately worsening. As for the negativity item, the teacher perceived the TSR as significantly worsening, while the students perceived it as slightly improving. These results contradict the findings of another study that implemented *Strong Start*, a Pre-K version of Merrell's Strong Kids program (Gunter et al., 2012). Gunter and colleagues (2012) found that the SEL program implemented in their study improved the TSR. The students in this study entered the ninth grade with a history of behavioral problems. Research has shown that students who enter school with behavioral problems tend to experience greater conflict and less closeness with their teachers (Jerome et al., 2009). The worsening of the TSR in this study may have contributed to the overall worsening of

the students' internalizing symptoms as has been noted by others (Tennant et al., 2015). Further, students with or at risk for EBD benefit from a structured and positive learning environment (Sutherland, 2000). As shown in the current study, unstructured lesson start and end times and instances of disconnect between teacher and students may have led to the increase in students' internalizing symptoms and worsening of the TSR.

The final research question addressed the social validity of the program. This study's findings indicate that the teacher perceived *Strong Teens* moderately favorable. The teacher acknowledges the importance of teaching SEL in a classroom setting. A key indicator of the teacher's satisfaction with *Strong Teens* is his intention of implementing *Strong Teens* in the following semester. The students' perception of the *Strong Teens* program was not as favorable as the teacher's, nevertheless, it was statistically slightly favorable. Some students reported positive outcomes in their lives due to their participation in the *Strong Teens* program. The low to moderate treatment fidelity score may have contributed to this study's comparatively lower social validity outcomes. One study found that high treatment fidelity of an SEL initiative can strengthen social validity (Miramontes et al., 2011).

### **Limitations and Future Directions**

Recognition of the limitations of this study gives a greater understanding of the findings previously mentioned. One limitation is that the sample size for this study was small ( $n=16$ ). Further, student attendance issues, high student attrition, and data collection problems all contributed to the attrition of this study, making data available for only eight students. Future research should conduct a study on *Strong Teens* with a larger sample size to increase the significance of the findings data.

Another limitation of this study was the administration of the scales, specifically the SSIS was administered via paper and pencil. Additionally, the teacher handed each student a scale and then collected the scales as the students handed it back to him. This technique may have decreased the students' sense of anonymity, therefore affecting how they rated themselves on internalizing symptoms. As mentioned earlier, the participating students reported low internalizing scores on the SSIS. Future research should consider administering measures via an online software, such as Qualtrics, as done in some past *Strong Kids* studies (Neth et al., 2020) in order for students to feel more anonymous when rating themselves, likely leading to an increase in reporting accuracy.

Treatment fidelity was another area in which this study exhibited limitations. Many factors may have contributed to this study's treatment fidelity outcome. For one, as the teacher felt that it was necessary to customize the lessons to the students' needs, it may have resulted in lesson components being omitted. Also, the customization of the lessons may have been ineffective according to the field notes, which highlighted instances of students' disengagement when these efforts were implemented. Another factor may have been the teacher not receiving any training on the implementation of *Strong Teens* prior to or during the intervention. With a low to moderate treatment fidelity score, it is difficult to determine if *Strong Teens* positively or negatively affected the dependent variables in this study. Training educators on *Strong Teens* implementation could contribute to higher treatment fidelity, though past studies using early versions of the curriculum have not required significant training to implement with fidelity (Caldarella et al., 2019; Marvin et al., 2017), possibly indicating that the new version requires more training or expertise.

Another recommendation would be to have a separate school professional such as a school counselor, social worker, or school psychologist, teach *Strong Teens* to students who are at risk or diagnosed with EBD. Mental health professionals in schools are qualified to serve students with or at risk for EBD (Miller & Rainey, 2008). School counselors and social workers have been able to implement *Strong Teens* and Strong Kids curricula with high fidelity in past studies (Caldarella et al., 2019; Kramer et al., 2014). In this study, there were instances where there was a disconnect between the student and the teacher in the activities implemented and discussions that transpired. This disconnect was apparent in the worsening of the TSR. A strong TSR for students with or at risk for EBD has been shown to mediate SEL outcomes (Neth et al., 2020).

### **Conclusion**

There is growing evidence that implementation of SEL programs leads to improved prosocial behaviors and academic achievement. As students with or at risk for EBD enter high school, they are vulnerable to social and academic challenges. This study evaluated how an SEL curriculum called *Strong Teens* affected students' social and emotional knowledge, their internalizing symptoms, and the TSR. Treatment fidelity and the social validity of *Strong Teens* were also measured. This study found that students' social and emotional knowledge moderately improved, while their internalizing symptoms and the TSR worsened after *Strong Teens* implementation. Social validity was favorable, but not as favorable as in other *Strong Teens* studies. Treatment fidelity was low to moderate, which may have contributed to the other findings in this study. Future studies should consist of a larger sample size, ensure students' anonymity when administering scales, offer training to educators in order to improve treatment



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## APPENDIX A

**Institutional Review Board Approval**

**From:** [Human Subjects Committee](#)  
**To:** [Paul Caldarella](#)  
**Cc:** [Sandee Aina](#)  
**Subject:** E19286 PI: Paul Caldarella IRB Determination: APPROVAL  
**Date:** Wednesday, September 18, 2019 10:47:23 AM  
**Attachments:** [Caldarella E19286 Teacher Consent.pdf](#)

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INSTITUTIONAL REVIEW BOARD  
FOR HUMAN SUBJECTS

**Memorandum**

To: Professor Paul Caldarella  
 Department: CP&SE  
 College: EDUC  
 From: Sandee Aina, MPA, IRB Administrator  
       Bob Ridge, PhD, IRB Chair  
 Date: September 18, 2019  
 IRB#: E19286  
 Title: *"A Program Evaluation of the Strong Teens Social Emotional Learning Curriculum Implemented in High School"*

Brigham Young University's IRB has approved the research study referenced in the subject heading as exempt level. This category does not require an annual continuing review. Each year near the anniversary of the approval date, you will receive an email reminding you of your obligations as a researcher and to check on the status of the study. You will receive this email each year until you close the study.

The study is approved as of **September 18, 2019**. Please reference your assigned IRB identification number in any correspondence with the IRB.

Continued approval is conditional upon your compliance with the following requirements:

1. A copy of the informed consent statement is attached. No other consent statement should be used. Each research subject must be provided with a copy or a way to access the consent statement.
2. Any modifications to the approved protocol must be submitted, reviewed, and approved by the IRB before modifications are incorporated in the study.
3. All recruiting tools must be submitted and approved by the IRB prior to use.
4. In addition, serious adverse events must be reported to the IRB immediately, with a written report by the PI within 24 hours of the PI's becoming aware of the event. Serious adverse events are (1) death of a research participant; or (2) serious injury to a research participant.
5. All other non-serious unanticipated problems should be reported to the IRB within 2 weeks of the first awareness of the problem by the PI. Prompt reporting is important, as unanticipated problems often require some modification of study procedures, protocols, and/or informed consent processes. Such modifications require the review and approval of the IRB. Please refer to the [IRB website](#) for more information.



IRB Secretary  
A 285 ASB  
Brigham Young University  
(801)422-3606

**From:** Human Subjects Committee <[irb@byu.edu](mailto:irb@byu.edu)>  
**Sent:** Tuesday, October 1, 2019 12:03 PM  
**To:** Paul Caldarella <[paul\\_caldarella@byu.edu](mailto:paul_caldarella@byu.edu)>  
**Subject:** 19286 PI: Paul Caldarella IRB Determination: AMENDMENT APPROVAL



## INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECTS

### **Memorandum**

To: Professor Paul Caldarella  
Department: CP&SE  
College: EDUC  
From: Sandee Aina, MPA, IRB Administrator  
Bob Ridge, PhD, IRB Chair  
Date: October 1, 2019  
IRB#: 19286

Title: A Program Evaluation of the Strong Teens Social Emotional Learning Curriculum Implemented in High School

Brigham Young University's IRB has reviewed the amendment submitted on September 25, 2019. The IRB determined that the amendment does not increase risks to the research subject and the aims of the study remain as originally approved. The amendment has been approved. Oscar Olaya has been added as a research assistant and Abbie Devey has been removed.

All conditions for continued approval period remain in effect. Any modifications to the approved protocol must be submitted, reviewed and approved by the IRB before modifications are incorporated in the study.

IRB Secretary  
A 285 ASB  
Brigham Young University  
801-422-3606

## APPENDIX B

## Consent Forms

Page 1 of 1

## Request for Waiver or Modification of Consent

**1. Title of the Study:** A Program Evaluation of the Strong Teens Social Emotional Learning Curriculum Implemented in High School

**2. Principal Investigator:** Paul Caldarella Title of PI: Professor

Department: CPSE

Phone: 801-422-5081

Email: paul\_caldarella@byu.edu

Address: MCKB 149-D

**3. Explain why you need a waiver or alteration to conduct the research.**

We will be analyzing a de-identified student data set gathered by the participating school.

**4. Explain the research and privacy risks associated with the study and why they are minimal.**

The school is implementing a published social-emotional learning program, the effects of which we have agreed to evaluate. No identifiable student data will be shared with researchers.

**5. Describe measures you will take to ensure the waiver or alteration will not adversely affect the rights and welfare of the subjects.**

The school has adopted the Strong Teens program and will be informing parents and students that the program will be implemented and evaluated.

**6. Explain how you will, if applicable and appropriate, provide the subjects with additional pertinent information after they have participated in the study, or indicate "Not applicable".**

We will provide a written report to the school at the completion of the evaluation, which the school may choose to share with parents and/or students.

Type your name to endorse this request

Paul Caldarella

Date Sep 3, 2019

*Minimal risk* means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or test. 45 CFR 46.102(f)

The IRB will assess whether subjects' rights, such as the right to privacy or the right to choose whether to participate in research, would be violated if the consent were waived. The IRB will consider your safeguards, such as for minimizing the potential invasion of privacy, and will consider the potential benefits of participate.

In social science research involving deception, it is common practice to debrief the subjects at the conclusion of the study. In other studies, however, it would not be appropriate to provide additional information. For example, if the research proposed collection of sensitive information without identifiers, it would not be possible for the investigator to provide additional information since the identities of the subjects would be unknown.

Ver. 8/11

## Teacher Consent to Participate in *Strong Teens* Study

Dear Teacher,

### **Introduction**

This evaluation study is being conducted by Paul Caldarella, Ph.D at Brigham Young University, together with his graduate student Abbie Devey, BS. This study will evaluate the *Strong Teens* curriculum, a social and emotional learning program, which your school administration has adopted.

### **Procedures**

If you agree to participate you will be asked to allow for researchers to observe your teaching of the *Strong Teens* curriculum 1 to 2 times per week for approximately 30 minutes each time during one class period of your normal school day, over the course of 4 months. At the conclusion of the study, you will be asked to complete a qualitative satisfaction survey consisting of five open-ended questions.

### **Risks/Discomforts**

There are minimal risks to you for participating. You may possibly feel stress when being observed. Research personnel will make themselves available if you have any questions about the evaluation. All data will be kept confidential and only research personnel will have access to it. No identifiable information about research participants will be made public.

### **Benefits**

There are no direct benefits to you. The results of this study will help further evaluate the *Strong Teens* curriculum in high school settings and give new insight on using social and emotional learning with at-risk adolescent populations.

### **Confidentiality**

Any information you provide will be securely stored and only research personnel will have access to your data. A school summary report, void of individually identifiable data, will be shared with school administration at the conclusion of the study.

### **Compensation**

There is no compensation for your participation in this study.

### **Participation**

Your participation in this study is voluntary. You have the right to withdraw at any time. Refusal to participate or withdrawing from this study will not affect your employment or standing at your school in any way.

**Questions about the Research**

If you have any questions regarding this study, you may contact Paul Caldarella, Ph.D. at paul\_caldarella@byu.edu or calling (801) 422-5081 or Abbie Devey at abbie.devey@gmail.com or call (385) 445-2545.

**Questions about your Rights as Research Participants**

If you have any questions with regards to your rights as a participant, you may contact the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602; 801-422-1461 or irb@byu.edu.

I have read, understood, and received a copy of the above consent, and desire of my own free will, to participate in this study to evaluate the effectiveness of the *Strong Teens* curriculum.

Printed Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_