A Quasi-Experimental Study

on Social Emotional Learning and Primary Prevention

Dissertation Manuscript

Submitted to Northcentral University

School of Social and Behavioral Sciences

in Partial Fulfillment of the

Requirements for the Degree of

DOCTOR OF PHILOSOPHY

by

MELISSA SOLLOM

La Jolla, California

September 2020

ProQuest Number: 28148192

ProQuest.

Approval Page

A Quasi-Experimental Study on Social Emotional Learning and Primary Prevention

By

MELISSA SOLLOM

Approved by the Doctoral Committee:

Maria Rodriguez	PhD	10/10/2020 | 14:17:39 MST
Dissertation Chair: Maria Rodriguez	Degree Held	Date
Michelle Ackerman	PhD	10/11/2020 | 16:52:06 MST
Committee Member: Michelle Ackerman	Degree Held	Date
Antoinette Kohlman	PhD	10/11/2020 | 06:45:06 MST
Committee Member: Antoinette Kohlman	Degree Held	Date

Abstract

In order to foster a climate that encourages human strengths and resiliency, schools must promote and teach social emotional learning (SEL) skills. However, there is a lack of a primary prevention program that develops SEL skills within the schools. The purpose of this quasi-experimental study was to determine the efficacy of the Top 20 SEL program and how their SEL curriculum may lead to an increase in SEL. The secondary goal of this study was to explore how the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior may play a significant role in a child and adolescent's social emotional development. A total of 359 middle school students participated in the study. The experimental group consisted of 170 students and the control group consisted of 189 students. Two middle school teachers at the school helped embed and teach the Top 20 SEL curriculum and monthly SEL lessons to all students in the experimental group. The teachers completed the Devereux Student Strengths Assessment (DESSA) pre-test one month into the study and the DESSA post-test five months later. The independent-samples t-test reported a statistically significant difference in SEL change between the control and experimental group $t(169) = -10.002$, $p < 0.001$. The experimental group had significantly higher SEL change scores. The paired-samples t-test reported significantly higher SEL scores after the Top 20 SEL program compared to pre-test SEL scores $t(169) = -10.002$, $p < 0.001$. The Top 20 SEL program also demonstrated a moderate effect size of $d = 0.77$. These results demonstrate high efficacy of the Top 20 SEL program. The descriptive analysis revealed an increase in all eight social emotional competencies for the experimental group with a total SEL difference score of $M = 8.23$. Overall, the Top 20 SEL program has demonstrated how experience and practice in SEL skills are more likely to lead to an increase in SEL especially when such programs engage in vicarious learning. Future

II

research should explore these instructional strategies from Bandura's social learning theory, the

efficacy of the program, and potential long-term benefits of the Top 20 SEL program.

Acknowledgements

I would like to thank my dissertation committee, Dr. Maria Antonia Rodriguez, Dr. Michelle Ackerman, and Dr. Antoinette Kohlman for their support and encouragement. I would like to express the deepest appreciation to my committee chair, Dr. Maria Antonia Rodriguez. Her knowledge and commitment to learning is an inspiration to all who get the privilege to work with her. I would also like to thank the Top 20 team for including me on their journey. Your social emotional learning program empowers others and provides hope for future generations. Most importantly, I would like to express my deepest gratitude to my husband for his love and support. I am so lucky to have such a wonderful, caring, and considerate best friend. With you I am complete.

Dedication

This work is dedicated to my husband, Stephen Sollom, and in loving memory of my father, Bert Ell. This work is also dedicated to all children who have faced adversity and not been validated for their experiences. It is my hope that all children will someday have the opportunity to participate in a social emotional learning program that promotes human strengths and resiliency.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

Mental health problems such as anxiety and depression have been directly related to difficulties in the school (Khesht-Masjedi et al., 2019; Mazzone et al., 2007; Humensky et al., 2010; Seipp, 1991). These difficulties may include poor academic achievement (Khesht-Masjedi et al., 2019, Yousefi et al., 2010; Busari, 2012; Mazzone et al., 2007; Humensky et al., 2010; Seipp, 1991), a lack of motivation, low attendance, and difficulty concentrating (Khesht-Masjedi et al., 2019). A depressed mood may lead to symptoms of sadness, disappointment, despair, and hopelessness (American Psychiatric Association, 2013). If a student sees themselves as a failure, they may exhibit poor grades (Khesht-Masjedi et al., 2019; Busari, 2012), and drop out of school. In addition, students who display social-emotional concerns and problematic behaviors may be more likely to have disciplinary infractions and special education referrals (Elias & Haynes, 2008; Stoiber, 2011). Hence without the appropriate social, emotional, or behavioral skills, students may encounter these difficulties and become victims to several other problems at the school including bullying (Kann et al., 2018; Frey et al., 2009; Espelage et al., 2015; Nickerson et al., 2019), academic anxiety (Dobson, 2012), peer victimization (Craig et al., 2009; World Health Organization, 2012), and aggressive and exclusionary behaviors (Cook et al., 2010; Roberts et al., 2013).

Mental health and social emotional problems have become more prevalent among American youth (American Psychological Association [APA], 2019; Centers for Disease Control and Prevention [CDC], 2019). Mental health and social emotional problems have demonstrated a significant impact on a child and adolescent's health and well-being (APA, 2019; CDC, 2019) and interfered with their ability to cope. Without the ability to cope with life's challenges, many children and adolescents suffer from a variety of behavioral problems, and psychological

disorders. Specifically, 4.5 million children ages 3 to 17 have been diagnosed with a behavioral problem, approximately 4.4 million children have been diagnosed with anxiety, and an additional 1.9 million children have been diagnosed with depression (CDC, 2019).

Given children and adolescents in the United States spend approximately 30-35 hours of their time in school per week (Hofferth & Sandberg, 2001), schools can therefore serve as an excellent location for both prevention and well-being initiatives (Seligman et al., 2009; Pfeiffer & Reddy, 1998; American Academy of Pediatrics, 2004; Weist, 2005; Durlak et al., 2015; Gresham, 2018; White & Murray, 2015; Srinivasan, 2019). Although youth often receive support after they have been identified as having a problem, one must intervene before the problem develops (LaBelle, 2019). This objective identifies with the field known as prevention science. Prevention science helps identify potential risks and protective factors to help eliminate human dysfunction and prevent or moderate any negative impacts (Burns, 2011). Hence all students must be considered in receiving the primary prevention if one is to prevent psychological dysfunction and future problems from occurring. Major strides in prevention come from a perspective focused on building competency, not correcting weaknesses (Seligman & Csikszentmihalyi, 2000). This perspective or field of study is known as positive psychology.

Researchers in the field of positive psychology study the good life and the dimensions of subjective states (i.e., positive emotions and subjective well-being), positive traits (i.e., strengths and virtues), and how one can contribute to positive institutions and communities (Seligman & Csikszentmihalyi, 2000; Medlock, 2012). Positive education teaches traditional educational principles, resilience, and happiness for all school children (Seligman et al., 2009). Seligman et al. (2009) argues that positive education should teach skills that contribute to one's well-being and achievement. Therefore, positive psychology can be seen as an applied science that weaves

positive psychology into educational practice to help support the well-being of the student (Waters & Loton, 2019). With the integration of both positive psychology and positive education, schools could develop a climate that fosters human strengths and resiliency.

In order to foster a climate that encourages human strengths and resiliency, schools must promote and teach social emotional learning. Social emotional learning (SEL) can be defined as the ability to understand and manage one's emotions, develop strong positive relationships, and make thoughtful and responsible decisions (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2019a). According to CASEL (2019), SEL can be divided into five different social emotional competencies. These competencies consist of self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. The promotion of these competencies have provided behavioral health rehabilitation and special needs services to students who qualified for Tier 1, 2, or 3 interventions (Gresham, 2018). These interventions vary from generic to tailored depending on the needs of the student (Gresham, 2018). Although these services help treat problematic behaviors and performance deficits within the schools, they fail to recognize the need for a more primary approach to preventative services (LeBuffe et al., 2014). Hence a more primary approach to prevention is necessary if all students are to learn and apply the different SEL competencies and be successful in school. To accomplish this goal, and help measure these competencies, LeBuffe et al. (2014) created the Devereux Student Strengths Assessment (DESSA).

The DESSA was created after LeBuffe et al. (2014) explored CASEL's five social emotional competencies and conducted an exploratory factors analysis that did not reveal a multi-factor structure. With a factor accounting for well over 50 percent of the variance and several residual factors, LeBuffe et al. (2014) ruled out the exploratory factor analysis and

engaged in a more logical scale of developmental techniques. Items were assigned to corresponding scales based on their content and redefined using a variety of psychometric techniques including an alpha coefficient and corrected item-scale reliabilities (LeBuffe et al., 2014). After reviewing the research, LeBuffe et al. (2014) identified two of CASEL's SEL competencies to have several sub-parts. Based on the statistical analysis, the competency of responsible decision-making was divided into two sub-scales (i.e., personal responsibility and decision-making), and the competency of self-management was divided into the sub-scale of self-management and goal-directed behavior (LeBuffe et al., 2014).

Although CASEL's original framework did not include the competency of optimism, LeBuffe et al. (2014) thought it was necessary given the research on optimism and its connection to SEL. According to the research, optimism is a personality trait or explanatory style that a child uses to help them see a particular situation as good or bad (Seligman et al., 2007). To help improve one's exploratory style, children need to take realistic responsibility and choose a more positive behavior (Seligman et al., 2007). Optimism helps the individual make an honest appraisal, accept their limitations, and help them understand that the problem can be temporary and situational (Seligman et al., 2007; Goodmon et al., 2015). Optimism is associated with goal-directed behavior, self-regulation (Aspinwall, 2005; Peterson, 2000) and resiliency (Seligman et al., 2007; LeBuffe et al., 2014). Given these are all crucial components to the development of SEL, optimism was added to the DESSA as its own competency. With the additional research from LeBuffe et al. (2014) and Martin Seligman's optimism, the DESSA became a useful tool in measuring a more holistic understanding of SEL and the eight social emotional competencies of self-awareness, self-management, social

awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior.

Developing an SEL program that concentrates on these social emotional competencies can lead to several positive outcomes. These positive outcomes include: better attachments and attitudes, an increase in social attendance and motivation (Durlak et al., 2011), improvements to one's mental health (Panayiotou et al., 2019), and performance in the school (Diekstra, 2008; Durlak et al., 2011; Durlak et al., 2015; Wilson et al., 2006). Specifically, social responsibility goals and social emotional competencies have both been positively and significantly related to 4th grade and 7th grade reading scores, and 7th grade math scores (Oberle et al., 2014). Previous research has also found an increase in prosocial behavior (Schonert-Reichl et al., 2015; Durlak et al., 2011; Durlak et al., 2015), academic success (Sklad et al., 2012; Fleming et al., 2005; Wentzel, 1993; Durlak et al., 2011; DiPerna et al., 2005; Zins et al., 2004), social skills (Sklad et al., 2012), successful peer relationships (Dobia et al., 2019; Dodge & Price, 1994; Nowicki & Duke, 1994), critical thinking and problem-solving skills (Varela et al., 2013), a reduction in antisocial behavior (Sklad et al., 2012), violence, aggression (Beets et al., 2009; Botvin et al., 2006), and externalizing and internalizing problems (Boncu et al., 2017; Castillo et al., 2018; Nickerson et al., 2019; Espelage et al., 2015).

Statement of the Problem

The problem to be addressed by this study is the lack of primary prevention programs that develop SEL skills within the schools (see Greenberg et al., 2003; White & Murray, 2015; Eklund et al., 2018; LaBelle, 2019; Sklad et al., 2012). Without a primary prevention program that promotes SEL, several negative outcomes can occur such as: lower academic achievement and truancy (Durlak et al., 2015; Gresham, 2018), more disciplinary referrals (Elias & Haynes,

2008; Stoiber, 2011), dropout rates, and an increase in the mental health problems of anxiety and depression (CDC, 2019; Khesht-Masjedi et al., 2019; Yousefi et al., 2010; Durlak et al., 2015; Gresham, 2018). Although programs across the United States have identified health standards of social-emotional development, very few states have adopted a freestanding, comprehensive program with SEL standards (Eklund et al., 2018). Primary prevention programs that focus on positive psychology and positive education can reduce the likelihood of these problems and/or prevent such problems from occurring (White & Murray, 2015). In addition, such primary prevention programs may also help with the additional problems children and adolescents face today in the school including bullying (Kann et al., 2018; Frey et al., 2009; Espelage et al., 2015; Nickerson et al., 2019), academic anxiety (Dobson, 2012), peer victimization (Craig et al., 2009; World Health Organization, 2012), aggressive and exclusionary behaviors (Cook et al., 2010; Roberts et al., 2013), chronic disengagement (Durlak et al., 2011), a lack of concentration (Khesht-Masjedi et al., 2019; Yousefi, et al., 2010; Busari, 2012), and a disruption in academic performance (Benson, 2006; Durlak et al., 2011; Durlak et al., 2015; Gresham, 2018; Khesht-Masjedi et al., 2019; Yousefi, et al., 2010; Busari, 2012).

Given social-emotional learning can lead to lifelong productivity and success (Shonkoff, 2000; White & Murray, 2015) and the prevention of academic problems and future mental health problems within the school (see Durlak et al., 2011; Durlak et al., 2015; Gresham, 2018), more research needs to be done on what SEL programs are effective, and how a more strength-based primary preventive program can help promote social emotional learning in youth. Future research should investigate the benefits of an authentic SEL program and explore the significance of each social and emotional competency to see what competencies promote academic success and serve as protective factors for our youth.

Purpose of the Study

The purpose and primary goal of this quasi-experimental study was to determine the efficacy of the SEL program Top 20 and how their SEL curriculum may lead to an increase in social emotional learning. The secondary goal of this study was to explore how the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior may play a significant role in a child and adolescent's social emotional development. This study took place in a public middle school in the state of Minnesota from August 2019 to February 2020. The secondary data analysis consisted of 359 middle school students. Students were assigned to an experimental group or control group, a homeroom class, and sixth-grade homeroom teacher. Students were not be randomly assigned but put into an experimental group or control group based on their homeroom assignment. The experimental group consisted of 170 students and the control group consisted of 189 students. Two middle school teachers at the school helped embed and teach the Top 20 SEL curriculum and monthly SEL lessons to all students in the experimental group. Fifteen sixth-grade homeroom teachers received computer training on the eight SEL competencies and observed students in their homeroom class. The homeroom teachers completed the DESSA pre-test one month into the study and the DESSA post-test five months later. The DESSA was chosen so the researcher could determine how an authentic strength-based preventative approach could help increase SEL in the school and what competencies serve as protective factors.

To support the primary and secondary goals of this study and promote an authentic SEL program, a moderate effect size of 0.5 or higher was determined to be ideal for this study. Utilizing the G*Power program and assuming a 95% confidence interval, the results revealed a

minimum sample size of 88 students in both the experimental group and control group. Since there were 170 students in the experimental group and 189 students in the control group, a sample of 88 students was enough to determine if there was an effect size of 0.5 or higher. In this study, the SEL change is the mean difference SEL score of the post-test minus the pre-test. To determine if there was a statistically significant difference in SEL change between the control group and the experimental group (i.e., Top 20 program), this researcher conducted an independent-samples t-test. To determine if there was a statistically significant change in SEL scores before and after the Top 20 SEL program, this researcher conducted a paired-samples t-test. The paired-samples t-test compared the mean score of the experimental group before and after the treatment (i.e., the Top 20 program). A higher mean score in the experimental group after treatment, indicates an increase in the total SEL score.

The independent-samples t-test and paired-samples t-test determined the efficacy of the Top 20 program and if their curriculum led to an increase in the total SEL score. This researcher also looked at the means scores from all eight competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior) before and after the treatment. This helped the researcher know the average change and growth for all eight social emotional competencies. This additional research also addressed the gap in the literature regarding the eight social emotional competencies and a child and adolescent's social emotional development.

Theoretical Framework

This researcher explored the theoretical framework of social emotional learning. This framework can be broken down into several SEL competencies including self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making,

optimistic thinking, and goal-directed behavior (LeBuffe et al., 2014). Previous research has demonstrated how these social emotional competencies can lead to several positive outcomes among diverse populations (Durlak et al., 2011; Durlak et al., 2015; Panayiotou et al., 2019; Diekstra, 2008; Wilson et al., 2006; Oberle et al., 2014; Gresham, 2018; Beets et al., 2009; Boncu et al., 2017; Castillo et al., 2018; Nickerson et al., 2019; Espelage et al., 2014; Espelage, et al., 2015; LaBelle, 2019; Beets et al., 2009), and prevent or reduce a variety of problems from occurring in children and adolescents (Durlak et al., 2011; Durlak et al., 2015; Neil & Christensen, 2009; Flay & Allred, 2003; Diekstra, 2008; Conduct Problems Prevention Research Group, 2010; Kann et al., 2018; Frey et al., 2009; Espelage et al., 2015; Nickerson et al., 2019; Dobson, 2012; Craig et al., 2009; World Health Organization, 2012; Cook et al., 2010; Robers et al., 2013; Benson, 2006; Gresham, 2018). With a link between mental health problems, academic difficulties, (Khesht-Masjedi et al., 2019; Yousefi et al., 2010; Busari, 2012), and poor social, emotional, and behavioral skills in the school (Durlak et al., 2011; Durlak et al., 2015), the need for a strength-based preventative SEL program has increased. This researcher recognizes the fields of prevention science and positive psychology and the need to focus on a child's strengths instead of their deficits. Oftentimes, children and youth receive support at the school when a problem has been identified or disclosed and a psychologist is asked to act upon it (LaBelle, 2019). However, in order to make a significant impact, psychologists must intervene before a problem occurs (LaBelle, 2019). Hence, positive subjected experiences of well-being, contentment, satisfaction, hope, optimism, flow, and happiness (Seligman & Csikszentmihalyi, 2000) should not be ignored. Researchers should move away from the disease model of human dysfunction and pathology and concentrate on the protective factors that allow our youth to flourish.

Many school-based social, emotional, and behavioral programs are founded in the theoretical approaches of social learning theory (Bandura, 1977). Hence additional research on SEL will help contribute to the previous literature on social learning theory and provide the information necessary to determine what skills and methods help develop the different competencies of social emotional learning. Skill mastery comes with practice. As students learn social, emotional, and behavioral skills, it is important that they get the opportunity to apply these skills in actual situations (CASEL, 2013; Durlak et al., 2010; Durlak et al., 2011; LeBuffe, 2014; Srinivasan, 2019). Researchers must know what skills and methods help students apply and master SEL. Students are able to learn and grow when there is a strong theoretical base that has well defined goals, strong explicit guidelines, thorough training, quality control, and feedback with consistent staffing (Weare & Nind, 2011).

Nature of the Study

Adolescence can be a time for both opportunity and risk (Stalker et al., 2018). As adolescents explore their individuality as social beings, they can be more susceptible to a number of risky behaviors including substance abuse (McCarty et al., 2012), aggression (Stalker et al., 2018) and poor mental health problems (Thapar et al., 2012). This may in return lead to a greater amount of stress in adolescence, an increase in the likelihood of dropping out of school, and a decrease in academic performance. To better understand how SEL may impact this population and reduce the risk factors of poor mental health and academic problems within the school, this researcher explored the significance of the Top 20 program and the eight social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior.

A quasi-experimental design was used for this study. The quasi-experimental design helped this researcher explore the efficacy of the Top 20 SEL program. Students were assigned to an experimental group or control group. Those in the experimental group received the Top 20 SEL program. The Top 20 SEL program provided daily training on all eight social emotional competencies with a training course entitled "Middle School Success." This Top 20 SEL program and the Middle School Success class were embedded throughout the curriculum. All sixth-grade middle school students in the experimental group received monthly SEL lessons on the following topics: team-building, organization, gratitude, service to others, goals, and self-reflection. The experimental group received training for approximately five months.

This researcher used the Devereux Student Strengths Assessment (DESSA) System full version 75-item assessment (LeBuffe et al., 2014). The DESSA measures all eight social emotional competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior), and the total SEL score. This assessment has demonstrated evidence of several types of validity including content validity, construct validity, and criterion validity (LeBuffe et al., 2014). The DESSA has also demonstrated excellent internal reliability, test-retest reliability, and interrater reliability (LeBuffe et al., 2014). Fifteen sixth-grade homeroom teachers observed all sixth-grade students assigned to their homeroom class. These homeroom teachers were asked to assess each student in their class and complete the DESSA before the Top 20 SEL program was implemented and five months after the experimental group received the Top 20 SEL program and additional SEL lessons. The comparison between the experimental group and control group helped the researcher know if the Top 20 SEL program was significant or not and if the program increased the total SEL score. With the use of the DESSA System full version assessment, this

researcher also had the opportunity to explore each social emotional competency and how each competency influenced the total SEL score.

Research Questions

Previous research has studied a variety of SEL programs including the Life Skills Training program, All Stars, Lions Quest, MindUP, Second Step, and Ruler (see Durlak et al., 2015). However, little information has been provided on how each social emotional competency influences a program's total SEL score. Specifically, no study has explored all the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, goal-directed behavior, and their impact on the Top 20 SEL program and overall SEL score. To study the efficacy of the Top 20 SEL program and how each competency influences a child and adolescent's social emotional development, this researcher has addressed the following research questions and hypotheses:

Research Questions

RQ1. To what extent is there a statistically significant difference in SEL change between the control and experimental group?

RQ2. To what extent is there a statistically significant change in SEL scores before and after the Top 20 SEL program?

RQ3. What were the trends of growth for all eight SEL competencies?

Hypotheses

H1$_0$. There is no statistically significant difference in SEL change between the control and experimental group.

H1$_a$. There is a statistically significant difference in SEL change between the control and experimental group.

H2$_0$. There is no statistically significant change in SEL scores before and after the Top 20
SEL program.

H2$_a$. There is a statistically significant change in SEL scores before and after the Top 20
SEL program.

Significance of the Study

With stress on the rise in the younger generations (APA, 2019; CDC, 2019), and
adolescence being a vulnerable time for more risky behaviors (Stalker et al., 2018) and poor
mental health (Thapar et al., 2012), adolescents need to learn how to effectively cope with the
problems they face. SEL programs such as the Top 20 can provide several benefits for middle
school students. The Top 20 SEL program can help students understand the different social
emotional competencies, practice them, and apply them in a variety of situations. In return, this
training can help students identify their strengths, become resilient to adversity, overcome future
stressors, and be successful in school.

By studying the different social emotional competencies, teachers, administrators, and
staff will have a better understanding of the different competencies and how each competency
can impact the overall SEL score. The data gathered will also help the principal determine the
efficacy of the Top 20 SEL program and provide information on the best practices to implement
a school-wide SEL approach. In addition, teachers and personnel will be able to determine which
students are more at risk for potential future academic and behavioral problems. The
identification of "at-risk" students can also be a benefit to the students, given early intervention
can provide long-term positive outcomes (Gresham, 2018).

Definition of Key Terms

Optimism. A personality trait or explanatory style that helps one determine if a particular situation is good or bad (Seligman et al., 2007).

Positive education. Traditional educational principles, resilience, and happiness for all school children (Seligman et al., 2009).

Positive psychology. The good life and the dimensions of subjective states (i.e., positive emotions and subjective well-being), positive traits (i.e., strengths and virtues), and how one can contribute to positive institutions and communities (Seligman & Csikszentmihalyi, 2000; Medlock, 2012).

Prevention science. The field that identifies potential risks and protective factors to help eliminate human dysfunction and prevent or moderate any negative impacts (Burns, 2011).

Summary

The prevalence of mental health problems and stress among American youth has risen (APA, 2019; CDC, 2019) and younger generations are engaging in more unhealthy behaviors (APA, 2019). Children and adolescents are faced with a wide variety of problems including bullying (Kann et al., 2018; Frey et al., 2009; Nickerson et al., 2019), academic anxiety (Dobson, 2012), peer victimization (Craig et al., 2009; World Health Organization, 2012), and aggressive and exclusionary behaviors (Cook et al., 2010; Roberts et al., 2013). With an absence of a primary prevention program that concentrates on SEL, schools have reported additional problems with lower academic achievement and truancy, and more disciplinary referrals and dropout rates (Greenberg et al., 2003). Despite these problems and the need for a preventative strength-based approach, few states have adopted a freestanding, comprehensive program with

SEL standards (Eklund et al., 2018) and too many programs have become a succession of fragmented fads with little sustainability, direction, or impact (Shriver & Weissberg, 1996). Moreover, many schools have chosen to implement a disease model that concentrates on the deficits of the child (Durlak et al., 2015) and treat a problem after it has been identified (LaBelle, 2019).

With adolescence being a time for opportunity and increased vulnerability for more risky behaviors (Stalker et al., 2018), there is an increasing need for a strength-based preventative SEL program that concentrates on the areas of positive psychology and positive education. Given social emotional competencies can lead to the positive outcomes of better attachments and attitudes, an increase in social attendance and motivation (Durlak et al., 2011), improvements to one's mental health (Panayiotou et al., 2019), and performance in school (Diekstra, 2008; Durlak et al., 2011; Wilson et al., 2006), a strength-based preventative approach has become a necessity within the school. Hence schools should concentrate on the strengths of the child and address the gap in the literature regarding research and practice. Students deserve proper training in the different social emotional competencies and how to use them in a variety of situations (CASEL, 2013; Durlak et al., 2010; Durlak et al., 2011; LeBuffe, 2014; Srinivasan, 2019). A strategic whole-school approach that concentrates on the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior can lead to the improvement and prevention of mental health problems among our youth and help them be successful in school.

To address the lack of primary prevention programs that develop SEL skills within the schools, this researcher explored the SEL program Top 20 and compared the mean scores from

the experimental group and control group. The contribution of each social emotional competency to the overall social emotional learning score was also measured. This researcher provided valuable information on what skills and methods helped students apply and master SEL. The results from this study can help teachers, administrators, and staff obtain a better understanding of the different social emotional competencies and how each competency impacts the overall SEL score.

Chapter 2: Literature Review

The purpose of this quasi-experimental study was to determine the efficacy of the social emotional learning (SEL) program Top 20 and how their SEL curriculum and the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimism, and goal-directed behavior (LeBuffe et al., 2014) may play a significant role in a child and adolescent's social emotional development. There is a lack of an authentic primary prevention SEL program in the schools (Greenberg et al., 2003; White & Murray, 2015; Eklund et al., 2018; LaBelle, 2019) and a gap in the research regarding the different social emotional competencies and their impact on one's social emotional development. The results of this study helped support the understanding on why there is a need for a primary prevention program within the school and how SEL can be beneficial for children and adolescents. In order to understand the impact of SEL and how the different competencies can affect one's social emotional development, a critical review of the literature was conducted.

The literature findings in this chapter are associated with the topics of SEL, social learning theory, metacognition, executive function, self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimism, goal-directed behavior, resiliency, stress, prevention science, positive psychology, positive education, and social emotional learning programs. The extensive review of the literature helped provide a better understanding on the different social emotional competencies, and the benefits of an SEL program. However, additional research is required to help explore the efficacy of the SEL program Top 20, and how the different social emotional competencies can impact a child and adolescent's social emotional development. To help accomplish this task and gain further insight

on these topics, this researcher conducted a search using the following databases: (a) Academic

Search Premier, (b) EBSCOhost databases, (c) Google Scholar ProQuest Central, (d) ProQuest

Education database, (e) Primary Search, (f) PsycARTICLES, and (g) Science Reference Center.

This researcher also referenced a variety of academic books and professional organizations.

Some common keywords included: social emotional learning, primary prevention programs,

positive psychology, and positive education. To better understand the theories associated with

social learning theory and social emotional learning, this researcher conducted a literature search

with the date range of 1970 to 2020.

Theoretical Framework

This researcher explored the theoretical framework of social emotional learning. Social

emotional learning (SEL) can be defined as the ability to understand and manage one's emotions,

develop strong positive relationships, and make thoughtful and responsible decisions (CASEL,

2019a). Social emotional learning can be divided into five different competencies: self-

awareness, self-management, social awareness, relationship skills, and responsible decision-

making (CASEL, 2019). Self-awareness is understanding one's own emotions, thoughts, and

values, and how this can influence behavior (CASEL, 2019). This competency assesses self-

confidence, self-efficacy, a "growth mindset," and one's strengths and limitations (CASEL,

2019). Self-management requires the skills and attitudes to regulate one's emotions, thoughts,

and behaviors (CASEL, 2019). Those who demonstrate efficient self-management skills have

the ability to delay gratification, control impulses, manage stress, and persevere through

challenges to achieve one's personal and educational goals (Durlak et al., 2015; CASEL,

2019). The social awareness competency is the ability to take the perspective of another with

a different background or culture (CASEL, 2019). Those who show competence in social

awareness are able to empathize and feel compassion towards another (Durlak et al., 2015; CASEL, 2019). They also have the ability to recognize a variety of resources and supporters (i.e., family, school, and community), and understand the different social norms (CASEL, 2019). According to Durlak et al. (2015) relationship skills help children establish and maintain a healthy and rewarding relationship and comply with social norms. Those with relationship skills demonstrate competence in the ability to communicate clearly, cooperate, resist social pressure, negotiate conflict in a constructive way, and seek help when needed (CASEL, 2019). Responsible decision-making requires competency in the knowledge, skills, and attitudes necessary to make good constructive choices (Durlak et al., 2015; CASEL, 2019). Competence in responsible decision-making requires the ability to consider ethical standards, safety concerns, and the relationship between risky behaviors and behavioral norms (Durlak et al., 2015). The competency of responsible decision-making enables one to make a realistic evaluation of their actions and consequences. Competencies in responsible decision-making involves the ability to identify the problem, analyze the situation, come up with several strategies to solve the problem, and evaluate and reflect on the situation (CASEL, 2019).

LeBuffe et al. (2014) explored CASEL's five social emotional competencies with an exploratory factor analysis and a variety of psychometric techniques (i.e., alpha coefficient, and corrected item-scale reliabilities). After a critical analysis on CASEL's five social emotional competencies, LeBuffe et al. (2014) identified two competencies to have several sub-parts. Hence the competency of responsible decision-making was divided into two sub-scales (i.e., personal responsibility and decision-making), and the competency of self-management was divided into the sub-scale of self-management and goal-directed behavior

(LeBuffe et al., 2014). LeBuffe et al. (2014) also added optimism as another SEL competency. Although optimism was not included as one of the five competencies in CASEL's original definition, LeBuffe et al. (2014) thought it was necessary given its association with the SEL skills of goal-directed behavior, self-regulation (Aspinwall, 2005; Peterson, 2000), and resiliency (Seligman et al., 2007). In sum, the eight social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior provide a more holistic understanding of SEL.

SEL cultivates an equitable learning environment to which all students actively participate in a variety of lessons that help promote one's social, emotional, and academic growth (CASEL, 2019). Social emotional learning strategies are based on the principles derived from Albert Bandura's social learning theory (Durlak et al., 2015). According to Bandura (1977) people learn new patterns of behavior through direct experience and/or by observing and imitating others. Bandura's (1977) social learning theory includes several instructional strategies. These instructional strategies include vicarious learning (modeling), verbal instruction (coaching), behavioral rehearsal, performance feedback, and social problem-solving (Gresham, 2018). For example, children imitate the observed behavior, learn how to handle aggression (Gresham, 2018), and develop a moral sense of right and wrong (Martorell et al., 2014). In a behavioral intervention, children learn a social behavior by observing, imitating, and responding to verbal feedback (Durlak et al., 2015). In a social skills program, children are taught a target skill through modeling, instruction, and discussion (Bierman, 2004). Children are given a chance to practice their skill with a peer, refine it with feedback, and modify the skill based on the social context and what is reinforced or

encouraged (Bierman, 2004). The ability to process what the consequence will be is reflected in Bandura's (1989) social cognitive theory, the updated version of social learning theory. This name change provides a greater emphasis on cognitive processes (Martorell et al., 2014) and how such processes can influence one's behavior. The cognitive process begins when people observe a model, learn a specific "chunk" of behavior, and mentally link it together with other chucks to form a new behavior pattern (Martorell et al., 2014). With feedback, children can develop a sense of self-efficacy, feel confident in their ability to succeed (Martorell et al., 2014), and develop an optimistic mindset to which they can overcome obstacles in the future (Crain, 2000). Since cognitive processes can influence one's social behavior, there is also an association between social cognitive theory and the social information-processing model (Durlak et al., 2015). The information-processing model can help one process and interpret complex social information (Kay & Green, 2016). A child interprets a social cue, and makes a decision based on their past experiences and current goals (Crick & Dodge, 1994). This model reflects a covert thinking process to which people link social perceptions to social problem-solving, behavioral solutions, and their likely consequences (Durlak et al., 2015).

People's actions are governed by their consequences (Bandura, 1977). When an individual is reinforced for a behavior, they are more likely to participate in that behavior again (Bandura, 1977; Thorndike, 1898). However, if the individual is punished for their behavior, they are less likely to participate in that behavior again (Bandura, 1977; Thorndike, 1898). Behaviors and their consequences are rooted in social cognitive theory (i.e., vicarious learning) and its connection to behaviorism (Kretchmar, 2019), operant conditioning, and the law of effect. If a model's behavior is reinforced by a reward and/or the model avoids a

negative consequence (i.e., vicarious reinforcement), they are more likely to perform the behavior again (Bandura, 1977). Although Bandura (1977) did not believe reinforcement was a necessary component to learning, he did observe an association between the observers' attentiveness, and their motivation to rehearse the modeled response. Since one's environment may reinforce modeling, reinforcement might be seen as an environmental variable and cognitive variable (Kretchmar, 2019). For example, the observer (i.e., student) is praised or reinforced by the model (i.e., teacher) when they imitate and use the correct study strategy. This two-way interaction might influence the person and their environment, a concept known as reciprocal determinism. The model (i.e., environmental factor) influences the student's expectations and behavior, and/or the student influences the expectations of the model and their response to the environment.

Vicarious learning may evoke a more pro-social behavior or antisocial behavior in children (Bandura, 1977). Exposure to a generous model impacts the child's decision to share (Crain, 2000). By modeling a positive behavior, children are more likely to engage in altruistic acts, help one another, and cooperate (Kretchmar, 2019). Children also develop a sense of moral development based on what is considered to be a 'bad' consequence, and exhibit achievement motivation to which their standards of self-discipline reflect the model's strict or lenient standards (Mazur, 1994). Modeling positive behaviors can also help eliminate an unwanted behavior (Kretchmar, 2019). Children are more likely to eliminate their fear of dogs when they see another child interact with the dog in a positive manner (Mazur, 1994). However, an antisocial behavior is also likely when a negative behavior is modeled. In Bandura et al.'s (1961) Bobo doll study, children watched an adult punch, kick, and shout at a Bobo doll. After the children watched this hostile behavior, they imitated the same aggressive behavior towards the

Bobo doll (Bandura et al., 1961). Hence, exposure to modeling can result in either unfavorable or favorable consequences depending on the environment the child is exposed to and what they chose to observe and imitate.

The theoretical framework of social emotional learning will help the researcher determine the benefits behind a strength-based primary prevention program. Researchers will have a better understanding on what skills and methods are necessary for the development of each social emotional competency. This study will also add to the previous literature on prevention science, positive psychology, and positive education. Researchers, teachers, and personnel will understand the importance of a curriculum that promotes social emotional learning. They will understand the concepts that support Bandura's (1989) social cognitive theory and how to promote a more positive learning environment in the school.

SEL and Metacognition

Social, emotional, and cognitive skills are important to one's intellectual development (Waters, 2011) and the learning process (Jones & Kahn, 2017). Cognitive challenges, social interaction, and emotions ignite deeper learning (Jones & Kahn, 2017) and SEL allows us to understand our own mental processes and problem solve (Durlak et al., 2015; Gresham, 2018; CASEL, 2019; LeBuffe et al., 2014). Hence SEL skills can be conceptualized as metacognitive skills (Srinivasan, 2019). According to Flavell (1979) metacognition (MC) is the awareness of one's own cognitive processes and the ability to rectify problems. When faced with a well-defined or ill-defined problem, one must rely on several cognitive skills (Revlin, 2013). One must have the ability to reason and draw inferences and acquire the ability to monitor how they reason and process information correctly (Revlin, 2013). MC helps us understand our own mental state and how this may impact our internal environment and behavior (Misso et al., 2019;

Dimaggio et al., 2015). MC also helps us regulate our inner experience and engage in interpersonal problem-solving behavior (Carcione et al., 2011; Dimaggio et al., 2015). With MC, one can not only identify the emotions and intentions of others, but the personal significance and meaning of a specific context (Dimaggio et al, 2015). MC is also closely aligned with the phenomenon known as "theory of mind" (Misso et al., 2019) or the ability to understand another's mental state (Freeman, 2016). With a lack of empathy towards others or awareness of another's mental state, one might not be able to choose a healthy coping mechanism (Romero-Martínez et al., 2013) in an adverse or stressful situation and/or they may underestimate another's perspective and engage in a more violent behavior (Newbury-Helps et al., 2017).

There is a clear connection between the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, goal-directed behavior and metacognition. The metacognitive process of understanding our own mental state demonstrates the social emotional competency of self-awareness, while the cognitive ability to regulate our inner experience reflects the competency of self-management. The competency of social awareness includes several cognitive skills such as the ability to understand another's mental state (Freeman, 2016), exhibit the phenomenon theory of mind (Misso et al., 2019), and have empathy for another. Relationship skills are also associated with MC skills. Relationship skills demonstrate the cognitive ability to understand another's perspective, determine what the personal significance may be, and the meaning of the context. The competencies of personal responsibility and decision-making go hand in hand with the cognitive processes of making good choices, monitoring how to reason and process the information, and problem-solve. Optimistic thinking and goal-directed behavior are also associated with MC skills. Optimistic thinking is associated with resiliency and the ability to

choose a healthy coping mechanism (Masten, 2014), and the competency of goal-directed behavior is closely related to metacognitive awareness and the ability to self-regulate (Bursali & Öz, 2018).

Metacognitive awareness involves the ability to rectify problems (Flavell, 1979). However, in order to correct a problem or prevent it, one must have the ability to reason. According to Revlin (2013) the ability to reason develops in three stages. At the age of four, a child engages in the first stage of reasoning and draw inferences from a conditional relationship (Revlin, 2013; Moshman, 1990; Moshman & Franks, 1986). For example, not eating one's vegetables means no dessert (Revlin, 2013). At the age of five or six, the child is aware of the content of the problem (i.e., no dessert), however, the logical rules that help the child understand the reasoning are difficult to follow (Revlin, 2013). When a child is between the ages of six and ten, they enter the second stage of reasoning and exhibit several MC skills (Revlin, 2013). In stage two, children understand that there may be many possibilities or conclusions to a problem (Revlin, 2013). Children examine the conclusions they have made and determine if they are reasonable, plausible, or likely (Moshman & Timmons, 1982; Somerville et al., 1979). In the final stage of reasoning, stage three, children are able to reason about false statements, imagine hypothetical situations, and understand what the consequences might be (Revlin, 2013). By the age of 12 or 13, children are able to reason with the basis of validity (Revlin, 2013). Although the ability to reason is inborn, one must have adequate exposure from the environment in order to progress through the different stages (Revlin, 2013). Hence exposure to the real world is crucial for the development of reasoning (Revlin, 2013) and cognitive control (Bunge & Crone, 2009; Roebers, 2017).

MC also plays an important role in the ability to understand one's learning strategies (Perfect & Schwartz, 2002). Being aware of the different learning strategies helps the student monitor their performance and change their strategy if necessary (Perfect & Schwartz, 2002; Redding, 2013). When teaching MC skills, teachers should help students 1) identify the task they are assigned to and pull from the information they already know, 2) identify an achievable goal, 3) apply a practical learning strategy, and 4) monitor or understand their approach to learning (Redding, 2013). Moreover, monitoring information may help with memory retrieval (Perfect & Schwartz, 2002). If monitoring information is a positive experience, then one is more likely to engage in retrieval strategies (Perfect & Schwartz, 2002) and asses how well they know the information.

SEL, Metacognition, and Executive Function

Executive function (EF) is defined as the top-down control and regulation of one's cognition, behavior, and emotion (Nigg et al., 1999). EF is essential to goal-directed behavior (Miyake et al., 2000; Masten, 2014; Diamond, 2013), and the three major categories of working memory, inhibitory control, and mental flexibility (Miyake et al., 2000; Zelazo & Carlson, 2012). Executive function and metacognition are both higher-order cognitive processes that help the individual adapt to new and challenging situations and become more flexible (Roebers, 2017; Miyake et al., 2000; Zelazo & Carlson, 2012; Masten, 2014). Unlike automatic processes, EF and MC are controlled processes (Norman & Shallice, 1980) that operate together (Miyake & Friedman, 2012). These higher-order processes consist of various sub-processes including the inhibition of EF, the ability to shift and update information, and monitor and control information with MC (Roebers, 2017). When it comes to self-regulation, EF helps the individual resist temptations, understand the benefits of delayed gratification (Roebers, 2017), and mentally

represent and/or plan their actions accordingly to meet a specific goal (Anderson, 2002; Diamond, 2013). Specifically, EF skills can help one initiate an appropriate behavior, reach a reasonable goal, understand one's strengths and limitations, monitor and evaluate one's performance, revise and organize plans, and engage in strategic problem-solving (Ylvisaker & Feeney, 2002). These cognitive skills develop in an interdependent manner (Flavell et al., 2002) and include the activation of the temporal lobe for working memory functions, the orbitalfrontal areas for impulse control, the dorsolateral areas for attention, and the frontomesial areas for the activation of functions (Krasnegor et al., 1997).

EF begins in infancy (Ylvisaker & Feeney, 2002; Flavell et al., 2002) and develops over the lifespan (Zelazo & Bauer, 2013). A 12-month-old can acquire an object with a three-step solution (Willatts, 1990), and a two-year-old can monitor and modify their behavior to achieve a goal (Bruner, 1972). EF Skills improve rapidly in pre-school (Blair, 2002; Diamond & Lee, 2011) with self-regulatory functioning (Barkley, 1997) and MC behaviors including remembering difficult tasks and knowing how to retrieve them (Ylvisaker & Feeney, 2002). By middle childhood and adolescence, there is a substantial increase in the ability to plan for the future, engage in rational reasoning and decision-making, and manipulate several objects in one's mind (Blakemore & Mills, 2014; Paulus et al., 2014). With the proper instruction, these skills will continue to develop and mature (Masten, 2014; Ylvisaker & Feeney, 2002) as children and adolescents acquire new experiences and learn from them.

SEL can be described as a multifaceted construct given the connections between MC and its relationship to EF (see Nigg et al., 1999; Norman & Shallice, 1980; Miyake & Friedman, 2012; Roebers, 2017). Children and adolescents develop the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility,

decision-making, optimistic thinking, and goal-directed behavior by being aware of their own cognitive processes (i.e., metacognition) and engaging in variety of regulatory functions (i.e., executive function). However, improvements to one's social emotional learning may depend primarily on the competency of self-awareness. It is likely that not being consciously aware of one's own emotions, thoughts, and behaviors (CASEL, 2019), could lead to difficulties in regulating one's inner experience, understanding another's mental state, maintaining a healthy relationship, making good choices, and accomplishing one's short-term and long-term goals. A lack of self-awareness may also lead to problems with MC and EF. If one is not aware, then they cannot engage in the higher-order cognitive processes of MC and EF given such skills require controlled processing, not automatic processing (Norman & Shallice, 1980).

Self-Awareness

Self-awareness is recognizing one's own emotions, thoughts, values, and behavior (CASEL, 2019). This social emotional competency is associated with several executive function skills including the ability to set reasonable goals, identify one's strengths (Durlak et al., 2015; Ylvisaker & Feeney, 2002) and weakness (Elias et al., 2003; LeBuffe et al., 2009), have the ability initiate and evaluate one's behavior, profit from feedback, and recognize when a specific task is difficult (Ylvisaker & Feeney, 2002). Self-awareness also helps the individual assess their personal feelings and interests (Durlak et al., 2015) and is seen as a critical factor in emotional intelligence (Goleman, 1995; Salovey & Mayer, 1990). According to Goleman (1995) self-awareness is the ability to understand one's emotions and the thoughts behind them. To develop emotional literacy, one must understand and recognize their emotions, tolerate negative emotions (e.g., loneliness and frustration), learn how to control them, read the emotions of others, and

handle relationships with superb communication and conflict management skills (Goleman, 2006).

Self-awareness also helps us become experts in our own self-knowledge (Legrain et al., 2011). Rochat (2003) identifies self-awareness as the identified self, the permanent self, and the external self. At the identified self level, the child understands that the person in the mirror is them (Legrain et al., 2011). Self-awareness begins in infancy and can be measured with the mirror self-recognition test (Savanah, 2013). Children between the ages of 18 and 24 months participate in a mirror self-recognition test and identify a red dot placed on their forehead. When an infant can recognize themselves in the mirror, a self-concept has emergence (Savanah, 2013; Martorell et al., 2014). This sense of self or self-concept changes over time as children mature and interact with their environment (Martorell et al., 2014). Specifically, by 20 to 24 months, infants demonstrate self-representation and use the first-person pronouns of *me* and *mine* (Lewis, 1997). By 15 to 30 months, infants start to engage in more pretend play and use more personal pronouns (Lewis & Carmody, 2008), and by 3 years of age, children obtain a better understanding of their own feelings, thoughts, plans, desires, and what is socially appropriate (Martorell et al., 2014). At the permanent self level, the child grasps the continuity of self and understands that the self is not tied to the present moment (Legrain et al., 2011). During the preschool years, children have a relatively stable sense of self and a good understanding of their own capabilities when it comes to numbers and achievement (Durlak et al., 2015). At the external level, one is aware of themselves and how others perceive them (Legrain et al., 2011). At the external level, they are aware that they can appear different to others even though no changes have been made to their deeper self (Legrain et al., 2011). This sense of self continues to develop as children and adolescents become more increasingly aware of their own abilities,

traits, and achievements (Martorell et al., 2014). However, one's academic motivation and accomplishments depends on the child's and adolescent's self-esteem, self-competence, and perceived self-efficacy (Durlak et al., 2015).

Self-Efficacy

Self-efficacy is one's own sense to master challenges and achieve their goals (Martorell et al., 2014). With feedback, children evaluate their own actions and see if they have what it takes to succeed (Martorell et al., 2014). A student's self-efficacy is derived from their own assessment (Redding, 2013) as they evaluate the task at hand and determine how easy or difficult it is (Csikszentmihalyi, 1990, 1993; AlRashidi, 2018). Those with high self-efficacy demonstrate the most resoluteness and often feel less anxious when performing a task (Bandura, 2007). In comparison, those with low self-efficacy are less likely to engage in an activity, and often exhibit more anxiety and stress (Erdogan, 2015). Self-efficacy helps one mediate between their existing skills and strategies, and the goals they would like to achieve (Pajares & Schunk, 2001). This creates a dialectic relationship between self-efficacy and achievement (Pajares & Schunk, 2001) and helps the student reflect on their own skill set to which they become more cognitively aware of their own capabilities. However, student achievement is not just tied to self-efficacy and skill set. Students must be motivated and have the belief that they are capable of achieving a task (Semmar, 2006; Soland et al., 2017). If a student does not believe they are capable of achieving a task, then they are less likely to try (Semmar, 2006). Students must also put in the effort and have the ability to concentrate on the task at hand if they are to achieve their goals and be successful (Dweck, 2000). Hence students must also exhibit good self-management skills since effort and concentration depend on one's ability to self-regulate.

Self-Management

According to CASEL (2019) self-management is the ability to effectively manage and regulate one's feelings, thoughts, and behaviors in a variety of situations. This competency demonstrates the ability to control one's impulses (CASEL, 2019) and understand the benefits in delayed gratification (Durlak et al., 2015). Those who exhibit good self-management are self-disciplined (Dusenbury et al., 2011). They demonstrate the ability to preserve through challenges, managing one's stress (Dusenbury et al., 2011), and meet their personal and educational goals (CASEL, 2019; Durlak et al., 2015). These students effectively manage their time, stay on task (Reid et al., 2005), and demonstrate the persistence and attention necessary to achieve a specific academic goal (Zins et al., 2007). According to Soland et al. (2017) there is a connection between motivation, self-efficiency, and self-management. Effectively managing one's thoughts can lead to the belief that one is capable (Soland et al., 2017). This increase in self-efficacy can provide the incentive or motivation to complete the task at hand (Soland et al., 2017). Without this motivation, students may be more inclined to not complete their schoolwork and as a result, fail or drop out of school (Soland et al., 2017).

Self-management and self-regulation are interrelated. Self-regulation is managing one's self in a variety of situations (Dziak, 2019). This may include the ability to control and direct one's attention and memory (i.e., cognitive regulation), modify and change one's emotional response (i.e., emotional regulation), and/or suppress and initiate a behavior (i.e., behavioral regulation) (Blair, 2002; Carver & Scheier, 2001; Gross, 2015). Cognitive regulation skills help the individual concentrate, coordinate, plan, problem-solve, and control one's impulses (Best & Miller, 2010). Emotional regulation helps one reason, manage, and modify their emotional response to a situation (Keene, 2017), and behavioral regulation helps one control, manage, and

maintain a response to a current circumstance (McClelland et al., 2007). Although separate concepts, the three types of self-regulation are interdependent (Blair, 2002). For example, one may have to suppress a behavior by redirecting their attention and changing their emotional response (Blair, 2002). The three types of self-regulation can also lead to several positive results. Behavior regulation has led to improvements in one's social development and academic achievement (Blair & Razza, 2007; McClelland & Cameron, 2011). High scores in behavioral regulation have been associated with high scores in emergent literacy, vocabulary, and math (McClelland et al., 2007). School readiness (Evans & Rosenbaum, 2008), social competence, and academic competence have also been associated with the ability to regulate one's emotions and behaviors (McClelland et al., 2007; Olson et al., 2002), and behavior regulation has been associated with the ability to form positive relationships with one's peers and teachers (Portilla et al., 2014). In addition, children who are able to sustain their attention and suppress their behavioral and emotional response, are more likely to meet their long-term goals (Booth et al., 2018), and have fewer psychological and behavioral problems (Blair & Razza, 2007; Buckner et al., 2009).

Self-regulation is a biobehavioral system (Blair, 2002; Durlak et al., 2015). Self-regulation comes from several EF skills, the emotional reactivity and regulation of several positive and negative emotions, and the nervous system's response to stress with the regulation of the hypothalamic pituitary adrenal (HPA) axis (Blair, 2002; Durlak et al., 2015). In infancy emotional arousal is activated by the limbic system with the unconscious, automatic "bottom-up" approach (Gogtay et al., 2004). As the child matures, the ability to self-regulate becomes more conscious, and effortful (Gogtay et al., 2004). Frontal lobe activity emerges as children engage in a "top-down" approach (Gogtay et al., 2004). With the use of the frontal lobe, children

demonstrate more executive functions (i.e., working memory, inhibitory control, attention, and mental flexibility), and learn when to activate the HPA axis (Blair, 2002; Blair & Raver, 2012). Self-regulation skills develop over the lifespan (Martorell et al., 2014). However, this development is dependent on experience and one's social interaction (Martorell et al., 2014; Acar et al., 2018).

Social Awareness

Social awareness shifts the focuses from oneself to others. These individuals respect and understand individual and group differences (Denham et al., 2010). They appreciate diversity and see the value in family, school, and community. They can understand and respect other backgrounds, cultures, and societal norms, especially those that are different from their own (CASEL, 2019). This competency helps the individual understand the perspective of another, have compassion for them, and empathize (CASEL, 2019). It is an interpersonal skill to which the individual has the ability to successfully interact in a variety of social contexts (Denham et al., 2010). These individuals think through how others may feel by reading their emotions and body language. Those with good social awareness are able to read the social cues of others, make a successful interpretation, and respond appropriately (CASEL, 2019). For example, a child may recognize that someone is sad and engage in the appropriate behavior of giving them a hug. The ability to read another is a very important skill. Misinterpreting a social cue may lead to an inappropriate behavior and conflict.

Social cognition is the ability to understand another's mental state and what their feelings and intentions may be (Martorell et al., 2014). Once children understand that they are separate from someone else (i.e., self-awareness), they start to recognize that the feelings and intensions of others may be similar or different than their own (Martorell et al., 2014). However, to

accurately interpret another's feelings and intensions, they must pay attention and understand their social cues. According to the social information processing (SIP) model, social cues are processed in several different stages (Walther, 1992; Kay & Green, 2016; Crick & Dodge, 1994). These stages include encoding and analyzing the cues, selecting a goal, and retrieving a behavioral response (Walther, 1992; Kay & Green, 2016; Crick & Dodge, 1994). When making a causal inference, children will create a mental structure or cognitive heuristics to help them process the complex social information (Kay & Green, 2016). Although this can be a good way to help interpret and process the social information they receive, it can also lead to judgement errors and cognitive biases, especially when information is more ambiguous (Kay & Green, 2016). Specifically, social cue processing deficits have been associated with depression, anger, anxiety, and aggression (Hirsch et a., 2016; Rappaport et al., 2018), and many children have demonstrated a hostile attribution bias and misinterpreted another's behavior as hostile (Chen et al., 2019; Jones et al., 2017; Kay & Green, 2016; Nasby et al., 1979). Those who engage in the hostile attribution bias believe that a peer's ambiguous provocation was intentional and harmful (e.g., "You broke that on purpose.") (Runions & Keating, 2007; Chen et al., 2019; Nasby et al., 1979), they do not interpret the provocation as benign (e.g., "It was an accident.") (Laible et al., 2014; Chen et al., 2019). Previous research on the hostile attribution bias has demonstrated several negative consequences including problems with peer relations, an increase in aggressive behaviors (Crick & Dodge, 1994), and relational aggression in girls (Mathieson et al., 2011). Attribution biases and one's emotional intensity have also predicted more negative child-friend interactions (Chen et al., 2019). One's emotional intensity seems to provide the "fuel" to the cognitive bias creating a potential conflict between the child and their peer (Chen et al., 2019).

EF skills, self-regulation skills, social cognitive skills, and the theory of mind ability should all be considered when designing an intervention that focuses on prevention and the reduction of the hostile attribution bias. EF skills can help one develop more positive social skills (Zelazo & Cunningham, 2007), control their emotional reactivity (Blair, 2002; Durlak et al., 2015), and find an appropriate behavior (Ylvisaker & Feeney, 2002). Self-regulation skills can help one control their impulses (Best & Miller, 2010) and regulate their emotions and behaviors (McClelland et al., 2007; Olson et al., 2002). One's social cognitive skills or theory of mind ability, can also help the individual understand another's mental state and reduce the likelihood of a hostile attribution error (Kay & Green, 2016). To establish more positive relationships between a child and their peer, children should be taught how to self-regulate and how to make an accurate interpretation of another's feelings and intentions. When child-friend interactions are positive, one does not engage in the hostile attribution error (Chen et al., 2019). Instead, children benefit from more prosocial behaviors and develop more caring and supportive relationships with their peers (Liable et al., 2014).

Relationship Skills

Relationship skills consist of the ability to work well and cooperate with others (CASEL, 2019; Durlak et al., 2015). To establish a healthy and rewarding relationship, one must be able to interact with an individual or group of individuals in a positive way. One must be able to communicate clearly, listen, and work as a team (CASEL, 2019). These individuals resist inappropriate social pressures, learn how to solve their conflicts (Payton et al., 2008), and seek help when needed (CASEL, 2019; Durlak et al., 2015). With relationship skills, children can maintain their friendships, see the value in them, and understand a variety of social situations (Denham & Weissberg, 2004). When working in a group, they are respectful when giving their

opinion and learn how to take on an active role in the group (CASEL, 2019). In a school setting, students learn how to divide up the work and navigate through the challenges they face.

Friendships and the ability to relate to peers in groups starts in preschool at the age of three (Hay et al., 2004). According to Selman (1980) there are four stages of friendship a child goes through. These stages consist of the following: Stage 0: Momentary Playmateship, Stage 1: One-way Assistance, Stage 2: Two-way Fair-weather Cooperation, Stage 3: Intimate, Mutually Shared Relationships, and Stage 4: Autonomous Interdependence (Selman, 1980). In Stage 0, children between the ages of 3 to 7 are more egocentric and tend to value their peers for their material or physical attributes (Selman, 1980). In Stage 1, children between the ages of 4 and 9 relate to one another on a more unilateral level and believe one is a good friend if they obey their requests and demands (Selman, 1980). When the child is between the ages of 6 and 12, they enter the second stage of friendship and form a more reciprocal relationship (Selman, 1980). Although this stage of friendship involves more give-and-take, this child is more focused on self-interests rather than the common interests they share with their friend (Selman, 1980). In stage 3 however, children form more mutual relationships (Selman, 1980). In this stage, children ages 9 to 15 have a more ongoing, systematic, and committed relationship, and in the last stage of friendship, stage 4, children ages 12 and up exhibit more interdependence and respect their friend's need for dependency and autonomy (Selman, 1980).

Friendships are more likely to form through frequent positive interactions (Snyder et al., 1996) and although children in middle childhood are more likely to value teamwork and group problem-solving (Elias et al., 1997), they must be taught how to acquire these skills. To promote teamwork, group problem-solving and/or social integration, one must have a social context that breaks down any biases and prejudice in a social group (Pettigrew & Tropp, 2008). To help

break down these biases and prejudice, one must promote a social context that incorporates positive interdependence (Johnson et al., 1983; Van Ryzin & Roseth, 2018). With the use of positive interdependence, individuals can meet their goals when other group members meet theirs (Johnson et al., 1983; Van Ryzin & Roseth, 2018). Instead of groups ignoring each other or competing, they promote their success through mutual assistance and support (Deutsch, 1962). Positive interdependence comes from cooperative learning and a variety of group-based activities (Van Ryzin & Roseth, 2018). When adolescents engage in cooperative learning, a more positive effect can be found with peer relationships (d = .42-.56) and achievement (d = .46-.65) (Roseth et al., 2008). Moreover, cooperative learning has also been associated with social acceptance and academic achievement (Ginsburg-Block et al., 2006).

In middle childhood, a child's social environment becomes more complex to navigate (Jones et al., 2017) and hence children and adolescents must acquire the appropriate social skills if they are to benefit from a healthy and rewarding relationship. Social skills can be defined as a specific class of behaviors to complete a social task (Gresham, 2016). These social tasks may include entering a peer group, engaging in conversation, and/or making a friend and playing a game with them (Malinauskas, 2019). Social skills can be taught with the theory-of-change model that utilizes the concepts of vicarious learning and cognitive-mediational processes (Gresham, 2018). This model includes six steps: coaching, modeling, role-playing, behavioral rehearsal, feedback and self-assessment, and generalization programming (Gresham, 2018). In the coaching phase, a group leader outlines several steps in how to present and define a social skill (Gresham, 2018). The group leader helps the students set appropriate goals and enhance their awareness on how their behavior impacts others (Oden & Asher, 1977). In the modeling phase, students engage in vicarious and observational learning (e.g., pictures, video clips, and

role-plays) so they can learn the difference between positive and negative behaviors (Gresham, 2018). After this phase is complete, children move to the role-playing and the social problem-solving phase where they practice social skills in role-plays and learn how to resolve conflicts (Gresham, 2018). In the behavioral rehearsal phase, students practice their social skills in a variety of contexts, and in the progress monitoring/feedback phase, students reflect on their own progress while the group leader provides feedback on each social skill the student has learned (Gresham, 2018). In the final phase, the generalization phase, students practice outside the group in several settings and social situations (Gresham, 2018). This model can lead to an improved performance in social skills and academic achievement (Gresham, 2018; Wentzel, 2009), and quality relationships for those who exhibit excellent social skills (Gresham, 2018).

Personal Responsibility

According to LeBuffe et al. (2014) personal responsibility is the child's ability to be careful and reliable in their own actions and efforts towards the group (e.g., remembering important information, serving an important role, and handling belongings with care). Personal responsibility can also be determined by what has and should be done (Heider, 1958) and/or how we enhance our learning by remaining cognizant and changing our attitudes and behaviors for the better (Devlin, 2002). Personal responsibility results from the inculcation of values based on Hellison's (1985, 2003) Teaching Personal and Social Responsibility Model (TPSRM). This model has five levels of responsibility including: (1) self-control and respect for one's rights and feelings, (2) the importance of participation in new and familiar activities, (3) increased responsibility for one's physical activity and well-being, (4) the ability to develop sensitivity skills and compassion towards others, and (5) the application of lessons learned to multiple contexts (Hellison, 1985; 2003). Mergler (2007) also extended the construct of personal

responsibility to four key components including: (1) self-awareness and control over one's thoughts and feelings, (2) self-awareness and control over one's choices and the behaviors they lead to, (3) the willingness to be accountable for one's behaviors and their consequences, and (4) self-awareness and the concern for how one's behavior may impact another. When adolescents demonstrate personal responsibility, they think about their choices before they act (Mergler & Patton, 2007). Thinking about what the consequences may lead to, prevents the adolescent from engaging in an activity that creates harm for oneself and others (Mergler & Patton, 2007).

In studying the social emotional competency of personal responsibility, researchers must also consider the related constructs of locus of control, and decision-making (Mergler, 2017). According to Rotter (1966) a locus of control is one's perception on how much control they have over their lives. Rotter (1966) describes two types of control, an external locus of control, and an internal locus of control. Someone who exhibits an external locus of control believes their actions are contingent upon luck, fate, and/or chance (Rotter, 1966). In contrast, someone with an internal locus of control believes their actions are due to their own behavior (Rotter, 1966). Previous research on locus of control has found more positives with an internal locus of control than an external locus of control (Ross & Mirowsky, 2013). These positive outcomes include better grades and academic achievement (Kennelly & Mount, 1985), achievement motivation (Yong-Sheng, 1990), lower deviance (Kelly, 1996), and the ability to cope with stress (Roddenberry & Renk, 2010). Since an internal locus of control acts as an adaptive mechanism, those who believe they are in control of their own fate, exhibit lower levels of stress and ill health (Roddenberry & Renk, 2010). Those with an internal locus of control take full responsibility for their successes and failures (Cadinu et al., 2006). Whereas those with an external locus of control often blame others (Detert et al., 2008), exhibit more deviance (Pals et

al., 2016), misuse substances (Haynes & Ayliffe, 1991), and demonstrate more physical, verbal, and relational bullying in the school (Radliff et al., 2015). Since those with an external locus of control seem to deny responsibility (Emiko et al., 2020). In sum, the competency of personal responsibility is more closely related to an internal locus of control (Yong-Sheng, 1990). As children age, their external locus of control develops into an internal locus of control (Yong-Sheng, 1990) and older children and adults exhibit more higher-order thinking (Hill, 2011) and problem-solving abilities (Tahrir et al., 2020).

Decision-Making

According to LeBuffe et al. (2014) decision-making is an approach to problem-solving. Children learn how to problem solve by observing and learning from others, and by taking past experiences into consideration (LeBuffe et al., 2014). They use their values to formulate steps and accept responsibility for their decisions (LeBuffe et al., 2014). According to Mjelde et al. (2011) decision-making is the process to which one chooses between two alternatives. Students at the K-12 level may follow the descriptive perspective or normative perspective when making a decision (Furby & Beyth-Marom, 1992). The descriptive perspective focuses on how people make decisions (Kahneman et al., 1982). The descriptive perspective focuses on the ways in which people identify an alternative option, weigh the consequences, and identify the rules that guide their decision (Furby & Beyth-Marom, 1992). The normative perspective looks at the decision maker's actions and how these actions are closely related to their beliefs and values (Slovic et al., 1977). Both perspectives follow very similar steps (Ratcliffe, 1997). These steps include: (1) identifying the problem, (2) gathering relevant information that focuses on the alternatives to the problem, what the possible outcomes and random events may be, (3) the

analysis of the decision, (4) selecting a decision, and (5) implementing, reviewing, and evaluating a decision (Winston & Albright, 2001).

Individuals adapt in several ways to complex decision-making environments (Gregan-Paxton & John, 1997). After one examines all the information they are given, they become more selective in the information they want processed (Einhorn & Hogarth, 1981). As they process this information, they focus their attention on the available alternatives and switch from a highly demanding choice strategy to one that is less cognitively demanding (Bettman & Johnson, 1993). Children ages four to seven weigh the costs and benefits of the information they receive, whereas older children are more selective in their search strategies (Gregan-Paxton & John 1995, 1997). Hence in comparison to older children, younger children engage in more exhaustive searchers and gather a lot more information than necessary (Gregan-Paxton & John 1995, 1997). Problems with adaptive decision-making in younger children may be due to a lack of experience (Siegler, 1991). Since older children have more experience with problem-solving situations and demonstrate an increase in metacognitive skills, they exhibit a better understanding of the factors that affect their strategies and behaviors (Gregan-Paxton & John, 1997; Siegler, 1991). However, if prompted by cues or instructions, younger children can learn how to be adaptive to complex decision-making environments (Gregan-Paxton & John, 1997; Allexander & Schwanenflugel, 1994).

The ability to engage in adaptive decision-making does not just emerge at one particular age (Gregan-Paxton & John, 1997). Decision-making begins at an early age and can be seen in the preschool years (Gregan-Paxton & John, 1997). Children ages four and five can manage simple cost-benefit trade-offs when gathering information. At the ages of six to eight, children learn to master these trade-offs and although they still have difficulty paying attention to the cost

of a decision-making strategy, they do exhibit more complex decision-making tasks (Gregan-Paxton & John, 1997). Once the child reaches the age of 10 or 11, they pay attention to the cost of the decision-making strategy and the amount of effort put in (Gregan-Paxton & John, 1997). Children at this age make appropriate trade-offs and simplify their strategies (i.e., reduce and select the amount of information they take in) as they engage in the decision-making process (Gregan-Paxton & John, 1997). When children reach the age of 11 or 12, they simplify their search for information and exhibit adaptative behaviors that are similar to an adult (Klayman, 1985).

Decision-making strategies can help children with everyday challenges in a variety of contexts (Elias & Kress, 1994). Social decision-making approaches contribute to a child's emotional intelligence regarding their ability to empathize and be more sensitive to another's feelings (Elias & Clabby, 1989). Social decision-making can help children understand their consequences, participate in an appropriate action plan, and engage in efficient study habits (Elias & Clabby, 1989). Children participating in a social decision-making program are also more likely to display an increase in prosocial behaviors and a decrease in antisocial, self-destructive, and socially disordered behaviors (Elias & Kress, 1994). When teaching decision-making, teachers should ask thought-provoking questions, have students engage in real-life stories, practice role-playing, and make critical thinking a regular part of their classroom routine (Ochoa-Becker, 1999).

According to Suryosubroto (2009) critical thinking is a mental process to which one analyzes the information they receive. When thinking critically, one engages in reasoning (i.e., explains, draw conclusions, organizes the steps they need to take), utilizes domain-specific knowledge, and engages in metacognitive knowledge (Seifert & Hoffnung, 1994). Critical

thinking can reduce moral disengagement (Tahrir et al., 2020) to which one engages in systematic thinking by identifying, analyzing, and evaluating information into their decision-making processes (Johnson, 2009). Critical thinking is also associated with social emotional learning skills (Arslan & Demirtas, 2016). Those who think critically, demonstrate higher social emotional learning skills (Arslan & Demirtas, 2016). According to Gokhale (1995) those who adopted more collaborative learning and group work, demonstrated more critical thinking skills than those who engaged in more individual work. When participating in group work, individuals displayed responsibility for themselves and others and showed improvements to their problem-solving abilities and social emotional skills (Gokhale, 1995).

Optimistic Thinking

Optimistic thinking is defined as a child's confidence, hopefulness, and positive thinking regarding their past, present, and future (LeBuffe et al., 2014). Dispositional optimism is the belief that good things will happen in the future rather than bad things (Carver et al., 2010). With this mindset, people are more likely to engage in the "no problem" decision-making style to which they demonstrate persistence and perform a task to correct the problem at hand (Magnano et al., 2015). This mindset makes it more likely for optimists to face their problems rather than avoid them like pessimists (Magnano et al., 2015; Scheier et al., 2001). Positive expectations also guide decision-making (Scheier et al., 1994). When one has an optimistic mindset, their positive expectations help them make an effective decision and engage in adequate coping strategies (Scheier et al., 1994). People who are optimistic are better able to adapt and use more problem-focused strategies in academic situations and in situations to which they exhibit control (Solberg Nes & Segerstrom, 2006). In more uncontrollable situations such as trauma, the optimistic thinker is more likely to rely on emotion-focused coping (Solberg Nes & Segerstrom,

2006). In general, optimists employ more problem-focused strategies and emotional self-regulation (Taylor & Armor, 1996). This results in better functioning when it comes to more challenging or adverse situations (Taylor & Armor, 1996).

According to Seligman et al. (2007) optimism is a personality trait or explanatory style that a child uses to help them see whether a particular situation is good or bad. When trying to determine whether a situation is good or bad, children rely on the dimensions of permanence, pervasiveness, and personalization (Seligman et al., 2007). Permanence addresses the mindset that good and bad events are either permanent or temporary (Seligman et al., 2007). A pessimist believes that bad events are permanent and that the cause will persist forever and reoccur (Seligman et al., 2007). When a good event happens to a pessimist, they believe it was only temporary and think in terms of transient causes (Seligman et al., 2007). An optimist on the other hand, believes that bad events are only temporary and that they can easily bounce back from a setback (Seligman et al., 2007). When a good event happens to an optimist, they explain the event in permanent causes and point out the positive strengths and abilities they have (Seligman et al., 2007). Pervasiveness is the belief that a cause will be projected across many different situations throughout one's life (Seligman et al., 2007). These individuals interpret failure from a global (i.e., pessimistic) point of view or a more specific (i.e., optimistic) point of view (Seligman et al., 2007). For example, a pessimist catastrophizes the situation and thinks they will fail at everything, while an optimist finds local causes for their temporary failures (Seligman et al., 2007). For the personal dimension, children can either internalize and blame themselves for the bad things that happen to them, or externalize and blame others (Seligman et al., 2007). Since depression is likely for children who internalize an event, Seligman et al. (2007) advises parents and educators to teach children how to see

themselves accurately and take responsibility for the things that are their fault (Seligman et al., 2007). This addresses personal responsibility to which children see themselves in realistic terms and come up with a plan of action that does not lead to guilt and shame (Seligman et al., 2007). Since optimism is social learning, educators and parents need to be aware of what they model to their children and the messages they send about the world (Peterson, 2000). Seligman et al. (2007) emphasizes that optimism is not about positive self talk or images of victory, it is a theory of reality that addresses the ways in which one thinks about the cause.

Optimistic thinking is more likely to lead to several positive outcomes. Optimistic people are not as likely to suffer from a psychological disorder such as depression, and often demonstrate more academic and professional success (Solberg Nes et al., 2009). They are also more successful with social relationships (Srivastava et al., 2006) and exhibit better physical health (Seligman et al. 2007) including a healthy immune system, a reduction in inflammation, and recovery from cardio-vascular illnesses (Patnaik, 2013; Segerstrom, 2005). In comparison to pessimistic people, optimistic people are more capable of regulating their thoughts and behaviors (Ylvisaker & Feeney, 2002; Aspinwall & Taylor, 1997). Optimistic people are more cognizant of risky information and adjust their behavior proactively in relation to those risks (Aspinwall & Taylor, 1997). Optimism is also seen as a cognitive characteristic regarding a goal, expectation, or casual attribution (Carver & Scheier, 1990; Peterson, 2000). Specifically, optimistic thinking and hope may provide the motivation one needs to achieve their goals (Magnano et al., 2015; Peterson, 2000).

Goal-Directed Behavior

Goal-directed behavior refers to the child's initiation and persistence in completing a task despite the difficulty level (LeBuffe et al., 2014). They seek out information and put in

the additional effort to achieve their goal (LeBuffe et al., 2014). In order to reach a goal, one must be motivated and have the right mindset (Redding, 2013). When a teacher assigns a learning task (i.e., an academic goal), the student evaluates this goal with a mindset that focuses on their beliefs, values, and sense of personal efficacy (Redding, 2013). If the mindset is positive to which they believe they can obtain the goal, then they are more likely to pursue the task or goal at hand (Redding, 2013; Gervey et al., 2005). Those who exhibit a positive affect are more flexible and tolerant to a situation (Aspinwall et al., 2001). Hence these individuals can self-regulate and adapt to a situation despite the difficulty level (Aspinwall et al., 2001). This research demonstrates the importance of a positive mindset given those with a positive mindset are more likely to achieve the goals they have set for themselves (Redding, 2013).

A student's perspective impacts their motivation to obtain a goal. Hence goal attainment includes the immediate goal and its connection to personal aspirations (Redding, 2013). Learning tasks (i.e., performance goals) should be connected to personal aspirations, not one's performance in the past (Redding, 2013; Dweck, 2000). According to Dweck (2000) incremental intelligence is the understanding that intelligence is malleable not fixed (Dweck, 2000). One can improve their intellectual abilities with hard work and determination (Dweck, 2000). Therefore, aspiration fuels incremental improvement (Redding, 2013). Incremental intelligence can also be referred to as a growth mindset (Tarbetsky et al., 2016). Unlike a fixed mindset where you believe your intellect, skills, and abilities are relatively stable, those with a growth mindset believe their intellect, skills, and abilities are malleable (Dweck, 2000). People with a strong growth mindset value the effort they put in (Dweck, 2000). A growth mindset has also been associated with several positive outcomes including academic

achievement (Blackwell et al., 2007), academic engagement (Bostwick et al., 2017; Martin et al., 2013), and fewer self-handicapping behaviors (Martin et al., 2001). They make goals centered around learning, and attribute failure as a lack of effort, not ability (Dweck, 2000).

In the classic literature, there are two types of academic goals: mastery goals and performance goals (Senko, 2016). Mastery goals help increase one's competence (Senko, 2016). The individual focuses on the task at hand and concentrates on how they can learn and understand the material (Elliot & McGregor, 2001). Performance goals focus on one's abilities, how they can outperform their peers (Senko, 2016), and how they can receive more gains than loses (Elliot & McGregor, 2001). Previous literature has also examined self-based growth goals. These goals address personal improvements (Elliot et al., 2015). Personal improvement or personal best goals are specific and challenging (Martin, 2006). These goals encompass the learning process to which students may study longer and obtain a more desired outcome such as a higher test score or grade (Bostwick et al., 2017). Self-based growth goals can also lead to several positive outcomes including academic achievement and engagement (Bostwick et al., 2017; Martin & Elliot, 2016a, 2016b).

SEL and Student Outcomes

SEL programs that practice and teach all eight social emotional competencies can lead to several short-term and long-term positive outcomes. Short-term outcomes include an increase in social and emotional skills to which the student has the ability to self-regulate, have empathy for another, and engage in effective decision-making (Durlak et al., 2015). Students also have a positive attitude towards themselves, and others (Durlak et al., 2015). They demonstrate an increase in social attendance and motivation (Durlak et al., 2011), prosocial behaviors (Schonert-Reichl et al., 2015; Durlak et al., 2011; Durlak et al., 2015), social skills, and positive social

behaviors (Sklad et al., 2012). Social emotional competencies have also led to an increase in critical thinking skills, problem-solving skills (Varela et al., 2013), and academic performance (Diekstra, 2008; Durlak et al., 2011; Durlak et al., 2015; Wilson et al., 2006). Social responsibility goals and social emotional competencies have been both positively and significantly related to an increase in reading and math scores for elementary and middle school students (Oberle et al., 2014). Fewer conduct problems have also been recorded (Durlak et al., 2011), in addition to a decrease in antisocial behavior (Sklad et al., 2012), violence, aggression (Beets et al., 2009; Botvin et al., 2006), and externalizing and internalizing problems (Boncu et al., 2017; Castillo et al., 2018; Nickerson et al., 2019; Espelage, et al., 2014; Espelage et al., 2015).

For long-term benefits, social emotional competencies have led to improvements in mental health (Hawkins et al., 2008; Panayiotou et al., 2019), family and work relationships (Hawkins et al., 2008), and peer relationships (Dobia et al., 2019; Dodge & Price, 1994; Nowicki & Duke, 1994). With an increase in academic success (Sklad et al., 2012; Fleming et al., 2005; Wentzel, 1993; Durlak et al., 2011; DiPerna et al., 2005; Zins et al., 2004), students have demonstrated more college and career readiness and an increase in high school graduation rates (Hawkins et al., 2008). In addition to engaged citizenship, students have also shown a decrease in criminal behavioral (Hawkins et al., 2008). This may be due to the relationship between the social emotional competencies and the reduction in antisocial behavior (Sklad et al., 2012), violence, aggression (Beets et al., 2009; Botvin et al., 2006), and externalizing and internalizing problems (Boncu et al., 2017; Castillo et al., 2018; Nickerson et al., 2019; Espelage et al., 2014; Espelage et al., 2015).

Resilience

Social emotional competencies contribute to a child's resilience (LeBuffe et al., 2014). According to Masten (2014), resiliency is the capacity of a system to adapt successfully to disturbances that threaten its stability, viability, or development. Previous research on resiliency addresses these contexts or adaptive systems (i.e., attachment, schools, families, and communities), in addition to the protective factors that help promote human development and growth. When children face adversity (e.g., bullying, war, famine, divorce, the loss of a parent etc.) they must have a way of protecting themselves so they do not suffer from the negative consequences of poor health and well-being. Hence, they must rely on a number of protective factors to help them through the more challenging times.

Protective factors can be described as "influences that modify, ameliorate, or alter a person's response to some environmental hazard that predisposes to a maladaptive outcome" (Rutter, 1985, p. 600). Protective factors can arise from one's ordinary human resources, and basic adaptive systems (Werner, 1995; Masten, 2014). This "ordinary magic" is more common than previously thought, and offers a wide range of protective factors including: capable parenting, additional close relationships, problem-solving skills (i.e., intelligence), self-control, motivation to succeed, self-efficacy, hope, effective schools, well-functioning communities (Masten, 2001, 2014), and a variety of social emotional competencies (Eklund et al., 2018). Protective factors are also interconnected and interdependent (Alvord et al., 2016). One protective factor can enhance another protective factor and together, promote resiliency in the child or adaptational system. For instance, capable parenting (i.e., authoritative), provides a secure attachment and promotes other protective factors (i.e., additional close relationships, and self-efficacy). Well-functioning communities may include a faith-based system that encourages

hope, and an educational system that provides the motivation students need to be successful (Alvord et al., 2016). The additional protective factor of problem-solving can also be helpful. Problem-solving helps a child gain control, increase self-efficacy, and promote executive function (Masten, 2014). Children who have the motivation to succeed also fare better and those who do not (Masten, 2014). Motivation is rewarding since children feel good about applying themselves and are less likely to shut down if there is an opportunity for growth (Masten, 2014).

Resiliency is not a specific trait, but a developmental process that allows the individual to adapt to adversity (Luthar & Cicchetti, 2000; Masten, 2001, 2014; Sroufe et al., 2005). According to Sroufe et al. (2005) the developmental process has three principles: the unity of the organism, the emerging complexity of the child, and the creative ability to act on their own development. This dynamic view demonstrates the idea that the mind and body cannot be separated, and that our past will always impact our future whether we are an active constructivist or not. Since the developmental process is thought to be part continuity and part change, patterns of adaptation can emerge from relationships in the past and motivate the individual to react differently to future situations (Sroufe et al., 2005). People may appraise a stressor as threatening and exhibit signs of learned helplessness, while others may see the same stressor as a learning opportunity and have the expectation that they will overcome the negative circumstance (Folkman et al., 1986).

The term "resilient" should not be used as an adjective since this may imply blame and deficits in the child (Masten, 2014). Rather, researchers prefer "trajectories of adaptation" when referencing the resiliency framework (Luthar & Cicchetti, 2000). Previous research has addressed the 'why' and 'how' regarding the trajectories of resilience (Rutter, 2013) and the risk factors and protective factors that influence the human adaptational system. Such risk factors as

poverty, acute/chronic life events, and negative life experiences (i.e., death of a parent and natural disasters), can create mental health problems in children and disrupt their normal human development (Masten, 2014). The implications of these risk factors have shown several positive correlations between the number of risks (i.e., risk gradient), the amount of exposure to adversity (i.e., dose effect), and behavioral problems in children. Specifically, previous research supports the understanding that dose matters (Kerker et al., 2015; Masten, 2014; Bradley et al., 2013). Depending on the magnitude of the personal loss, degree of proximity to the trauma, and amount of exposure to adversity, some individuals are at a higher risk for developing a psychological disorder (Masten, 2014).

Development variations and individual differences to risk factors have also been shown. Older children have reported more cognitive awareness than younger children, and younger children have shown a regression in skill development (Masten, 2014). In addition, adolescents have reported concerns on how the adverse life event will impact their future and as a result, reckless behavior has been exacerbated (Masten, 2014). Depending on the individual and their reaction to adversity, four patterns can emerge. The individual can exhibit a stress-resistance pattern with low symptoms of the stress response before and after the negative event (i.e., Pattern A), or a larger reaction to the stressor at first, and recovery after conditions improve (i.e., Pattern B) (Masten, 2014). For pattern C, a post-traumatic growth pattern can be found where individuals function better after the adversity, and in Pattern D, children are exposed to a large amount of adversity, but as conditions improve, there is a more dramatic and positive effect on human functioning and development (Masten, 2014). Patterns may depend on the factors that predict resiliency after a negative life event (e.g., natural disaster). Such predictive factors may include availability to resources and basic needs, safety and security from a family system, an

opportunity for kids to play and be free from adult psychosomatic symptoms, and the system's ability to restore a normal routine (Masten, 2014).

Stress

The neuroendodrine perspective of resilience depends on one's allostatic load and how they respond to the adversity. Allostatic load can be defined as the progressive physiological 'wear and tear' on the mind and body (McEwen & Stellar, 1993) due to too much stress. Researchers describe three types of stress: positive stress, tolerable stress, and toxic stress. Positive stress is short-lived with the body's ability to adapt. Tolerable stress has a negative impact on the brain, but allows the opportunity for the brain to repair itself, and toxic stress or chronic stress activates the stress response system in the long-term and damages the body (Scientific Council, 2014). When children have early exposure to toxic stress, the results can be devastating. Toxic stress and the over activation of the stress response system can lead to long-term physiological effects of inflammation, and cardiovascular disease (Scientific Council, 2014). Moreover, toxic stress can also damage the brain's architecture creating a reduction in neural networks, problems with learning and memory, and a more sensitive stress response system (Scientific Council, 2014).

The activation of the stress-response system is essential for human adaptation. The release of the corticotropin-releasing hormone (CRH) in the hypothalamus allows the pituitary gland to release adrenocorticotropic hormone (ACTH), and tell the adrenal glands to produce cortisol. Although too much cortisol can be problematic for one's physical and mental health, not enough cortisol (hypocortisolism) can lead to an increase in inflammation, and an inability to fight off disease. Hence short-term activation of the HPA axis and regulation of cortisol, is beneficial for positive adaption and human development (Cicchetti, 2010; Karatsoreos &

McEwen, 2013). Since Dehydroepiandrosterone (DHEA) helps balance the effects of too much cortisol and return the body to homeostasis, higher levels of DHEA may be associated with the ability to adapt or cope with life's stressors (Cicchetti, 2010; Russo et al., 2012). In one study, maltreated children demonstrated higher levels of diurnal DHEA, and resilient function (Cicchetti, 2010). Moreover, Russco et al. (2010) reported a positive correlation between PTSD symptom improvement, and DHEA.

Studies also report a gene-environment interaction (GxE) and resilient adaptation. The expression of the "warrior gene" monoamine oxidase A (MAOA) serves as a protective factor for children affected by maltreatment (Cicchetti, 2010). High activity of MAOA is associated with lower symptoms of depression and one's ability to cope with adversity (Cicchetti, 2010). In addition, maltreated children who had the 5-HTTLPR short allele, reported higher levels of depression (Caspi et al., 2002) especially when social support was absent (Kaufman et al., 2004). Early childhood stress is associated with the suppression of oxytocin and dopamine systems (Hughes & Baylin, 2012). Moreover, chronic stress can interfere with the brain-derived neurotrophic factor (BDNF), a neurotrophin that helps with nerve growth and development (Karatsoreos & McEwen, 2013). A shortage in BDNF can cause depressive symptoms and interfere with the plasticity of the brain (Karatsoreos & McEwen, 2013). Hence, protective factors such as the ability to problem-solve and/or self-regulate can help normalize the stress response system and return it to baseline. Considering the plasticity of the neural circuity early on in childhood, protective factors including social emotional competencies could have the potential to help a child learn when to turn on the stress response system and when to turn it off. With the regulation of the sympathetic-adrenomedullary (SAM) system and hypothalamic-pituitary-adrenocortical (HPA) system, children are less vulnerable to psychological problems

(i.e., depression, anxiety, addiction) and physiological problems (i.e., diabetes, stroke, and cardiovascular problems) (Scientific Council, 2014).

Appropriate regulation techniques can help activate the parasympathetic nervous system, the "upstairs brain" (Matz, 2013; Hughes & Baylin, 2012; Siegel & Bryson, 2011; Siegel & Hartzell, 2003) and the stress response system. Considering how the emotional part of the brain (i.e., amygdala) matures before the more logical part of the brain (i.e., prefrontal lobe) (Nelson et al., 2006; Siegel & Bryson, 2011; Siegel & Hartzell, 2003), children can have a difficult time regulating their emotions (Siegel & Bryson, 2011). Hence, Siegel and Bryson (2011) suggests a need for integration and advise caregivers to respond to the emotional right hemisphere first before the more logical left hemisphere. This need for integration can be supported with the additional research on the emotions found in the right and left hemispheres and Siegel and Bryson (2011) "connect and redirect approach." According to Cicchetti (2010), the right hemisphere displays more negative emotions and the left hemisphere displays more positive emotions. Hence one can apply the connect and redirect approach by addressing the negative emotions in the right hemisphere first, and then redirecting the response to the more logical, positive left hemisphere. Thus, calming down the emotional response from the amygdala, activating the prefrontal cortex, and regulating the stress response system.

Current research has found stress to be on the rise in the younger generations (i.e., the Millennial generation and generation Xers), and that younger Americans are having a more difficult time achieving their healthy living goals (APA, 2019). In comparison to the Boomers and the Matures, the younger generations have been shown to engage in more unhealthy behaviors with eating, alcohol consumption, and smoking to help manage their stress (APA, 2019). Specifically, 7.4% of children ages 3 to 17 have been diagnosed with a behavioral

problem, approximately 4.4 million children have been diagnosed with anxiety, and an additional 1.9 million children have been diagnosed with depression (CDC, 2019). In addition, suicide has been found to be the second leading cause of death among our youth, ages 10 to 34 (CDC, 2019).

Previous research has also reported additional mental health problems and academic problems within the schools. These problems include bullying (Kann et al., 2018; Frey et al., 2009; Espelage et al., 2015; Nickerson et al., 2019), academic anxiety (Dobson, 2012), peer victimization (Craig et al., 2009; World Health Organization, 2012), aggressive and exclusionary behaviors (Cook et al., 2010), chronic disengagement (Durlak et al., 2011) and a disruption in academic performance (Benson, 2006; Durlak et al., 2011; Durlak et al., 2015; Gresham, 2018). Depending on the age of the child and what they are exposed to, these problems may continue to increase, especially when children and adolescence are not provided with any guidance on how to regulate their stress response system and problem-solve.

Adolescence is a time for both opportunity and risk (Stalker et al., 2018). Hence adolescents might be more susceptible to a number of risky behaviors including substance abuse and aggression (Stalker et al., 2018) and poor mental health problems (Thapar et al., 2012). Due to changes in physical, social, and environmental influences, several researchers have found a decline in academic performance at the middle school transition (Alspaugh, 1998; Seidman et al., 1994; Simmons et al., 1987). This time of transition can create many new challenges for middle schoolers including the ability to form and manage new relationships, keep up with high academic standards, cope with biological changes to the body, and take on more independence and personal responsibility (Rosenblatt & Elias, 2008). Specifically, in urban schools, changes in school transition, pubertal development, the beginning of romantic relationships, and family disruption have all been shown to have a significant impact on one's academic performance

(Simmons et al., 1987). According to Simmons et al. (1987) these factors have been shown to have an additive risk for poor academic performance especially when students experienced a greater number of school transitions. Additional research supports this finding with low grade point averages and more than one school transition in early adolescents (Crockett et al., 1989).

A national survey of students in grades 6-12 reported half of the students to have deficits in several social emotional competencies including conflict resolution, decision-making abilities, and empathy (Benson, 2006). Moreover, 99 percent of teachers have reported at least one student in their class to have a social, emotional, and/or behavioral deficit (Scholastic Inc. & the Bill and Melinda Gates Foundation, 2013). Previous research has also shown that deficits in social emotional competencies not only leads to a negative impact on one's academic performance and social relationships (Gresham, 2018), but problems with substance abuse, sex, depression, suicide, and multiple high-risk behaviors by the time they reach high school (Gresham, 2018). Hence policymakers and legislators should view schools as a way to implement a variety of interventions that help meet the needs for students' physical and mental health services (Gresham, 2018), educational goals (Elias et al., 2014), and school and life success (Zins & Elias, 2006). According to Bear et al. (2017) social emotional competencies should be taught daily at the school through service-learning experiences, extra-curricular activities, and on-going relationships between students, teachers, and home. Universal SEL programs prevent maladaptive outcomes through social emotional skills (CASEL, 2003), positive activities in and outside the classroom (Zins & Elias, 2007), and social-emotional growth in a caring and supportive school environment (Elias et al., 1997).

Effective Schools

Effective schools can help reduce disruptive and antisocial behaviors that interfere with one's ability to learn (Doll et al., 2009). Schools can also help promote competence (Masten, 2014) and build the capacity for resilience (Storer et al., 1995; Bondy et al., 2007; Masten, 2014). Schools are often seen as neurocognitive-developmental institutions (Baker et al., 2012). When teachers and school administrators understand the connection between SEL and metacognition, they can help students with a variety of mental health and academic problems. Social and emotional know-how are fundamental aspects of human capital (Masten, 2014). Students should practice SEL skills given classroom adjustment requires the ability to self-regulate, practice the appropriate social skills, and engage in cooperative prosocial behaviors (Masten, 2014; Blair, 2002; Elias et al., 2003; Greenberg, 2006).

Teachers, administrators, coaches and other school personnel can become positive role-models and protective influences for the developing child (Masten, 2014; Nolan et al., 2014; Theron & Engelbrecht, 2012). Teacher expectations and encouragement can help motivate children and increase their self-confidence and self-efficacy (Masten, 2014). Teachers can foster resilience in the classroom by having students engage in meaningful opportunities to which they are allowed to make choices, express their opinions, problem-solve, and help others in the classroom (Henderson & Milstein, 1996). Previous literature has demonstrated how regular positive interactions with teachers increase the child's participation in a variety of learning activities (Doidge, 2010; Greenfield, 2000), and help them adjust and transition to their school environment (Pianta et al., 1995). When teachers promoted SEL in the classroom and used language that encourage resilience (e.g., 'try your best', 'we make mistakes to learn more', and 'persistence'), students exhibited more cognitive gains and improvements to their mental health

and well-being (Nolan et al., 2014; Bird & Sultmann, 2010). Positive caregiver relationships (e.g., teachers) can help children self-regulate, and guide them towards more positive solutions (Nagel, 2012). The social emotional skills of respect, cooperation, self-control, goal-directed behavior, problem-solving, and critical thinking can also create a healthy relationship between the student, their peers, and the teacher (Varela et al., 2013).

Prevention

Schools can serve as both preventative and well-being initiatives (Seligman et al., 2009; Pfeiffer & Reddy, 1998; American Academy of Pediatrics, 2004; Weist, 2005) especially when they practice and promote SEL skills and resilience (White & Murray, 2015). Primary prevention is the prevention of a disease before it develops (Doll et al., 2010). Primary prevention interventions are designed to help prevent harm and keep problems from emerging (Gresham, 2018). Secondary prevention is the prevention of a disease before it worsens or reoccurs (Doll et al., 2010). The goal of a secondary prevention intervention is to reverse harm for a child who exhibits a social skill deficit (Gresham, 2018). A tertiary prevention addresses the functional impact of the disease (Doll et al., 2010). Tertiary prevention interventions are to reduce harm for more at-risk children (Gresham, 2018). Preventive efforts can also be universal, selective, or indicated (Doll et al., 2010). A universal prevention program applies to all members of a community whereas a selective preventive program applies to only certain groups or members in need of services (Doll et al., 2010). In an indicated or targeted prevention program, only those who are considered high-risk, or show symptoms of a mental disorder, receive treatment (Doll et al., 2010).

Today, this three-level classification system is known as the response to intervention (RTI; Gresham, 2018). Professionals use the RTI approach to select, change, or titrate an

intervention and make a decision on how much of a *"dose"* each student should receive (Gresham, 2018). In a Tier 1 or universal intervention, all children are to receive the same dosage under the same conditions (Gresham, 2018). In a Tier 2 intervention, students receive a tailored intervention to meet the needs of the individual (Gresham, 2018). Those in the Tier 2 intervention may try to remediate oppositional-defiant behaviors and/or work with a small group of students who share common social skill deficits (Gresham, 2018).

About 3 percent of students require the most intensive level, Tier 3 (Gresham, 2018). The Tier 3 intervention is very intense, expensive, and time-consuming, and requires a functional behavioral assessment (FBA) to help meet the needs of at-risk students with more severe problems (Gresham, 2018). Although each tier can be beneficial for the child, it's important to note that no one intervention can solve all problems (Gresham, 2018). In addition, multi-tiered systems have hierarchies of increasing intensity, and interventions at a lower level have the possibility of reducing continuing interventions at several levels (Gresham, 2018). If tier 1 and 2 interventions are designed well and implemented correctly, then few students should require the need for a tier 3 intervention (Gresham, 2018). Hence researchers should employ a scientifically based approach that prevents problems and promotes positive development (Gresham, 2018).

Multi-tiered levels of support should be implemented from several services including counselors, social workers, and psychologists (Durlak et al., 2015). Bear et al. (2017) supports this viewpoint and recommends that social emotional competencies be taught daily at the school through service-learning experiences, extra-curricular activities, and on-going relationships between students, teachers, and home. These universal efforts should be provided in the school and classroom and extended to learning in the home and neighborhood (Durlak et al., 2015). After-school activities should also be employed to provide additional opportunities for students

to connect with adults and peers (Gullotta et al., 2009). However, with a focus on reform and high academic standards (Gresham, 2018), schools have not been given the support necessary to thrive. According to Durlak et al. (2015) numerous studies have shown a lack of an investment in our educational system and infrastructure compared to other modern industrialized nations. Instead of concentrating on prevention, there has been more of a focus on treatment and pathology (Doll et al., 2010). Specifically, children are more likely to receive support after a problem has been identified (LaBelle, 2019), rather than preventing the problem from occurring. With a concentration on deficits, schools have failed to recognize the need for a more primary approach to preventative services (LeBuffe, et al., 2014). Since SEL programs are more focused on primary prevention (Doll et al., 2010) and the universal treatment of all community members (Albee, 2004; Kaplan, 2000; Weissberg et al., 2003), they are a poor fit for the medical model (Doll et al., 2010).

Positive Psychology and Positive Education

Schools that focus on the medical model (i.e., pathology and human deficits), have failed to consider the positive qualities of the individual (Fowler et al., 1999), and created a culture of victimology (Gillham & Seligman, 1999). Individuals may blame others and fail to realize how they do have control over the problems they face. One may distrust the positive qualities of others, minimize accomplishments, and create a more pessimistic view of the world (Gillham & Seligman, 1999). Although the medical model can be useful for reducing or eliminating a disease, one must also teach realistic optimism and the ability to problem-solve (Gillham & Seligman, 1999). Hence a paradigm shift is necessary when it comes to focusing on prevention and the more positive things in life.

Researchers in the field of positive psychology study the good life and the dimensions of subjective states (i.e., positive emotions and subjective well-being), positive traits (i.e., strengths and virtues), and how one can contribute to positive institutions and communities (Seligman & Csikszentmihalyi, 2000; Medlock, 2012). When it comes to the study of happiness, most positive psychologists identify with Aristotle's interpretation of eudaimonic happiness and being true to one's authentic self. This field of psychology addresses the theory of happiness (i.e., positive emotion, engagement, and meaning), and the elements of well-being (i.e., positive emotion, engagement, relationships, meaning, accomplishment) or PERMA (Seligman, 2011).

Positive psychology is not just a theory, but a movement that has helped the lives of many individuals. When an individual experiences positive affect and happiness, they are more likely to build up their personal resources, engage in approach-orientated behavior, and experience a variety of successes (e.g., jobs, relationships, psychological and physical health) (Lyubomirsky et al., 2005). Positive psychology has also impacted a variety of institutions and practices. Positive psychology's strength-based work has been applied to counseling (Magyar-Moe et al., 2015), group positive psychotherapy (Seligman et al., 2006), positive organizational practices at work (Mills et al., 2013), classroom interventions (Seligman et al., 2009), and positive psychology interventions (Ng, 2015). A positive psychology intervention can serve as a protective influence in which the individual learns the skills necessary to overcome the adversity they face (Layous et al., 2014). Positive psychology school-based interventions have demonstrated significant improvements in student well-being, relationships, and academic performance (Waters, 2011). Positive psychology interventions such as the Penn Resilience program, and the Bounce Back program in Australia, have also shown an increase in resilience and a decrease in the likelihood of a psychological disorder (Hefferon & Boniwell, 2011). Based

on the understanding that school-wide programs are more effective than brief class-based programs (Wells et al., 2003), one must also consider the protective factors that promote resiliency for a more school-wide positive psychology curriculum.

According to Seligman et al. (2009), positive education is about traditional skills and happiness. Seligman's strength-based approach to positive education has been shown to have a significant effect on student grades (Weber & Ruch, 2012), positive behaviors in school, and academic achievement (Wagner & Ruch, 2015). Specifically, Weber and Ruch (2012) have found a positive correlation between the strengths of gratitude, hope, perspective, self-regulation, perseverance, love of learning, and student grades. Wager and Ruch (2015) have also found a positive correlation between the strengths of hope, perseverance, zest, love of learning, self-regulation, prudence, and a student's positive classroom behavior. Hence, a strength-based approach to learning can help students improve their grades and showcase more positive behaviors in the classroom.

By using effective coaching methods, one can identify and develop their strengths through goal setting and performance improvement (Hefferon & Boniwell, 2011). Coaching has been shown to increase hope and improve cognitive hardiness (i.e., measurement for resilience) (Green et al., 2007). With a focus on the ways to enhance optimal functioning, positive psychology and coaching shift the direction away from one's deficits (Hefferon & Boniwell, 2011) to hopeful thinking and the ability to problem-solve. Schools could implement the problem-solving skills that employ the stress management techniques of mindfulness, meditation, gratitude, relaxation, and Albert Elli's (1962) rational emotive behaviour therapy (REBT). REBT could help reduce the students negative affect and cognitively restructure one's irrational beliefs to more realistic ones (Bernard et al., 2010). REBT could also reduce a child's

emotional distress (Bernard et al., 2010), and harness their inner strengths (Hefferon & Boniwell, 2011) to overcome adversity. Mindfulness could help build resiliency with an appreciation for the here and now (Baylis, 2004), and meditation could help promote nonjudgmental equanimity (Kristjánsson, 2012).

SEL Programs

Schools should use effective coaching methods that help students learn and develop a variety of social emotional skills. Schools should consider the benefits of positive psychology and educational psychology and implement a strength-based primary prevention program to which all students can benefit from the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior. Social-emotional standards are used to guide SEL instruction in the school (Eklund et al., 2018). Educational policy changes at the federal level provide school administrators the opportunity to prioritize SEL skills (Eklund et al., 2018). With the Every Student Succeeds Act (ESSA, 2015), states are given the flexibility to employ an accountability system that drives school improvement efforts (Eklund et al., 2018). This accountability system requires two indicators of student academic achievement and one indicator of school quality or student success (e.g., a positive school climate and SEL skills) (Eklund et al., 2018). Since the social emotional competencies can lead to student academic success (Sklad, et al., 2012; Fleming et al., 2005; Wentzel, 1993; Durlak et al., 2011; DiPerna et al., 2005; Zins et al., 2004), a positive school climate (Durlak et al., 2015; Lindsay, 2013), and an increase in SEL skills (Durlak et al., 2015; Durlak et al., 2011), more schools should adopt and implement an authentic SEL program. In addition, evidence based SEL programs can also be cost effective (Hunter et al., 2018; Belfield et al., 2015). Due to a reduction in negative outcomes (e.g.,

delinquency) and an increase in positive outcomes (e.g., academic achievement), previous

research has demonstrated a cost savings analysis of 11 dollars for every dollar spent (Belfield et

al., 2015).

However, the vast majority of schools lack a strength-based primary prevention program

that concentrates on all SEL standards (see Greenberg et al., 2003; White & Murray, 2015;

Eklund et al., 2018; LaBelle, 2019; Sklad et al., 2012), and very few states have adopted a

freestanding, comprehensive program with SEL standards (Eklund et al., 2018). Previous

research has shown that several programs have been a succession of fragmented fads with little

direction, coordination, and sustainability (Shriver, & Weissberg, 1996). Moreover, several SEL

programs have failed to provide the appropriate training to personnel. According to Bear et al.

(2017) there is a lack of formally adopted SEL programs with daily SEL instruction. SEL

interventions do not work if they are not adopted and fully utilized in the classroom (Webster-

Stratton & Herman, 2010). The efficiency of such SEL programs is directly linked to the fidelity

of the implementation (O' Donnell, 2008). Hence core components should be implemented as

intended (O'Donnell, 2008). If one does not implement an SEL program the way it is intended or

designed, probably failure is likely to result. Schools should try to employ a high degree of

fidelity upon implementation (Durlak et al., 2015; Gresham, 2018; Yang et al., 2018). Mental

health professionals, teachers, staff, and other school personnel should receive high-quality

training and ongoing support (Durlak et al., 2015; Gresham, 2018). SEL interventions need to be

taught through experimental learning and practiced on a regular basis with a cooperative school-

wide environment (Devaney et al., 2006; Greenberg et al., 2003; Zins et al., 2004; Yang et al.,

2018).

Summary

Social emotional learning (SEL) can be defined as the ability to understand and manage one's emotions, develop strong, positive relationships, and make thoughtful and responsible decisions (CASEL, 2019a). Previous research has examined SEL and the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimism, and goal-directed behavior (LeBuffe et al., 2014). Social emotional learning competencies are derived from Bandura's (1977) social learning theory and Bandura's (1989) social cognitive theory. These competencies are also considered cognitive skills or metacognitive skills (Srinivasan, 2019). MC skills and SEL skills share similar processes in how one learns and interprets their world. These skills are also associated with executive function (see Nigg et al., 1999; Norman & Shallice, 1980; Miyake & Friedman, 2012; Roebers, 2017), and the top-down control and regulation of one's cognition, behavior, and emotion (Nigg et al., 1999).

The social emotional competency of self-awareness may serve as the foundation for all other competencies. If one is not an expert of their own self-knowledge (Legrain et al., 2011), then they may have difficulty managing their thoughts, feelings, and behaviors (i.e., self-management), understanding another's perspective (i.e., social awareness), cooperating with others (i.e., relationship skills), taking personal responsibility for their actions, participating in effective decision-making, and achieving the goals they have set for themself (CASEL, 2019). Recognizing one's own emotions, thoughts, values, and behavior can also help with the development of an optimistic mindset. With an optimistic mindset, one is more cognizant and proactive in overcoming the challenges they face (Aspinwall & Taylor, 1997).

SEL programs that practice and teach all eight social emotional competencies can lead to several short-term benefits (e.g., an increase in prosocial behaviors, and academic performance) (Durlak et al., 2011; Durlak et al., 2015), and long-term benefits (e.g., career readiness and an increase in high school graduation rates) (Hawkins et al., 2008). Social emotional competencies also help in contributing to children's resilience (LeBuffe et al., 2014), and their ability to regulate the stress-response system. Effective schools can help students learn and practice the different social emotional competencies (Durlak et al., 2015; Gresham, 2018; Srinivasan, 2019). By promoting SEL in the classroom and encouraging resiliency, students have exhibited more cognitive gains and improvements in their mental health and well-being (Nolan et al., 2014; Bird & Sultmann, 2010).

Schools can also serve as both prevention and well-being initiatives (Seligman et al., 2009; Pfeiffer & Reddy, 1998; American Academy of Pediatrics, 2004; Weist, 2005; Durlak et al., 2015; Gresham, 2018; White & Murray, 2015; Srinivasan, 2019). Instead of concentrating on deficits, schools should invest in a primary prevention program that encourages a more strength-based approach to learning (LeBuffe et al., 2014; White & Murray, 2015). School-wide SEL programs should consider a curriculum rooted in positive psychology and positive education. Previous research has demonstrated a lack of a strength-based primary prevention program within the schools (see Greenberg et al., 2003; White & Murray, 2015; Eklund et al., 2018; LaBelle, 2019; Sklad et al., 2012). Hence, more schools need to adopt an authentic SEL program that concentrates on prevention and all eight social emotional competencies.

Chapter 3: Research Method

With stress on the rise in the younger generations (APA, 2019; CDC, 2019), and adolescence being a vulnerable time for more risky behaviors (Stalker et al., 2018) and poor mental health (Thapar et al., 2012), adolescents need to learn how to effectively cope with the problems they face. SEL programs such as the Top 20 can provide several benefits for middle school students. Overall, SEL programs have led to a variety of positive outcomes including the ability to self-regulate, have empathy for another, engage in effective decision-making (Durlak et al., 2015), exhibit cognitive gains (Nolan et al., 2014; Bird & Sultmann, 2010), and improve one's academic performance (Diekstra, 2008; Durlak et al., 2011; Durlak et al., 2015; Wilson et al., 2006). However, previous research has shown that several programs have been a succession of fragmented fads with little direction, coordination, and sustainability (Shriver, & Weissberg, 1996). In addition, very few states have adopted a freestanding, comprehensive program with SEL standards (Eklund et al., 2018). Hence there is a need for a primary prevention program within the schools that promotes and teaches SEL.

The problem to be addressed by this study is the lack of primary prevention programs that develop SEL skills within the schools (see Greenberg et al., 2003; White & Murray, 2015; Eklund et al., 2018; LaBelle, 2019; Sklad et al., 2012). The purpose and primary goal of this study is to determine the efficacy of the Top 20 SEL program and how their SEL curriculum may lead to an increase in social emotional learning. The secondary goal of this study is to explore how the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior may play a significant role in a child and adolescent's social emotional development.

For this quasi-experimental design, this researcher used a valid instrument and questionnaire (i.e., the Devereux Student Strengths Assessment), and several statistical tests including an independent-samples t-test, a paired-samples t-test, and a Cohen's d test. In this chapter, this researcher will discuss the population and sample size, the validity of the instrumentation, variables measured, study procedures, data collection and analysis, assumptions, limitations, delimitations, and ethical assurances.

Research Methodology and Design

Quantitative research can be defined as a linear research process (Baur, 2009) where data is highly structured and standardized (Baur, 2019). Quantitative variables are analyzed using a variety of statistical software including the Statistical Package for Social Science (SPSS) and Python (Baur, 2019). To measure a quantitative variable, one can use surveys (Baur, 2014) and perform a variety of statistical methods including a correlation and regression, chi-square test, independent-samples t-test, and paired-samples t-test. Qualitative research is described as more interpretive research that focuses on phenomenology and social constructivism (Knoblauch & Pfadenhauer, 2018). Quantitative is the method of choice when one wants to obtain more "natural" data or visual data (Rose, 2016). Quantitative data helps one interpret a lot of information through open-ended interviews and case studies (Baur, 2019). Since this researcher investigated the efficacy of the Top 20 SEL program and total SEL score, the preferred research method was quantitative.

This researcher analyzed the problem and purpose of the study through a quantitative linear research process. SEL was defined and the efficacy of the Top 20 SEL program was analyzed and interpreted with the use of the DESSA and statistical software SPSS. Research questions one and two also fit the quantitative model given several statistical analyses (i.e.,

independent-samples t-test, paired-samples t-test, and Cohen's d test) were performed to test the hypotheses in this study. No hypothesis was tested for the third research question. This question pertains to a more descriptive quantitative analysis regarding the different means scores and all eight social emotional leaning competencies.

There is a difference between the efficacy and effectiveness of a program. Efficacy is investigating if an intervention produces the expected result under the ideal circumstances (Gartlehner et al., 2006). Efficacy investigates whether an intervention does more good than harm (Kim, 2013). Effectiveness determines what the beneficial effect would be in the "real world" (Godwin et al., 2003). In this study, this researcher investigated the efficacy of the Top 20 program, and how this program worked under controlled circumstances (e.g., well-defined groups of participants). To help determine "what works," a quasi-experimental design is more appropriate, especially when a randomized experimental design is not as feasible, ethical, or practical within the school setting (Wong et al., 2015). Hence, a quasi-experimental design was chosen given the practically and purpose behind the study.

Other additional research methods and designs would not be appropriate for this study. This researcher explored cause and effect, not a relationship between the different variables. Hence a quasi-experimental design was more appropriate than a correlation or regression. Since the research is not addressing the relationships between categorical variables, a chi-square analysis is also inappropriate. An analysis of covariance (ANCOVA) would also be inappropriate since there is not a covariance between the two groups (i.e., the control group versus the experimental group). The control group and the experimental group are very similar in age, gender, and grade level. Since the two groups were similar, an independent-samples t-test was a more accurate measurement.

Population and Sample

The population for this study was students in a public middle school. There are an estimated 241 public middle schools in the state of Minnesota (Minnesota Department of Education, 2020). General student demographics for those in this specific public school district consisted of 85.7% White, 6.7% Hispanic, 5.9% Black, and 5.0% Asian (Ballotpedia, 2020). The median household income for this county is $74, 995 compared to $60, 282 for the entire state of Minnesota. The poverty rate for this county is 7.3 percent (Ballotpedia, 2020). This is well below the poverty rate of 11.5 percent for the state of Minnesota (Ballotpedia, 2020). The population was appropriate for the problem and purpose of the study. This researcher was studying the younger generation and those exposed to an SEL program. By sampling a population without any previous exposure to an SEL program, this researcher was able to investigate the efficacy of the Top 20 SEL program. This helped answer the questions on the efficacy of the Top 20 SEL program and if this program increased SEL or not. By studying the student population and the mean scores for each social emotional competency, this researcher was also able to answer the question on what the growth trends are for all eight SEL competencies.

Participants were recruited from a public middle school in the state of Minnesota for the 2019-2020 school year. Nonprobability sampling was used in this study. Students were assigned to an experimental group or control group, a sixth-grade homeroom class, and a sixth-grade homeroom teacher. Both the experimental group and control group were similar in their sample size, age, gender, and grade level. The experimental group consisted of 170 students, and the control group consisted of 189 students. There was a total of 92 males and 78 females in the experimental group, and 96 males and 93 females in the control group. Students in both the

experimental group and control group were between the ages of 11 and 12 years-old and all participants were in sixth-grade.

To determine the effect size of the Top 20 SEL program and what an appropriate sample size would be for the study, this researcher utilized the G*Power program and assumed a 95% confidence interval. The results from the G*Power program revealed a minimum sample size of 88 students for both the experimental group and control group. With more than 88 students per group, this study demonstrated an appropriate sample size. In this study, the effect size was the difference between the two group means (see Sullivan & Feinn, 2012). According to Sullivan and Feinn (2012) a Cohen's d-ratio can range from small (.2), to moderate (.5), to large (.80) respectively. Results from the G*Power program revealed that a sample size of 88 students was enough to determine a moderate effect size of 0.5 or higher. With a large sample size and a comparable experimental group and control group, this researcher was able to determine the efficacy of the Top 20 SEL program and how each social emotional competency played a significant role in a child and adolescent's social emotional development.

With permission from the principal, sixth-grade students were assigned to an experimental group, a control group, sixth-grade homeroom class, and sixth-grade homeroom teacher. The Top 20 SEL program was implemented in the school and all data was analyzed by this researcher. This study consisted of a secondary data analysis. No participants were recruited by the researcher. Data consisted of pre and post-test social emotional competency scores, a total social emotional composite (SEC) score, student ID, age, gender, grade level, and sixth-grade homeroom teacher each student is assigned to. The principle and Top 20 SEL program manager provided additional information on those in charge of the SEL instruction, the Top 20 SEL

curriculum, and the additional SEL lessons including team-building, organization, gratitude, service to others, goals, and problem-solving.

Materials or Instrumentation

Sixth-grade homeroom teachers completed the Devereux Student Strengths Assessment (DESSA). The DESSA consists of a 72-item standardized instrument with a five-point rating scale (LeBuffe et al., 2014). This 72-item standardized instrument was used to measure all eight social emotional competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior) (LeBuffe et al., 2014). The 72 items were separated into eight categories, and these categories represent all eight social emotional competencies. Self-awareness and optimistic thinking had a total of 14 items (i.e., 7 items for self-awareness and 7 items for optimistic thinking). Relationship skills, personal responsibility, and goal-directed behavior had a total of 30 items, and the additional 3 social emotional competencies consisted of 9 items for social awareness, 11 items for self-management, and 8 items for decision-making (LeBuffe et al., 2014). All eight scores from each social emotional competency were derived from the items assigned to each scale (LeBuffe et al., 2014). The DESSA not only provided a score for each competency, but a total SEC score as well (LeBuffe et al., 2014).

Parents and teachers can also use the DESSA to see if their child or student demonstrates a specific social emotional competency. This researcher can also use this assessment to determine if there is an increase in social emotional learning and what the growth trends are for each social emotional competency. The DESSA can also assess which children are at risk for developing an emotional or behavioral disorder (LeBuffe et al., 2014). With the use of the DESSA, researchers can help implement an appropriate intervention (LeBuffe et al., 2014).

Hence this researcher used information from the DESSA to assess each social emotional competency and determine the efficacy of the Top 20 SEL program.

After approximately 75 years of behavioral health rehabilitation, the Devereux Center for Effective Schools (CES) and the Devereux Center for Resilient Children (DCRC) decided to come together and focus on the goals of promoting SEL and student success (LeBuffe et al., 2014). To help achieve these goals, both centers concentrated on primary prevention. The CES focused on applied research and a three-tiered prevention framework (LeBuffe et al., 2014). The DCRC focused on ways to enhance SEL and foster resiliency (LeBuffe et al., 2014). To help promote and assess resiliency in preschool children, the Devereux Early Childhood Initiative (DECI) developed the Devereux Early Childhood Assessment or DECA (LeBuffe & Naglieri, 1999). However, since this assessment did not measure students past the preschool age, researchers decided to update the DECA and create the DESSA to measure all eight social emotional competencies in grades K-8 (LeBuffe et al., 2014).

The DESSA has demonstrated evidence of several types of validity including content validity, construct validity, criterion validity, and internal validity (LeBuffe et al., 2014). Content validity is defined as the extent to which your instrument is measuring what it is supposed to be measuring (Trochim et al., 2016). In other words, how well do the 72 items represent the behavioral characteristics that are related to each social emotional competency? To answer this question, LeBuffe et al. (2014) explored the literature on resilience (Werner & Smith, 1982, 1992), positive youth development (Catalano et al., 1998), and SEL (Payton et al., 2000). This initial literature review and the DECA helped LeBuffe et al. (2014) create 765 potential items. To help eliminate such a large pool of items, researchers combined items that were similar to each other and removed others that could not be measured, this resulted in a pool of 156 items

(LeBuffe et al., 2014). To help reduce the number of items even further, researchers designed a pilot study to investigate these items and their interrelationships (LeBuffe et al., 2014). If an item-total demonstrated a correlation of <.60, it was eliminated from the pool. This resulted in a pool of only 81 items which was reduced to only 72 items after additional testing (LeBuffe et l., 2014).

To ensure that the DESSA items were organized into their correct categories or scales, LeBuffe et al. (2014) investigated CASEL's original definition of SEL and the five different social emotional competencies of self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. To explore these concepts further, LeBuffe et al. (2014) conducted an exploratory factors analysis that did not reveal a multi-factor structure. Due to a factor accounting for well over 50 percent of the variance and several residual factors, LeBuffe et al. (2014) decided to rule out the exploratory factor analysis and engaged in more logical scale developmental techniques. Items were assigned to corresponding scales based on their content and redefined using a variety of psychometric techniques including an alpha coefficient, and corrected item-scale reliabilities (LeBuffe et al., 2014). LeBuffe et al. (2014) identified two of CASEL's SEL competencies (i.e., responsible decision-making and self-management) to have several sub-parts. Therefore, the competency of responsible decision-making was divided into two sub-scales (i.e., personal responsibility and decision-making), and the competency of self-management was divided into the sub-scale of self-management and goal-directed behavior (LeBuffe et al., 2014). Optimism was also added as its own competency since it showed a strong connection between resiliency and other protective factors (see Seligman et al., 2007). With this additional research, LeBuffe et al. (2104) decided that the 72 items should be organized into eight scales or categories to which each category represents one

of the eight social emotional competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior). LeBuffe et al. (2014) believed this would be a much more accurate measurement for SEL and a child's social emotional development. This additional research also demonstrated excellent content validity since the results revealed that the DESSA was measuring what it was supposed to be measuring (i.e., the eight social emotional competencies).

Construct-related validity is the degree to which the assessment can measure the theoretical construct of interest (LeBuffe et al., 2014). With the use of the DESSA, researchers measured a type of construct-related validity known as convergent validity (LeBuffe et al., 2014). This type of validity examined the relationship between the scores on the DESSA and other similar constructs (LeBuffe et al., 2014). Researchers correlated T-scores on the DESSA with scores on the Behavioral and Emotional Rating Scale-Second Edition (BERS-2; Epstein, 2004) and the Behavior Assessment System for Children-Second Edition (BASC-2; Reynolds & Kamphaus, 2004). The results from the study reported strong convergent validity with scores from the BERS-2 and the BASC-2 (LeBuffe et al., 2014). The DESSA's SEC score also demonstrated a significant correlation with the BERS-2 index ($r = .80$, $p < .01$) (LeBuffe et al., 2014). Researchers also assessed the protective factors of the DESSA's SEC score and four groups of students (i.e., High Risk – Low SEC, High Risk – Average/High SEC, Average/Low Risk – Low SEC, and Average/Low Risk –Average/High SEC). Results demonstrated that SEC reduces negative outcomes for the high-risk group and the average/low risk group (LeBuffe et al., 2014). Hence the results revealed how SEC meets the definition for a protective factor (LeBuffe et al., 2014).

Criterion-related validity identified whether the scores on the DESSA predicted social-emotional functioning of school-aged children (LeBuffe et al., 2014). To test this hypothesis, researchers compared the DESSA ratings from two different groups (LeBuffe et al., 2014). The first group consisted of students in the "seriously emotionally disturbed" group or SED, and the second group consisted of the regular education group or RE. Researchers used a multivariate analysis of variance (MANOVA) to compare the social emotional competencies scores between the different groups, and an independent-samples t-test to examine the total SEC score (LeBuffe et al., 2014). According to LeBuffe et al (2014), all scale comparisons were significant ($p < .01$). The results showed that the mean scores of the SED group and RE group differed by at least 80% and had a *d*-ratio range from .83 to 1.36 (LeBuffe et al., 2014). Since the study's *d*-ratios ranged from .83 to 1.36, one can say that the effect sizes were large (LeBuffe et al., 2014). In addition, the emotional SEC score also differentiated between the SED group and the RE Group (t (155) = 8.12, $p < .01$; d = 1.31) (LeBuffe et al., 2014). These results provide strong evidence regarding the criterion-related validity of the DESSA scales.

The DESSA has also demonstrated excellent internal reliability, test-retest reliability, and interrater reliability (LeBuffe et al., 2014). Internal reliability is defined as the extent to which the items on the scale measure the construct under study (LeBuffe et al., 2014). Researchers investigated the DESSA and the internal reliability coefficients for all eight social emotional competencies. The internal reliability coefficients demonstrated a range of .82 (optimistic thinking and self-awareness – parent raters) to .94 (relationship skills – teacher raters) (LeBuffe et al., 2014). The median reliability coefficient for all eight scales was .855 for parent raters and .92 for teacher raters. Since scores exceeded the minimum score of .80 (Bracken, 1987), the DESSA demonstrated excellent internal reliability.

Excellent test-retest reliability was also shown with the DESSA. Test-retest reliability is the correlation between scores from the same child, but at two separate occasions (LeBuffe et al., 2014). To explore test-retest reliability for the DESSA, researchers separate parents and teachers into two separate groups and had them rate the same child at different occasions. The results revealed a significant correlation ($p < .01$) and high magnitude (LeBuffe et al., 2014). The test-retest reliability coefficient (r) was .79 for social awareness – parent raters, and $r =.94$ for personal responsibility and decision-making – teacher raters (LeBuffe et al., 2014). The median test-retest reliability coefficient was .86 and .925 (LeBuffe et al., 2014). These results demonstrate that the DESSA has excellent test-retest reliability.

Interrater reliability is the correlation between scores from two different raters or observers (Trochim et al., 2016). The interrater reliability of the DESSA tells us how similar the rater's perceptions are of the same child (LeBuffe et al., 2014). To test the interrater reliability of the DESSA, LeBuffe et al. (2014) compared ratings from two parents in the same household, several teachers in the same classroom, and a teacher's aide. The parents, teachers, and teacher's aide had all worked with the same child. Results showed that parent and teacher ratings were very similar for the same child. Correlations were significant ($p < .01$), with a moderate to high magnitude (LeBuffe et al., 2014). The parent rater SEC correlations were .78, and the teacher rater SEC correlations were .80 (LeBuffe et al., 2014). The eight scales demonstrated a range of .63 (self-management – parent raters) to .84 (decision-making – teacher raters). The median correlation coefficients for parent and teacher raters consisted of .725 to .735 (LeBuffe et al., 2014). These strong correlations demonstrate DESSA's excellent interrater reliability.

Operational Definitions of Variables

In this study, this researcher examined several variables including: social emotional learning, self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior. There definitions are provided below.

Self-Awareness. Recognizing one's own emotions, thoughts, values, and behavior (CASEL, 2019). A total of 7 items make up the total composite score for self-awareness on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of self-awareness. Levels of self-awareness were measured pre- and post-implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive analysis on this variable also helped the researcher determine if there was an increase in this competency.

Self-Management. The ability to effectively manage and regulate one's feelings, thoughts, and behaviors in a variety of situations (CASEL, 2019). A total of 11 items make up the total composite score for self-management on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of self-awareness. Levels of management were measured pre- and post- implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive analysis on this variable also helped the researcher determine if there was an increase in this competency.

Social Awareness. The ability to understand the perspective of another, have compassion for them, and empathize (CASEL, 2019). A total of 9 items make up the total composite score for social awareness on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of self-awareness. Levels of social awareness were measured pre- and post- implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive analysis on this variable helped the researcher determine if there was an increase in this competency.

Relationship Skills. The ability to work well and cooperate with others (CASEL, 2019; Durlak et al., 2015). A total of 10 items make up the total composite score for relationship skills on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of relationship skills. Levels of relationship skills were measured pre- and post- implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive analysis on this variable also helped the researcher determine if there was an increase in this competency.

Personal Responsibility. The ability to be careful and reliable in one's actions and efforts towards the group (LeBuffe et al., 2014). A total of 10 items make up the total composite score for personal responsibility on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of personal responsibility. Levels of personal responsibility were measured pre- and post- implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive

analysis on this variable also helped the researcher determine if there was an increase in this competency.

Decision-Making. Problem-solving by observing and learning from others, and by taking past experiences into consideration (LeBuffe et al., 2014). A total of 8 items make up the total composite score for decision-making on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of decision-making. Levels of decision-making were measured pre- and post- implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive analysis on this variable also helped the researcher determine if there was an increase in this competency.

Optimistic Thinking. Confidence, hopefulness, and positive thinking regarding one's past, present, and future (LeBuffe et al., 2014). A total of 7 items make up the total composite score for optimism on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of optimism. Levels of optimism were measured pre- and post- implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive analysis on this variable also helped the researcher determine if there was an increase in this competency.

Goal-Directed Behavior. Initiation and persistence in completing a task despite the difficulty level (LeBuffe et al., 2014). A total of 10 items make up the total composite score for goal-directed behavior on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of goal-directed behavior. Levels of goal-directed

behavior were measured pre- and post- implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive analysis on this variable also helped the researcher determine if there was an increase in this competency.

Social Emotional Learning. The ability to understand and manage one's emotions, develop strong positive relationships, and make thoughtful and responsible decisions (CASEL, 2019a). The weighted average of all eight social emotional competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior) made up the total composite score for social emotional learning on the DESSA. Scores for this interval variable ranged from 28 to 72, with higher scores indicating higher levels of social emotional learning. Levels of social emotional learning were measured pre- and post- implementation of the Top 20 SEL curriculum. In this study, post-test scores served as the dependent variable. This allowed the researcher to investigate the statistical significance and efficacy of the Top 20 SEL program. A descriptive analysis on this variable also helped the researcher determine if there was an increase in the total social emotional learning composite score.

To determine the efficacy of the Top 20 SEL program and how their SEL curriculum may lead to an increase in social emotional learning, this researcher performed an independent-samples t-test, paired-samples t-test, and Cohen's d. With the use of the independent-samples t-test, this researcher explored the independent variables (i.e., the experimental group and the control group) and the dependent variable (i.e., the total SEL change). The total SEL change was the difference score before and after the Top 20 SEL program. For the paired-samples t-test, the

independent variable was the amount of time that had elapsed before and after the treatment (i.e., the Top 20 SEL program). The dependent variables were the SEL scores from the experimental group before and after the treatment. A Cohen's d helped the researcher determine if the Top 20 SEL program had a small, moderate, or large effect size. To determine what the trends of growth are for each social emotional competency, this researcher examined the mean scores of all eight social emotional competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior). These eight social emotional competencies made up the total SEL score (i.e., the dependent variable).

To help measure each variable in the study, this researcher used the DESSA. The DESSA provided the raw data on each student in the study and their eight social emotional competency scores. Since all eight competencies made up the total SEL score, the DESSA helped this researcher compute the total SEL score for each group before and after the treatment. The DESSA used interval levels of measurement for each of the eight social emotional competencies. Each competency had a normalized scale of 28 to 72. All social emotional competency scores made up the total SEL score or composite score.

Study Procedures

Students from a public middle school in the state of Minnesota were assigned to an experimental group or control group, a sixth-grade homeroom class, and a sixth-grade homeroom teacher. Before the Top 20 SEL program was implemented at the middle school, all sixth-grade homeroom teachers received computerized training on the DESSA and the eight social emotional competencies. Sixth-grade homeroom teachers were taught what student behaviors were associated with each social emotional competency. Sixth-grade homeroom teachers were asked

to observe each student in their homeroom class from August 2019 to September 2019 and record any behavior associated with one of the eight social emotional competencies. Using the DESSA and a five-point rating scale of never, rarely, occasionally, frequency, and very frequently, sixth-grade homeroom teachers were asked to rate each student on how well they demonstrated each behavior or competency. After the results were recorded by all 15 sixth-grade homeroom teachers, two trained middle school teachers helped embed and teach the Top 20 SEL curriculum and monthly SEL lessons to all students in the experimental group. Students in the experimental group followed a social emotional curriculum that focused on all eight social emotional competencies. Those in the experimental group received monthly SEL lessons on team-building, organization, gratitude, service to others, goals, and problem-solving. Students in the experimental group received the SEL curriculum and additional SEL lessons from September 2019 to January 2020. Students in the control group did not receive the SEL curriculum or any additional SEL lesson.

After the SEL curriculum and additional SEL lessons ended in January 2020, sixth-grade homeroom teachers were asked to rate each student in their homeroom class on how well they demonstrated each behavior or competency. Teachers used the DESSA and the same five-point rating scale. After sixth-grade homeschool teachers entered their scores for each student in their homeroom class, the raw data was analyzed by this researcher. The data consisted of pre and post-test social emotional competency scores, a total SEC score before and after the treatment, student ID, age, gender, grade level, and sixth-grade homeroom teacher. This researcher was given access to the DESSA by the manager of the Top 20 SEL program so the results could be analyzed and interpreted.

Data Collection and Analysis

This study consisted of a secondary data analysis and quasi-experimental design. With the use of the DESSA, sixth-grade homeroom teachers entered their scores before and after the treatment (i.e., the Top 20 SEL program and the additional SEL lessons). After the data was entered by all sixth-grade homeroom teachers, it was sent to this researcher to be analyzed. This researcher received the de-identified data from the manager of the Top 20 SEL program. All data was scored, and each participant had a "value" for each SEL pre and post-test total score and pre and post-test competency score. For the total SEL change score, this researcher calculated the difference between the post-test total SEL score from the pre-test total SEL score. This researcher calculated this score for both the experimental group and control group. This total SEL change score served as the dependent variable in the independent-samples t-test. A Cohen's d test was also performed to determine the effect size of the Top 20 SEL program. For the descriptive analysis on each social emotional competency, this researcher also calculated the mean scores for each competency before and after the treatment. This researcher performed this calculation for both the experimental group and control group and compared the scores from the pre and post-tests.

In this study, the SEL change is the mean difference SEL score of the post-test minus the pre-test. To help answer the question on if there is a statistically significant difference in SEL change between the control and experimental group, an independent-samples t-test was performed. This statistical measurement helped identify the statistical difference between the mean of the control group and the mean of the experimental group. To answer the question on if there is a statistically significant change in SEL scores before and after the Top 20 SEL program, this researcher also performed a paired-samples t-test. The paired-samples t-test helped

determine if there was a statistically significant difference between the mean score of the experimental group before and after the treatment (i.e. the Top 20 SEL program). The independent-samples t-test, paired-samples t-test, and Cohen's d helped determine the efficacy of the Top 20 SEL program and if their curriculum had led to an increased in the total SEL score.

To answer the question on what were the trends of growth for all eight SEL competencies, this researcher completed a descriptive analysis. Several bar charts were created on the means scores and standard deviations of all eight competencies. These bar charts helped the researcher explore all the different competencies and determine if there were any differences in mean scores before and after the treatment. Since one may have difficulty in all eight competencies if they do not have adequate self-knowledge, the additional information on self-awareness may demonstrate the importance of this competency and how it may serve as the foundation to all other competencies. Moreover, social emotional learning may lead to some additional insights on the importance of self-awareness. This additional information provided valuable information on each competency and addressed the gap in the literature regarding the eight social emotional competencies and a child and adolescent's social emotional development.

Six assumptions must be met before a researcher can conduct an independent-samples t-test. For assumption number one, the dependent variable must be measured on a continuous scale (Laerd Statistics, 2018). This means that the SEL change or difference score before and after the treatment must be on a continuous scale. For assumption two, the independent variable should consist of two independent groups (Laerd Statistics, 2018; Kim, 2015; Field, 2018). In this study, there were two independent groups (i.e., the experimental group and the control group). Assumption number three is the independence of observations (Laerd Statistics, 2018). Since there are different participants in each group, the assumption is met. In order to meet assumption

number four, there must be no significant outliers in one's statistical analysis (Laerd Statistics, 2018; Field, 2018). To meet this assumption, this researcher eliminated all outliers before performing any statistical test. For assumption number five, the dependent variable must have an approximate distribution for each group's independent variable (Laerd Statistics, 2018). For this assumption, this researcher created a histogram and Q-Q plot to check for skewness and kurtosis. In addition, this researcher also performed a Shapiro-Wilk test of normality (Pallant, 2007). This data helped the researcher determine if there was a normal distribution, an absolute distribution, or an approximate distribution for each group. The last assumption, assumption number six, addresses the homogeneity of variance (Laerd Statistics, 2018). For the homogeneity of variance, this researcher performed a Levene's test. This test also helped the researcher determine the normality of the distribution for each group in the study.

Four assumptions must be met before a researcher can conduct a paired-samples t-test. For assumption one, there must be a continuous dependent variable (Laerd Statistics, 2018). In this study, the dependent variable (i.e., the SEL score) was continuous before and after the experimental group was exposed to the treatment. For the second assumption, the independent variable must be categorical with two related groups (Laerd Statistics, 2018; Field, 2018; Gerald, 2018). In this study, the observations were independent of one another regarding the experimental group before and after the treatment. For assumption three, there must be no outliers regarding the difference between the two related groups (Laerd Statistics, 2018; Field, 2018). No outliers were detected in the experimental group. Hence no outliers were removed. For assumption four, the dependent variable should be approximately normally distributed (Laerd Statistics, 2018). To test this assumption, this researcher performed a histogram, normal

Q-Q plot, and Shapiro-Wilk test of normality. This researcher also determined if the skewness and kurtosis were in acceptable limits.

To determine if there was a statistically significant difference in SEL change between the control and experimental group, this researcher performed an independent-samples t-test. The independent-samples t-test helped the researcher compare the total SEL score from the experimental group and the control group before and after the treatment. To determine if there was a statistically significant change in SEL scores before and after the Top 20 SEL program, this researcher performed a paired-samples t-test. The paired-samples t-test helped the researcher compare the total SEL score for the experimental group before and after the treatment. This researcher also performed a Cohen's d. The Cohen's d helped the researcher determine the effect size of the Top 20 SEL program. These three statistical tests helped with the primary goal of the study (i.e., the efficacy of the Top 20 SEL program).

Assumptions

With a quasi-experimental design, there was a lack of random assignment between the experimental group and control group. Hence the experimental group and control group might have been different prior to the study (Trochim et al., 2016). This proposes a threat to internal validity (Trochim et al., 2016). Since this study is a secondary data analysis, there is also the lack of data regarding the diversity of the sample. This researcher did not have access to all the demographics of the sample including ethnicity and social economic status. Hence tests of normality are necessary to address the variance between the experimental group and control group, given similarity between groups can help mitigate the problem of nonequivalence (Trochim et al., 2016). Another assumption is selection-maturation threat. Groups may be maturing at different rates, thus creating an illusion of a program effect (Trochim et al., 2016).

To address this assumption, the results from the experimental group must be compared to the control group. If the control group does not mature in comparison to the experimental group, one could say that the change was due to the treatment (Trochim et al., 2016) or Top 20 SEL program.

Limitations

There are several limitations in this study. One limitation is the diffusion or imitation of treatment (Trochim et al., 2016). Students in the control group could be exposed to the treatment and learn about the Top 20 SEL program. If the control group imitates the lessons learned from the Top 20 SEL Program, the post-test performance of the control group would be jeopardized and this researcher would not know the true efficacy of the Top 20 program. Another limitation is treatment fidelity. Since there is more than one teacher for the experimental group, it is difficult to know whether students in the experimental group received the same SEL instruction or lesson. To help eliminate this threat, both teachers must not deviate from the Top 20 SEL curriculum and the additional SEL lessons (i.e., team-building, organization, gratitude, service to others, goals, and problem-solving).

In this study, this researcher only explored SEL at the sixth-grade level. However, a sample criterion that goes beyond the sixth-grade level may interfere with the post-test results since seventh graders were exposed to the Top 20 SEL program the previous school year. In addition, any sample criteria from another middle school may interfere with the results of the study. To determine the efficacy of the Top 20 SEL program, all groups should be as similar as possible prior to the study. If groups are different, one cannot say that a change in SEL score was due to the Top 20 SEL program. Hence groups must be similar in their age, gender, grade level, and school.

Delimitations

Since this was not a mixed methods research design, no interviews were conducted with the principal, sixth-grade homeroom teachers, and school personnel. Hence no data was gathered on their perception of the Top 20 SEL program and how this program has impacted them. Since the purpose of this study was to examine the social emotional learning of children and adolescents, additional perceptions of the program go beyond the scope of this study. Another delimitation includes population and sample size. Population and sample size only included one public school in the state of Minnesota and one grade level (i.e., sixth grade). However, narrowing down the focus of the study to sixth-grade middle school students, helped this researcher explore the primary and secondary goals of the study regarding the efficacy of the program and a child and adolescent's social emotional learning. With a more specific population and sample size, this researcher was able to meet the primary and secondary goals of the research.

Ethical Assurances

For this secondary data analysis, this researcher obtained approval from Northcentral University's Institutional Review Board (IRB). This complies with federal requirements regarding ethical research and the protection of human subjects. This quasi-experimental design posed minimal risk to the participants. Students were exposed to a social emotional learning curriculum that encouraged human strengths and resiliency. There was no harm to any student or teacher while they participated in this study. Student's privacy rights were protected. All student IDs, names, social emotional competency scores, and other identifying information were kept confidential. After the data was analyzed and interpreted, all data and identifying information

was stored in a password protected file. Data will be kept for a minimum duration of seven years and destroyed after this timeframe expires.

To reduce any potential bias regarding the results of this study, this researcher was not financially compensated for any work from the Top 20 SEL program. All raw data was analyzed and interpreted using a variety of statistical methods including an independent-samples t-test, a paired-samples t-test, and Cohen's d.

Summary

Previous research has demonstrated a lack of primary prevention programs that develop SEL skills within the schools (see Greenberg et al., 2003; White & Murray, 2015; Eklund et al., 2018; LaBelle, 2019; Sklad et al., 2012). With a lack of a primary prevention program within the schools, this researcher investigated the efficacy of the Top 20 SEL program and how this program may impact a child and adolescent's social emotional learning. To determine the efficacy of the program and examine a child and adolescent's social emotional learning, a quasi-experimental design was conducted. Sixth-grade students at a public middle school in Minnesota were divided into an experimental group and control group. Sixth-grade homeroom teachers received computerized training on the DESSA and the eight social emotional competencies. Sixth-grade homeroom teachers were taught what student behaviors were associated with each social emotional competency. Sixth-grade homeroom teachers were asked to observe each student in their class from August 2019 to September 2019 and record any behavior associated with one of the eight social emotional competencies.

After the pre-test scores were recorded for both the experimental group and control group, two middle school teachers helped implement the Top 20 SEL program and the additional SEL lessons to the experimental group from September 2019 to January 2020. When the

program ended in January of 2020, sixth-grade homeroom teachers used the DESSA to record student behaviors associated with each social emotional competency. After the post-test scores were recorded, the data was sent to this researcher to be analyzed and interpreted. To determine if there is a statistically significant difference in SEL change between the control and experimental group, an independent-samples t-test was performed. To determine if there is a statistically significant change in SEL scores before and after the Top 20 SEL program, this researcher performed a paired-samples t-test. This researcher also constructed several bar charts on the means scores and standard deviation of all eight competencies. These bar charts helped the researcher determine what the growth trends were for all eight social emotional competencies.

This researcher obtained approval from Northcentral University's Institutional Review Board (IRB) and ensured confidentiality regarding all student IDs, names, social emotional competency scores, and other identifying information. Although there were some assumptions, limitations, and delimitations to this study, this researcher studied the proposed threats to internal validity and investigated ways to ensure that all results were accurate. The results from the study helped provide more information on a the Top 20 SEL program and a child and adolescent's social emotional learning.

Chapter 4: Findings

The purpose of this quantitative quasi-experimental study was to determine the efficacy of the Top 20 SEL program and how their SEL curriculum may lead to an increase in social emotional learning. The secondary goal of this study was to explore how the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior may play a significant role in a child and adolescent's social emotional development.

This researcher will discuss the validity and reliability of the data, the assessment (i.e., DESSA) used in the study, the assumptions for each statistical test, and the descriptive statistics including the mean difference in SEL score between the experimental group and control group. This researcher will also discuss the data analysis for each research question and hypothesis. To test whether there is a statistically significant difference in SEL change between the control and experimental group, this researcher performed an independent-samples t-test. To test whether there is a statistically significant change in SEL scores before and after the Top 20 SEL program, this researcher performed a paired-samples t-test. This researcher will discuss the results of the statistical analyses, and whether the null or research hypotheses were supported for each research question. This researcher will also provide an evaluation of the findings and summarize the information throughout the chapter.

Validity and Reliability of the Data

The DESSA has demonstrated excellent validity and reliability. Previous research on convergent validity has examined the relationship between the scores on the DESSA and other similar constructs (LeBuffe et al., 2014). A significant correlation was found between the DESSA's SEC score and the BERS-2 index ($r = .80$, $p < .01$) (LeBuffe et al., 2014). This

demonstrates excellent convergent validity. Previous research has also examined internal reliability regarding rater scores for teachers and parents and the eight social emotional competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior) (LeBuffe et al., 2014). Internal reliability (alpha) coefficients for the DESSA scales ranged from .82 (i.e., optimistic thinking and self-awareness parent – raters) to .94 (relationship skills – teacher raters) (LeBuffe et al., 2014). The median reliability coefficient for all eight social emotional competencies was .855 for parent raters and .92 for teacher raters (LeBuffe et al., 2014). Since scores exceeded the minimum score of .80 (Bracken, 1987), the DESSA demonstrated excellent interval validity.

Assumptions

Assumptions were met prior to the independent-samples t-test. For assumption number one, the assumption of the continuous dependent variable, the SEL change or difference score before and after the treatment was on a continuous scale. For assumption number two, the independent variable was categorical with two groups. The independent variable consisted of two independent groups (i.e., the experimental group and the control group). For assumption number three, the independence of observations, there were different participants in each group (Laerd Statistics, 2018), and to meet assumption number four (i.e., no significant outliers in the two groups of the independent variable), this researcher created a box plot for the experimental group and the control group (see Figure 1). Before performing any statistical analysis including the independent-samples t-test, this researcher removed three outliers found in the control group. No outliers were found in the experimental group.

Figure 1

Difference in SEL Score Box Plot for Control Group and Experimental Group
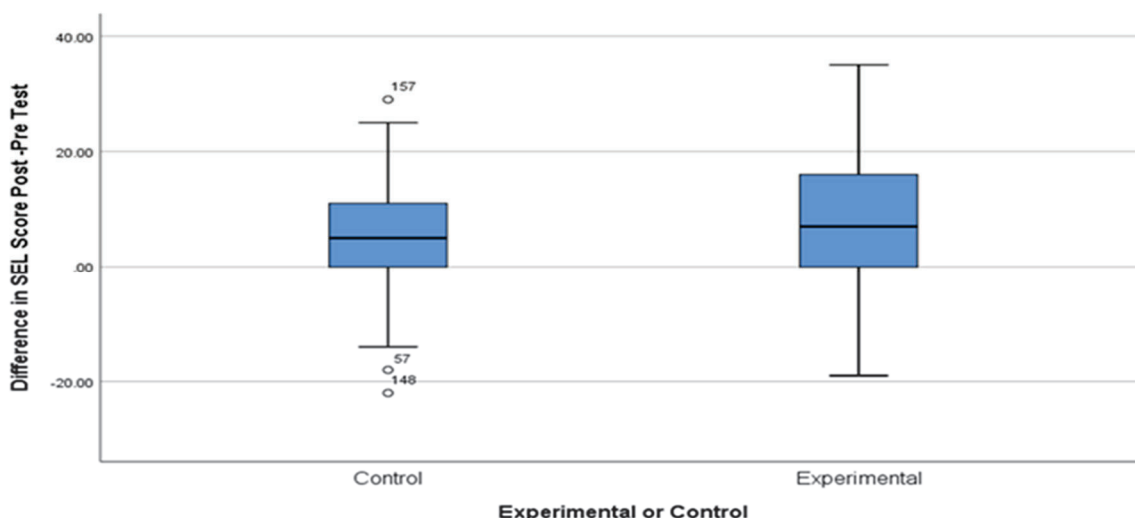
According to assumption number five, the dependent variable must have an approximate

distribution for each group's independent variable (Laerd Statistics, 2018). To meet this

assumption, this researcher created a histogram and a Q-Q plot to check for skewness and

kurtosis. Since the assumptions were met, this researcher did not have to transform the data. To

help meet the assumption of normality, this researcher conducted a Shapiro-Wilk test. The

Shapiro-Wilk test demonstrated an approximate normality (see Table 1).

Table 1

Independent-Samples T-Test Shapiro-Wilk's Test

		Shapiro-Wilk Statistic	df	Sig.
Difference in SEL Score	Control	0.991	186	0.274
Post -Pre-Test	Experiment	0.984	170	0.055

The final assumption, assumption number six, addressed the homogeneity of variance

(Laerd Statistics, 2018). To test the homogeneity of variance, this researcher performed a

Levene's test. The results were significant, indicating that the homogeneity of variance assumption was not met (see Table 2). To correct for this, this researcher used the equal variance non assumed independent-samples t-test.

Table 2

Levene's Test for Equality of Variance

		F	Sig.	t	df	Sig. (2-tailed)
Difference in SEL Score	Equal Variances assumed	13.047	0.00	-2.607	354	0.01
	Equal variances not assumed			-2.576	315.885	0.01

Assumptions were met prior to the paired-samples t-test. For assumption number one, the assumption of the continuous dependent variable, the dependent variable (i.e., the SEL score) was continuous before and after the experimental group was exposed to the treatment. For the second assumption, the observations have to be independent from one another. For this assumption, the observations were independent from one another regarding the experimental group before and after the treatment. For assumption number three, the dependent variable should not contain any outliers. To meet this assumption, this researcher created a box plot for the experimental group (see Figure 2). No outliers were found in the experimental group. Hence no outliers had to be removed in the experimental group before this researcher could perform a paired-samples t-test.

Figure 2

Box Plot for the Experimental Group
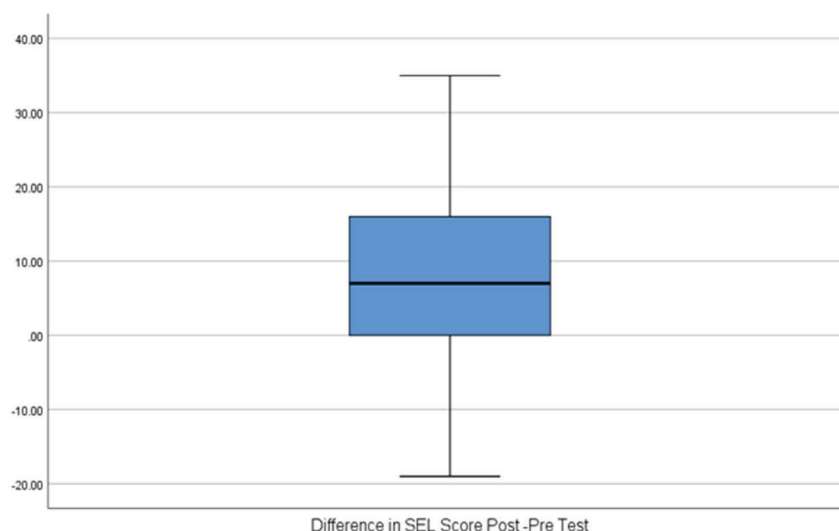
For assumption four, the dependent variable should be approximately normally

distributed (Laerd Statistics, 2018). To test this assumption, this researcher performed a

histogram, normal Q-Q plot, and Shapiro-Wilk test of normality. This data helped the researcher

determine if the skewness and kurtosis were in acceptable limits. The Shapiro-Wilk test of

normality demonstrated an approximate normality (see Table 3). Hence, the data demonstrated

that all assumptions were met.

Table 3

Paired-Samples T-Test Shapiro-Wilk's Test

	Shapiro-Wilk Statistic	df	Sig.
Difference in SEL Score Post -Pre-Test	0.984	170	0.055

Results

A secondary data analysis was conducted to investigate the efficacy of the Top 20 SEL program and the eight social emotional competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior). This study took place in a public middle school in the state of Minnesota. A total of 359 sixth-grade students participated in the study. Students were assigned to an experimental group or control group. Those in the experimental group received the treatment (i.e., Top 20 SEL curriculum and additional SEL lessons including team-building, organization, gratitude, service to others, goals, and self-reflection). Those in the control group did not receive the treatment. A pre-test and post-test were completed for both the experimental group and control group.

An independent-samples t-test was used to compare the dependent variable (i.e., the total SEL change) to the independent variables (i.e., the experimental group and the control group). The total SEL change was the difference score before and after the Top 20 SEL program. This researcher compared the experimental group to the control group regarding the total SEL score. Both the experimental group and control group were very similar in age, gender, and grade level. Therefore, the results from independent-samples t-test not only helped this researcher determine if there was a statistically significant increase in SEL, but if this increase was due to the experimental group (i.e., the Top 20 SEL program).

A paired-samples t-test was also performed for this study. For the paired-samples t-test, the independent variable was the amount of time that had elapsed before and after the treatment (i.e., the Top 20 SEL program). The dependent variables are the SEL scores from the experimental group before and after the treatment. There was no significant change in sample

size, age, gender, or grade level between the pre-test and post-test SEL scores for the

experimental group. Therefore, the results from this paired-samples t-test helped the researcher

determine if there was a statistically significant increase in SEL due to the experimental group

(i.e., Top 20 SEL program).

To examine these variables and the total SEL score before and after treatment, this

researcher used the DESSA and its five-point rating scale of never, rarely, occasionally,

frequency, and very frequently. SEL scores on the DESSA ranged from 28 to 72 for the pre-test

and post-test. The experimental group mean difference score ranged from -19 to 35. For the

control group, the pre-test scores ranged from 28 to 66, and the post-test scores ranged from 28

to 72. The mean difference score for the experimental group ranged from 22 to 29. Using the

DESSA, sixth-grade homeroom teachers completed the pre-test before the treatment (i.e., Top 20

SEL program and additional SEL lessons), and the post-test after the treatment. After the study

ended, data was sent to this researcher to be analyzed and interpreted.

Descriptive Statistics

This researcher analyzed the descriptive statistics for the experimental group and control

group. The experimental group had 170 students and the control group had 189 students. The

experimental group and control group were similar in their age, gender, grade level, and school.

The experimental group had 92 males and 78 females, and the control group had 96 males and 93

females. All students were between the ages of 11 and 12 years, and all students attended the

same public middle school. The mean difference SEL score is the post-test SEL score minus the

pre-test SEL score. After this researcher removed three outliers from the control group, the

control group consisted of 186 participants. In the control group, the mean difference in SEL

score was 5.60 with a standard deviation of 8.22. In the experimental group, the mean difference

in SEL score was 8.23 with a standard deviation of 10.73 (see Table 4).

Table 4

Control and Experimental Descriptive Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Difference in SEL Score Post -Pre- Test	Control	186	5.60	8.22	0.60
	Experimental	170	8.23	10.73	0.82

This researcher also analyzed the pre-test and post-test mean SEL scores for the

experimental group (see Table 5). There were 170 participants in the experimental group. The

pre-test mean SEL score for the experimental group was 41.97 with a standard deviation of

10.529. The post-test mean SEL score for the experimental group was 50.20 with a standard

deviation of 14.071.

Table 5

Experimental Group Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre-Test SEL	41.97	170	10.529	0.808
Post Test SEL	50.20	170	14.071	1.079

Little information has been provided on how each social emotional competency

influences a program's total SEL score. Moreover, no study has explored the social emotional

competencies self-awareness, self-management, social awareness, relationship skills, personal

responsibility, decision-making, optimistic thinking, and goal-directed behavior, and their impact

on the Top 20 program and overall SEL score. To study the efficacy of the Top 20 SEL program and how each competency influences a child and adolescent's social emotional development, this researcher addressed the following research questions and hypotheses:

RQ1. To what extent is there a statistically significant difference in SEL change between the control and experimental group?

H1$_0$ There is no statistically significant difference in SEL change between the control and experimental group.

H1$_a$. There is a statistically significant difference in SEL change between the control and experimental

RQ2. To what extent is there a statistically significant change in SEL scores before and after the Top 20 SEL program?

H2$_0$. There is no statistically significant change in SEL scores before and after the Top 20 SEL program.

H2$_a$. There is a statistically significant change in SEL scores before and after the Top 20 SEL program.

RQ3. What were the trends of growth for all eight SEL competencies?

Research Question 1

Sixth-grade middle school students were divided into an experimental group and control group. Those in the experimental group received the treatment (i.e., the Top 20 SEL program and additional SEL lessons), while those in the control group received no treatment. An independent-samples t-test was conducted to determine if there was a significant difference in SEL score

between those in the experimental group and those in the control group. There were several outliers in the control group, as assessed by inspection of a boxplot (see Figure 1). To ensure a more accurate result, all outliers were eliminated from the control group. In addition, the homogeneity of variances, as assessed by Levene's test for equality of variances was significant ($p < .05$) (see Table 2). This means the homogeneity of variances was violated. Since the homogeneity of variances was violated, this researcher performed a Shapiro-Wilk's test to test for normality. The data from the Shapiro-Wilk's test reported an approximate normality ($p > .05$) (see Table 1). This indicates that the experimental group and the control group were normally distributed.

After all the assumptions were met, this researcher performed an independent-samples t-test. Those in the experimental group demonstrated a significant increase in SEL score ($M = 8.23$, $SD = 10.73$) in comparison to those in the control group ($M = 5.60$, $SD = 8.22$). Results from the independent-samples t-test revealed a statistically significant difference, $M = (2.63)$, $t(315.885) = -2.576$, $p = 0.01$ (see Table 6). This demonstrates a significantly higher level of SEL among the participants exposed to the Top 20 SEL program.

Table 6

Independent Samples T-Test

			T-Test for Equality of Means		95% Confidence Interval of Difference	
t	df	Sig. (2-tailed)	Mean difference	Std. Error Difference	Lower	Upper
-2.607	354	0.01	-2.627	1.008	-4.609	-0.6451
-2.576	315.885	0.01	-2.627	1.020	-4.634	-0.621

Research Question 2

       A paired-samples t-test was used to determine whether there was a statistically significant mean difference in SEL score for the experimental group before and after the treatment (i.e., Top 20 SEL program and additional SEL lessons). In order to obtain a more accurate result, this researcher checked for any outliers in the experimental group. Since no outliers were detected (see Figure 2), one can say that the results are accurate (i.e., there were no outliers that reduced the validity of the results). To check for normality, this researcher also performed a Shapiro-Wilk's test. The Shapiro-Wilk's test reported an approximate normality of ($p > .05$) (see Table 3). This indicates that the data was normally distributed between the two related groups. Since all assumptions were met, this researcher conducted a paired-samples t-test. Results from the paired-samples t-test revealed a statistically significant difference, $t(169) = -10.002$, $p < 0.000$ (see Table 7). The results from the post-test SEL score demonstrated a significance increase in SEL ($M = 8.23$) after the implementation of the Top 20 SEL program.
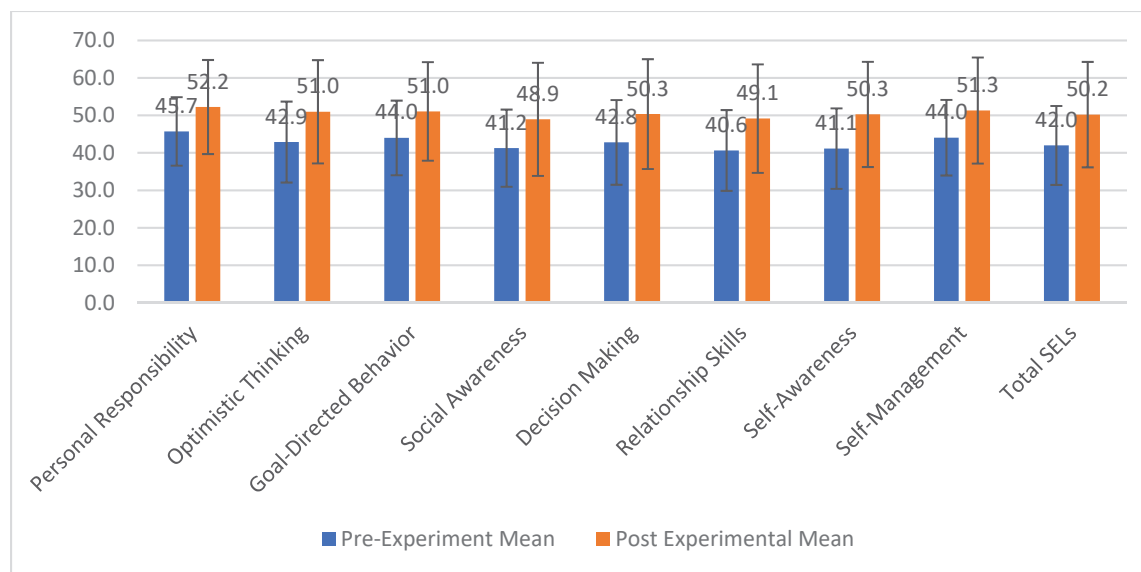
Table 7

Paired-Samples T-Test

|	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Post Test SEL - Pre-Test SEL	8.229	10.727	0.823	6.605	9.854	10.002	169	0.000

To determine the effect size of the Top 20 SEL program, the researcher also performed a

Cohen's d. According to Sullivan and Feinn (2012) a Cohen's d-ratio can range from small (.2),

to moderate (.5), to large (.80) respectively. The results revealed a moderate effect size $d = 0.77$.

This demonstrates the efficacy of the Top 20 SEL program and how the program had a moderate

effect size.

Research Question 3

To examine the trends of growth for each SEL competency (i.e., self-awareness, self-

management, social awareness, relationship skills, personal responsibility, decision-making,

optimistic thinking, and goal-directed behavior), this researcher constructed a bar chart on the

pre and post-test means scores and standard deviations for all eight competencies in the

experimental group (see Table 8). Pre-test mean scores ranged from 40.6 (relationship skills) to

45.7 (personal responsibility). Post-test mean scores ranged from 48.9 (social awareness) to 52.2

(personal responsibility). The bar chart also reported a total SEL pre-test score ($M = 42.0$, $SD =$

10.5) and post-test score ($M = 50.2$, $SD = 14.1$).

Table 8

Pre and Post-Tests Mean Scores for SEL Competencies

The bar chart below displays the mean score differences for all eight competencies and total SEL for the experimental group (see Table 9). The lowest difference in mean score was personal responsibility (*M* = 6.5). The largest difference in mean score was self-awareness (*M* = 9.1). Post-test mean scores demonstrated an increase in all eight social emotional competencies and total SEL. The total SEL difference score was 8.2.

Table 9

Mean Score Differences for SEL Competencies
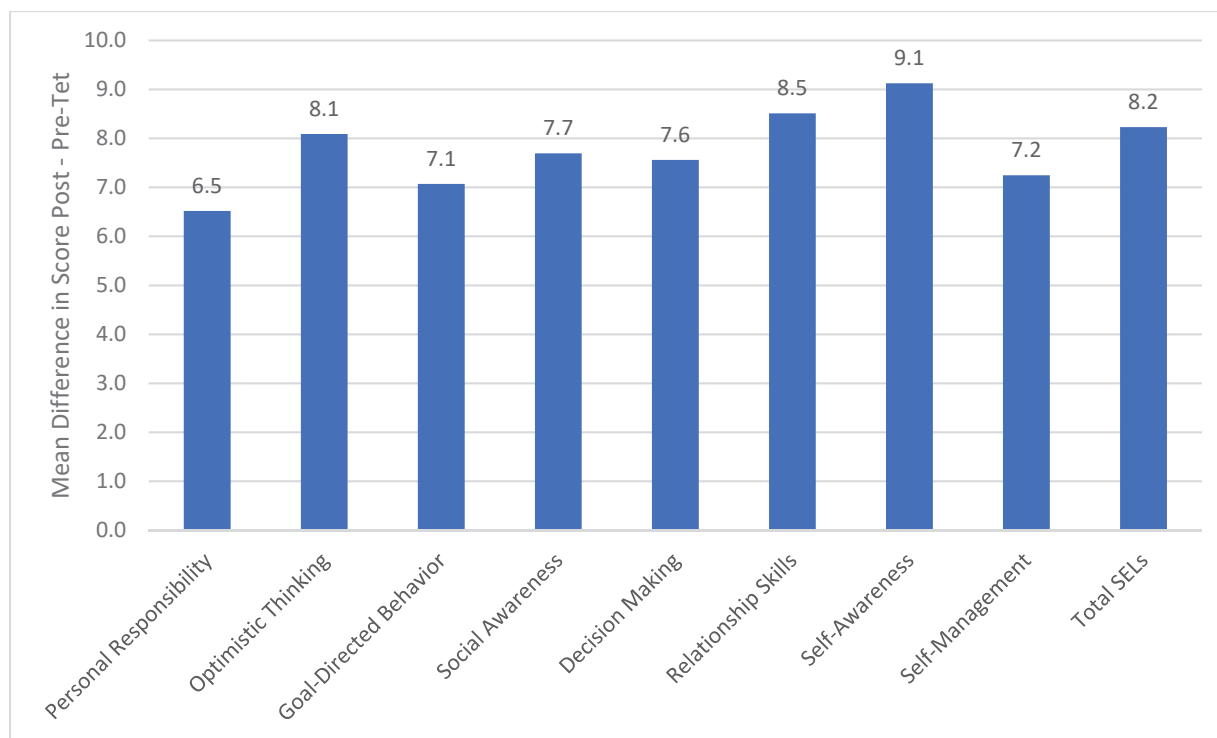
Evaluation of the Findings

The current findings indicate a moderate effect size (i.e., $d = 0.77$) for the Top 20 SEL program. The independent-samples t-test reported a statistically significant difference in SEL change between the control group and the experimental group $t(169) = -10.002$, $p < 0.001$ and the paired-samples t-test reported a statistically significant change in SEL scores before and after the Top 20 SEL program $t(169) = -10.002$, $p < 0.001$. These results demonstrate the high efficacy of the Top 20 SEL program. For the experimental group, the descriptive analysis also revealed an increase in all eight social emotional competencies with a total SEL difference score of $M = 8.23$.

The study findings corroborated with the existing literature. Similar to other SEL programs, the Top 20 SEL program has led to several improvements in self-awareness, self-

management, social awareness, relationship skills, and responsible decision-making (Durlak et al., 2015). Moreover, findings from the current study also provided additional information on the competencies of optimistic thinking, and goal-directed behavior. Given the high efficacy of the Top 20 SEL program, the results from the study also support the need for a more school-based primary prevention program instead of a succession of fragmented fads with little sustainability, direction, or impact (Shriver & Weissberg, 1996).

Theoretical Extension

Social emotional learning strategies are based on the principles derived from Albert Bandura's social learning theory (Durlak et al., 2015). According to Bandura (1977) people learn new patterns of behavior through direct experience and/or by observing and imitating others. Instructional strategies from Bandura's (1977) social learning theory were incorporated into the Top 20 SEL program. These instructional strategies included verbal instruction (coaching), behavioral rehearsal, performance feedback, and social problem-solving. Middle school students in the experimental group were able to practice these instructional strategies and observe/imitate pro-social behavior from the Top 20 SEL instructors. Children learned a social behavior by observing, imitating, and responding to verbal feedback. Children were taught a target skill and given a chance to practice their skill with a peer. Children were able to refine a skill with feedback, and modify the skill based on the social context and what was reinforced or encouraged. Since exposure to these instructional strategies led to an increase in SEL, one can conclude that such strategies are vital to the efficacy of an SEL program and should be incorporated whenever possible. Moreover, one should also consider the how these strategies are used and practiced over time. Participants exposed to the Top 20 SEL program were provided with real-world opportunities to practice and master all social emotional competencies. Since this

mastery led to an increase in SEL learning, this type of real-world practice should be provided to all students. This additional information demonstrates the importance of vicarious learning and real-world practice.

Summary

This quantitative quasi-experimental study was conducted to investigate the efficacy of the Top 20 SEL program and explore how each social emotional competency may play a significant role in a child and adolescent's social emotional development. The population for this study was middle school students. A total of 359 sixth-grade students participated in the study. Students were assigned to an experimental group or control group. The experimental group had 170 students and the control group had 189 students. The experimental group and control group were similar in their age, gender, grade level, and school. This researcher used the DESSA to conduct an independent-samples t-test and paired-samples t-test. The independent-samples t-test was used to answer the question on if there was a statistically significant difference in SEL change between the control group and the experimental group. The paired-samples t-test was used to answer the question on if there was a statistically significant change in SEL scores before and after the Top 20 SEL program. All assumptions were met prior to conducting both the independent-samples t-test and paired-samples t-test. The results from the independent-samples t-test were significant, $t(169) = -10.002$, $p < 0.000$. The post-test SEL scores were significantly higher ($M = 50.20$) than pre-test scores for the experimental group ($M = 41.97$). Hence there is a statistically significant difference in SEL change between the control group and the experimental group. Findings from the paired-samples t-test were also significant, $t(169) = -10.002$, $p < 0.000$. A mean difference score of $M = 8.23$ was reported between the pre and post-tests of the experimental group. These results demonstrate a statistically significant increase in SEL (i.e., a

change in SEL score before and after the Top 20 SEL program). This researcher also performed a Cohen's d. Results demonstrate a moderate effect size of $d = 0.77$. These findings demonstrate the efficacy of the Top 20 SEL program.

For research question number three, this researcher examined the growth trends for all eight social emotional competencies. A data analysis was conducted to explore the pre and post-tests mean scores, standard deviations, and difference scores for each social emotional competency. Pre-test mean scores ranged from 40.6 (relationship skills) to 45.7 (personal responsibility). Post-test mean scores ranged from 48.9 (social awareness) to 52.2 (personal responsibility). The descriptive analysis revealed a total SEL pre-test score ($M = 42.0$, $SD = 10.5$) and post-test score ($M = 50.2$, $SD = 14.1$). Personal responsibility demonstrated the lowest difference in mean score ($M = 6.5$), whereas self-awareness demonstrated the largest difference in mean score ($M = 9.1$). In sum, all research findings were significant, and all social emotional competencies increased after the implementation of the Top 20 SEL program. In the final chapter, these findings will be further reviewed in relation to the literature, conclusions, implications, and recommendations for future studies.

Chapter 5: Implications, Recommendations, and Conclusions

This researcher addressed the lack of primary prevention programs that develop SEL skills within the schools (Greenberg et al., 2003; White & Murray, 2015; Eklund et al., 2018; LaBelle, 2019; Sklad et al., 2012). The purpose and primary goal of this quasi-experimental study was to determine the efficacy of the SEL program Top 20 and how their SEL curriculum may lead to an increase in social emotional learning. The secondary goal of this study was to explore how the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior may play a significant role in a child and adolescent's social emotional development.

The statistical software SPSS was used to analyze SEL data from the DESSA and the efficacy of the Top 20 SEL program. The study consisted of a secondary data analysis and quasi-experimental design since a randomized experimental design was not feasible, ethical, or practical within the school setting (Wong et al., 2015). The study took place in a public middle school in the state of Minnesota. A total of 359 sixth-grade students participated in the study. Students were assigned to an experimental group or control group. The experimental group and control group were similar in their sample size, age, gender, and grade level. The experimental group consisted of 170 students, and the control group consisted of 189 students. There was a total of 92 males and 78 females in the experimental group, and 96 males and 93 females in the control group. Those in the experimental group received the intervention (i.e., Top 20 SEL curriculum) and additional SEL lessons including team-building, organization, gratitude, service to others, goals, and self-reflection. Those in the control group did not receive the treatment. A pre-test and post-test were completed for both the experimental group and the control group.

Using the DESSA, sixth-grade homeroom teachers completed the pre-test before the treatment and post-test after the treatment. After the study ended, de-identified data was sent to this researcher to be analyzed and interpreted.

An independent-samples t-test was conducted to determine if there was a significant difference in SEL change score between those in the experimental group and those in the control group. A paired-samples t-test was used to determine whether there was a statistically significant mean difference in the SEL change score for the experimental group before and after the treatment (i.e., Top 20 SEL program and additional SEL lessons). A Cohen's d was also performed to help determine the effect size (i.e., low, moderate, or high) for the Top 20 SEL program. The independent-samples t-test reported a statistically significant difference in SEL change between the control group and the experimental group $t(169) = -10.002$, $p < 0.00$. The paired-samples t-test reported a statistically significant change in SEL scores before and after the Top 20 SEL program $t(169) = -10.002$, $p < 0.001$. The findings also indicated a moderate effect size (i.e., $d = 0.77$) for the Top 20 SEL program. Results from the independent-samples t-test, paired-samples t-test, and Cohen's d demonstrate the high efficacy of the Top 20 SEL program.

To examine the trends of growth for each SEL competency, this researcher constructed several bar charts. Bar charts consist of the pre and post-test means scores and standard deviations for all eight competencies and the mean score differences for all eight competencies. Mean scores and mean score differences were analyzed to help determine which competency improved the most and if all competencies improved after the Top 20 SEL program. Data analysis revealed the lowest difference in mean score was personal responsibility ($M = 6.5$) and the highest difference in mean score was self-awareness ($M = 9.1$). Overall, the results

demonstrated an increase in all eight social emotional competencies for the experimental group with a total SEL difference score of $M = 8.23$.

There are several limitations in this study. One limitation is the diffusion or imitation of treatment (Trochim et al., 2016). Students in the control group could be exposed to the treatment and learn about the Top 20 SEL program. If the control group imitates the lessons learned from the Top 20 SEL Program, the post-test performance of the control group would be jeopardized, and this researcher would not know the true efficacy of the Top 20 SEL program. Another limitation is treatment fidelity. Since there is more than one teacher for the experimental group, it is difficult to know whether students in the experimental group received the same SEL instruction or lesson. To help eliminate this threat, both teachers were instructed to not deviate from the Top 20 SEL curriculum and the additional SEL lessons (i.e., team-building, organization, gratitude, service to others, goals, and problem-solving).

This researcher only explored SEL at the sixth-grade level. However, a sample criterion that goes beyond the sixth-grade level may interfere with the post-test results since seventh graders were exposed to the Top 20 SEL program the previous school year. In addition, any sample criteria from another middle school may interfere with the results of the study. To determine the efficacy of the Top 20 SEL program, all groups should be as similar as possible prior to the study. If groups are different, one cannot say that a change in SEL score was due to the Top 20 SEL program. Hence groups in this quasi-experimental design were similar in their grade level, gender, age, and school.

In this chapter, the researcher will provide a discussion on the implications of the research. This researcher will discuss the research questions, hypotheses, and growth trends for all eight social emotional competencies. Recommendations for practice will also be discussed

regarding SEL and social learning theory. This researcher will discuss recommendations for what future researchers might do to successfully implement an authentic SEL program and provide a general conclusion on the importance of a primary prevention program that develops SEL skills within the schools.

Implications

The results from the research provided additional knowledge on the Top 20 SEL program and how the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior play a significant role in a child and adolescent's social emotional development. This researcher will address the implications and findings for the following research questions and hypotheses:

Research Questions

Q1. To what extent is there a statistically significant difference in SEL change between the control and experimental group?

Q2. To what extent is there a statistically significant change in SEL scores before and after the Top 20 SEL program?

Q3. What were the trends of growth for all eight SEL competencies?

Hypotheses

$H1_0$ There is no statistically significant difference in SEL change between the control and experimental group.

$H1_a$. There is a statistically significant difference in SEL change between the control and experimental group.

H2$_0$. There is no statistically significant change in SEL scores before and after the Top 20 SEL program.

H2$_a$. There is a statistically significant change in SEL scores before and after the Top 20 SEL program.

For questions one and two, the results provided evidence that supports the efficacy of the Top 20 SEL program. Research question one demonstrated a significantly higher SEL change score for the experimental group (i.e., Top 20 SEL program). Since the control group and the experimental group were very similar in age, gender, grade level, and school, one can conclude that the increase in SEL score was not due to chance or maturation, but the implementation of the Top 20 SEL program. One does not improve in their SEL skills due to maturation alone (Lerner, 2006). Exposure to different social contexts and social interactions helps the child acquire a new skill (Lerner, 2006). For research question two, the post-test SEL scores were significantly higher than the pre-test SEL scores for the experimental group or Top 20 SEL program. Children learn by mimicking and continuously learn from experience (Lerner, 2006). Hence experience and practice in SEL skills is more likely to lead to an increase in SEL as demonstrated with the experimental group or those exposed to the Top 20 SEL program.

For question number three, the descriptive analysis on pre and post-test mean scores and mean score differences provided additional information on how each competency influenced a child and adolescent's social emotional development. The results showed that all social emotional competencies increased from pre-test to post-test for those participating in the Top 20 SEL program. Specifically, the results reveal the importance of the social emotional competency, self-awareness. Self-awareness had a pre-test mean score of ($M = 41.1$) and a post-test mean score of ($M = 50.3$) for the experimental group. Since this competency improved the most ($M =$

9.1), it supports the idea that self-awareness may serve as the foundation for all other social emotional competencies. Students may have had to master this competency first and improve on their skill development before they can make improvements to any other competency. If we do not have adequate self-knowledge, then it may be difficult to acquire other skills that rely on self-improvement.

Previous research supports the understanding on how self-awareness can serve as the foundation to all social emotional competencies. Self-awareness has led to improvements in self-management, decision-making, and stress management (Hackston, 2019). This competency has helped the individual self-monitor and examine the self to effectively change one's thoughts and behaviors (Carver & Scheier, 1981; Silvia & O'Brien, 2004). Self-awareness has led to reflective appraisal and perspective taking (Morin, 2004). The individual not only learns about the self, but how to understand another's perspective (Morin, 2004). Therefore, self-awareness is important for the improvement of several social emotional competencies (e.g., self-management, social awareness, decision-making etc.) and the overall development of SEL. Hence one must improve in their own self-knowledge before they can manage their thoughts, feelings, and behaviors (i.e., self-management), understand another's perspective (i.e., social awareness), cooperate with others (i.e., relationship skills), take personal responsibility for their actions, participate in effective decision-making, achieve the goals they have set for themselves, and develop a more optimistic mindset.

The curriculum for the Top 20 SEL program is founded in the theoretical approaches of social learning theory. According to Bandura (1977) people learn new patterns of behavior through direct experience and/or by observing and imitating others. Participants exposed to the Top 20 SEL curriculum were provided with an opportunity to master their skills with direct

experience and practice. Role-playing exercises and modeling allowed the participants in the program to observe and imitate prosocial behaviors and overcome the challenges they faced. Additional instructional strategies from Bandura's (1977) social learning theory were also incorporated into the Top 20 SEL program. These instructional strategies included verbal instruction (coaching), behavioral rehearsal, performance feedback, and social problem-solving. This program also provided an emphasis on cognitive processes. Participants in the Top 20 SEL program were able to observe a model, learn a specific "chunk" of behavior, and mentally link it together with other chunks to form a new behavior pattern (Martorell et al., 2014). This supports the previous research on how SEL skills can be conceptualized as metacognitive skills (Srinivasan, 2019). Therefore, SEL should not be seen as a non-cognitive skill, but a metacognitive skill to rectify problems (Flavell, 1979) and process information correctly (Revlin, 2013).

Recommendations for Practice

Previous research has demonstrated the benefits of an SEL program. Positive outcomes include the ability to self-regulate, have empathy for another, engage in effective decision-making (Durlak et al., 2015), exhibit cognitive gains (Nolan et al., 2014; Bird & Sultmann, 2010), and improve one's academic performance (Diekstra, 2008; Durlak et al., 2011; Durlak et al., 2015; Wilson et al., 2006). All students have been shown to benefit from a universal prevention program within the school (Muratori et al., 2019). This universal approach shows promise in reducing a child's behavioral aggression (MacArthur et al., 2018), emotional problems, and peer problems (Muratori et al., 2019). Hence a universal, primary prevention program is necessary given all the positive outcomes students can benefit from.

The present study has also found a variety of positive outcomes. Students participating in the Top 20 SEL curriculum improved in each social emotional competency (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior). Students were able to recognize and manage their emotions, thoughts, values, and behaviors, understand the perspective of another, showcase effective relationship skills, take responsibility for their actions, participate in effective decision-making and problem-solving, demonstrate an optimistic mindset, and engage in goal-directed behavior. Since the Top 20 SEL program led to a variety of positive outcomes, more schools should invest in a more universal, primary prevention program.

Schools should also provide real-world practice for their students. As students learn social, emotional, and behavioral skills, it is important that they get the opportunity to apply these skills in actual situations (CASEL, 2013; Durlak et al., 2010; Durlak et al., 2011; LeBuffe, 2014; Srinivasan, 2019). Educators should not only allow each student to practice their SEL skills, but employ a variety of instructional strategies from Bandura's (1977) social learning theory (e.g., modeling, coaching, and behavioral rehearsal). SEL should be incorporated into the school's curriculum with the additional content they are learning in the classroom. SEL could be incorporated into a variety of classroom assignments and activities. This may include a writing assignment (e.g., a gratitude letter), or a classroom activity that concentrates on teamwork and decision-making. Students could also participate in several role-plays that incorporate a variety of communication skills and critical thinking skills. SEL skills or metacognitive skills could help a child learn and grow inside and outside the classroom and be successful in life.

Previous research has shown that several programs have been a succession of fragmented fads with little direction, coordination, and sustainability (Shriver, & Weissberg, 1996). There is

a lack of formally adopted SEL programs with daily SEL instruction and several programs have failed to provide the appropriate training to personnel (Bear et al., 2017). SEL interventions do not work if they are not adopted and fully utilized in the classroom (Webster-Stratton & Herman, 2010). Hence, students should also have the opportunity to participate in an SEL program that has well defined goals, explicit guidelines, thorough training for all personnel, quality control, and feedback with consistent staffing (Weare & Nind, 2011). School-based SEL programs such as the Top 20 SEL program provide these opportunities to students and personnel. The Top 20 SEL program also provides the training necessary to ensure that all students are given the proper instruction from several trained SEL instructors. Schools should not only train instructors in how to teach SEL, but incorporate a more holistic curriculum focused on SEL. Hence a more authentic school-wide approach is necessary (Devaney et al., 2006; Greenberg et al., 2003; Zins et al., 2004; Yang et al., 2018) in order to master each social emotional competency.

Recommendations for Future Research

Primary prevention is the prevention of a disease before it develops (Doll et al., 2010). More research should investigate the benefits of a primary prevention SEL program and the social emotional competencies of self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior. Since a primary prevention SEL program may lead to a reduction in emotional problems (Muratori et al., 2019) or psychological dysfunction, future researchers should move away from a disease model and concentrate on an SEL program that offers prevention and the ability to practice a variety of SEL skills. Hence researchers should continue to study the Top 20 SEL program and any other SEL curriculum that concentrates on the areas of positive psychology and positive education. Since the Top 20 SEL program was able to demonstrate

efficacy and an increase in the total SEL score with the use of instructional strategies from Bandura's (1977) social learning theory, more research should focus on the benefits of vicarious learning (e.g., modeling, coaching, and behavioral rehearsal) and how these strategies impact the students ability to learn. By studying the benefits of vicarious learning, researchers and teachers should be able to understand how to implement an authentic primary prevention SEL program in a variety of schools and grade levels.

Researchers should continue to investigate the Top 20 SEL program. Researchers could implement the Top 20 SEL program for the entire school year (i.e., September to June) and explore the efficacy of the program and potential long-term benefits. Given a moderate effect size of $d = 0.77$ was found after approximately 5 months of SEL training, it is likely that a large effect size of .80 or higher would be found after approximately 10 months of SEL training. After the Top 20 SEL program has been implemented for approximately 10 months, researchers should measure the total SEL score and see if there is a significant increase SEL. If a significant increase in SEL is found, these results would demonstrate the efficacy of the program and provide evidence that the program is successful in the ability to teach SEL skills to children and adolescents at the school. Researchers could also explore the additional factors of academic performance (i.e., grades) and prosocial behaviors inside and outside the classroom. SEL programs have led to an increase in prosocial behavior (Schonert-Reichl et al., 2015; Durlak et al., 2011; Durlak et al., 2015), academic success (Sklad et al., 2012; Fleming et al., 2005; Wentzel, 1993; Durlak et al., 2011; DiPerna et al., 2005; Zins et al., 2004), and successful peer relationships (Dobia et al., 2019; Dodge & Price, 1994; Nowicki & Duke, 1994). SEL programs have also demonstrated an 11-percentile-point gain in achievement and significant improvements to a child and adolescent's social and emotional skills, attitudes, and behavior (Durlak et al.,

2011). Therefore, future researchers may also find an increase in academic performance and more prosocial behaviors inside and outside the classroom.

Previous research has found SEL programs to lead to several long-term benefits (Durlak et al., 2015). Social emotional competencies taught in these programs have led to improvements in mental health (Hawkins et al., 2008; Panayiotou et al., 2019), family and work relationships, college and career readiness, engaged citizenship, and a decrease in criminal behavioral (Hawkins et al., 2008). Future researchers should investigate the program's effectiveness or what the beneficial effects would be to the "real world." Researchers could observe how students use these SEL skills outside the school and see if these skills have any impact on their future success in life. This additional research could show how a primary prevention program is a necessity in the school.

Previous research has shown that higher dosages (i.e., number of SEL lessons the student receives in an intervention) produce more desired results (e.g., Connell et al., 1985). Higher dosages can lead to healthier behaviors (Story et al., 2000), fewer negative student outcomes (Aber et al., 1998) and unexcused absences (Moskowitz et al., 1982). Future researchers should explore this previous research and how much of a "*dose*" a student should receive for a Tier 1 universal intervention. In addition to an SEL curriculum incorporated into the school, teachers and school personnel should have a better understanding on how many SEL lessons each student should receive. Researchers should explore each SEL lesson, how the lessons are incorporated into the curriculum, how much time is provided for each lesson, and how many lessons are offered to each student. Researchers should explore these factors on dosage and determine what the best approach would be for an SEL program that focuses on primary prevention.

Conclusions

Previous research has demonstrated a lack of primary prevention programs that develop SEL skills within the schools (see Greenberg et al., 2003; White & Murray, 2015; Eklund et at., 2018; LaBelle, 2019; Sklad et al., 2012). Few states have adopted a freestanding, comprehensive program with SEL standards (Eklund et al., 2018) and too many programs have become a succession of fragmented fads with little sustainability, direction, or impact (Shriver & Weissberg, 1996). Instead of implementing an authentic school-based primary prevention program, many schools have chosen to implement a disease model that concentrates on the deficits of the child (Durlak et al., 2015) and treat a problem after it has been identified (LaBelle, 2019). With an absence of a primary prevention program that concentrates on SEL, schools have reported problems with lower academic achievement and truancy, and more disciplinary referrals and dropout rates (Greenberg et al., 2003).

To address the lack of primary prevention programs that develop SEL skills within the schools, this researcher investigated the efficacy of the Top 20 SEL program and how this primary prevention program impacted a child and adolescent's social emotional learning. The study took place in a public middle school in the state of Minnesota from August 2019 to February 2020. The study consisted of a quasi-experimental design where students were assigned to an experimental group or control group, a homeroom class, and sixth-grade homeroom teacher. The experimental group consisted of 170 students and the control group consisted of 189 students. A total of 359 middle school students participated in the study. Two middle school teachers at the school helped embed and teach the Top 20 SEL curriculum and monthly SEL lessons to all students in the experimental group. Homeroom teachers completed the DESSA pre-test one month into the study and the DESSA post-test five months later. After the data was

entered by all sixth-grade homeroom teachers, it was sent to this researcher to be analyzed. To evaluate the efficacy of the Top 20 SEL program, this researcher performed an independent-samples t-test, paired-samples t-test, and Cohen's d. The results reported an increase in SEL for those in the Top 20 SEL program and a moderate effect size of $d = 0.77$. To examine the growth trends for all social emotional competencies, this researcher also examined the mean scores and standard deviations for all eight social emotional competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior). The descriptive analysis revealed an increase in all eight social emotional competencies in the experimental group with a total SEL difference score of $M = 8.23$. Overall, the results demonstrated the efficacy of the Top 20 SEL program and how this program was able to increase SEL.

With an increase in SEL, the results support the need for a school-based primary prevention program that helps children and adolescents develop SEL skills within the schools. The results also support the understanding that students should be allowed to practice and apply all SEL skills in a variety of situations. Participants exposed to the Top 20 SEL curriculum were provided an opportunity to practice and master all SEL skills using the instructional strategies from Bandura's (1977) social learning theory. Students were taught all eight competencies using verbal instruction (coaching), behavioral rehearsal, performance feedback, and social problem-solving. This demonstrates the importance of vicarious learning given those exposed to this type of learning, made improvements to their total SEL score. This also provided teachers, administrators, and staff a better understanding of what type of instructional strategies are best to teach the different social emotional competencies and how self-awareness might be the foundation for all other competencies.

In addition to an increase in SEL, previous research has shown how an authentic SEL program can lead to several short-term benefits (e.g., an increase in prosocial behaviors, and academic performance) (Durlak et al., 2011; Durlak et al., 2015), and long-term benefits (e.g., career readiness and an increase in high school graduation rates) (Hawkins et al., 2008). Hence, school administrators should invest in a more primary prevention SEL program that encourages a more strength-based approach to learning. If school administrators concentrate on all eight competencies (i.e., self-awareness, self-management, social awareness, relationship skills, personal responsibility, decision-making, optimistic thinking, and goal-directed behavior) and implemented a more authentic primary prevention SEL program, students could exhibit more cognitive gains and improvements to their overall mental health and well-being.

References

Aber, J. L., Jones, S. M., Brown, J. L., Chaudry, N., & Samples, F. (1998). Resolving conflict creatively: Evaluating the developmental effects of a school-based violence prevention program in neighborhood and classroom context. *Development and Psychopathology, 10*, 187–213. doi:10.1017/s0954579498001576

Acar, I. H., Torquati, J. C., Garcia, A., & Ren, L. (2018). Examining the Roles of Parent–Child and Teacher–Child Relationships on Behavior Regulation of Children at Risk. *Merrill Palmer Quarterly*, *64*(2), 248–274. https://doi org.proxy1.ncu.edu/10.13110/merrpalmquar1982.64.2.024

Albee, G. W. (2004). Prevention of mental disorders. In W. E. Pickren, Jr., & S. F. Schneider (Eds.), *Psychology and the National Institute of Mental Health: A historical analysis of science, practice, and policy* (pp. 295–315). Washington, DC: American Psychological Association.

Allexander, J. M., & Schwanenflugel, P. J. (1994). Strategy regulation: The role of intelligence, metacognitive attributions, and knowledge base. *Developmental Psychology, 30*(5), 709 723. https://doi.org/10.1037/0012-1649.30.5.709

AlRashidi, F. S. J. (2018). Creative Self-Efficiency Among Special Education Department Students High Achiever and the normal at Alqaseem University. *Journal of Research in Curriculum, Instruction & Educational Technology*, *4*(3), 123.

Alspaugh, J. (1998). Achievement loss associated with the transition to middle and high school. *The Journal of Educational Research, 92*, 20–25.

Alvord, M. K., Rich, B. A., & Berghorst, L. H. (2016). Resilience interventions. In J. C.

Norcross, G. R. VandenBos, D. K. Freedheim, N. Pole, J. C. Norcross, G. R. VandenBos, N. Pole (Eds.), *APA handbook of clinical psychology: Psychopathology and health* (pp. 505-519). Washington, DC, US: American Psychological Association. doi:10.1037/14862-023

American Academy of Pediatrics. (2004). Policy statement on school-based mental health services, *Pediatrics*, 113, 1839–1845.

American Psychiatric Association. *(2013). Diagnostic and statistical manual of mental disorders (5th ed.).* Author.

American Psychological Association. (2019). *Stress By Generation*. https://www.apa.org/news/press/releases/stress/2012/generations

Anderson, P. (2002). Assessment and development of executive function (EF) during childhood. *Child Neuropsychology*, *8*, 71–82. http://dx.doi.org/10.1076/chin.8.2.71.8724

Arslan, S., Demirtas, Z. (2016). Social emotional learning and critical thinking disposition. *Studia Psychologica, 58*, 276-285

Aspinwall, L. G. (2005). The Psychology of Future-Oriented Thinking: From Achievement to Proactive Coping, Adaptation, and Aging. *Motivation and Emotion*, *29*(4), 203. https://doi-org.proxy1.ncu.edu/10.1007/s11031-006-9013-1

Aspinwall, L. G., Richter, L., & Hoffman, R. R. III. (2001). Understanding how optimism works: An examination of optimists' adaptive moderation of belief and behavior. In E. C. Chang (Ed.), *Optimism & pessimism: Implications for theory, research, and practice* (p. 217 238). American Psychological Association. https://doi.org/10.1037/10385-010

Aspinwall, L. G., & Taylor, S. E. (1997). A stitch in time: Self-regulation and proactive coping. *Psychological Bulletin, 121*(3), 417–436. https://doi.org/10.1037/0033-2909.121.3.417

Baker, D. P., Salinas, D., & Eslinger, P. K. (2012). An envisioned bridge: Schooling as a neurocognitive developmental institution. *Developmental Cognitive Neuroscience, 25*, S6-S17.

Ballotpedia. (2020). https://ballotpedia.org/Lakeville_Area_Public_Schools,_Minnesota

Bandura, A. (1977). *Social learning theory*. General Learning Press.

Bandura, A. (1989). Social cognitive theory. In R.Vasta (Ed.), *Annals of child development* (Vol. 6, pp. 1-60). Greenwich, CT: JAI.

Bandura, A. (2007). Much ado over a faulty conception of perceived self-efficacy grounded in faulty experimentation. *Journal of Social and Clinical Psychology, 26*(6), 641-658.

Bandura, A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. *Journal of Abnormal and Social Psychology, 63*, 575-582.

Barkley, R. A. (1997). *ADHD and the Nature of Self-control*. Guilford Press.

Baur, N. (2009). Measurement and selection bias in longitudinal data: A framework for re-opening the discussion on data quality and generalizability of social bookkeeping data. *Hist. Soc. Res. 34*(3), 9–50. doi: 10.12759/hsr.34.2009.3.9-50

Baur, N. (2014). Comparing societies and cultures: Challenges of cross-cultural survey research as an approach to spatial analysis. *Hist. Soc. Res. 39*(2), 257–291. doi: 10.12759/hsr.39.2014.2.257-291

Baur, N. (2019). Linearity vs. Circularity? On Some Common Misconceptions on the

 Differences in the Research Process in Qualitative and Quantitative Research. *Frontiers*

 in Education, *4*. https://doi-org.proxy1.ncu.edu/10.3389/feduc.2019.00053

Baylis, N. (2004). *Teaching positive psychology*. In P. A. Linley & S. Joseph (Eds.), *Positive*

 psychology in practice (pp. 210–217). Wiley.

Bear, G. G., Yang, C., Mantz, L. S., & Harris, A. B. (2017). School-wide practices associated

 with school climate in elementary, middle, and high schools. *Teaching and Teacher*

 Education, *63*, 372–383. https://doi-org.proxy1.ncu.edu/10.1016/j.tate.2017.01.012

Beets, M. W., Flay, B. R., Vuchinich, S., Snyder, F. J., Acock, A., Li, K. K., et al. (2009). Use of

 a social and character development program to prevent substance use, violent behaviors,

 and sexual activity among elementary-school students in Hawaii. *American Journal of*

 Public Health, 99(8), 1438–1445.

Belfield, C., Bowden, A. B., Klapp, A., Levin, H., Shand, R., & Zander, S. (2015). The

 economic value of social and emotional learning. *Journal of Benefit-Cost Analysis, 6*(3),

 508–544.

Benson, P. (2006). All kids are our kids: *What communities must do to raise responsible and*

 caring children and adolescents. Jossey-Bass.

Bernard, M. E., Froh, J. J., DiGiuseppe, R., Joyce, M. R., & Dryden, W. (2010). Albert Ellis:

 Unsung hero of positive psychology. *The Journal of Positive Psychology*, *5*(4), 302–310.

 https://doi-org.proxy1.ncu.edu/10.1080/17439760.2010.498622

Best, J. R., & Miller, P. H. (2010). A Developmental Perspective on Executive Function. *Child*

 Development, *6*, 1641.

Bettman, J. R., & Johnson, E. J. (1993). *The Adaptive Decision Maker*. Cambridge University Press.

Bierman, K. L. (2004). *Peer rejection: Developmental processes and intervention strategies.* Guilford Press.

Bird, K. A., & Sultmann, W. F. (2010). Social and emotional learning: Reporting a system approach to developing relationships, nurturing well-being and invigorating learning. *Educational & Child Psychology, 27*, 143–155.

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*, 246–263.

Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist, 57*, 111-127.

Blair, C., & Raver, C. C. (2012). Individual development and evolution: Experiential canalization of self-regulation. *Developmental Psychology, 48*(3), 647-657.

Blair, C., & Razza, R. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development, 78*(2), 647–663. doi:10.1111/j.1467-8624.2007.01019.x

Blakemore, S.-J., & Mills, K. L. (2014). Is adolescence a sensitive period of sociocultural processing? *Annual Review of Psychology, 65*, 187-207.

Boncu, A., Costea, I., & Minulescu, M. (2017). A meta-analytic study investigating the efficiency of socio-emotional learning programs on the development of children and adolescents. *Romanian Journal of Psychology*, *19*(2), 35–41. https://doi org.proxy1.ncu.edu/10.24913/rjap.19.2.02

Bondy, E., Ross, D. D., Gallingane, C., & Hambacher, E. (2007). Creating environments of success and resilience: Culturally responsive classroom management and more. *Urban Education, 42*, 326–348.

Booth, A., Hennessy, E., & Doyle, O. (2018). Self-Regulation: Learning Across Disciplines. *Journal of Child and Family Studies*, *27*(12), 3767. https://doi org.proxy1.ncu.edu/10.1007/s10826-018-1202-5

Bostwick, K. C. P., Collie, R. J., Martin, A. J., & Durksen, T. L. (2017). Students' growth mindsets, goals, and academic outcomes in mathematics. *Zeitschrift Für Psychologie*, *225*(2), 107–116. https://doi-org.proxy1.ncu.edu/10.1027/2151 2604/a000287

Botvin, G. J., Griffin, K. W., & Nichols, T. R. (2006). Preventing youth violence and delinquency through a universal school-based prevention approach. *Preventative Science, 7*, 403-408.

Bracken, B.A. (1987). Limitations of preschool instruments and standards for minimal levels of technical adequacy. *Journal of Psychoeducation Assessment*, 5, 313-326.

Bradley, B., Davis, T. A., Wingo, A. P., Mercer, K. B., & Ressler, K. J. (2013). Family environment and adult resilience: contributions of positive parenting and the oxytocin

receptor gene. *European Journal of Psychotraumatology, 4,* 41-9.

doi:10.3402/ejpt.v4i0.21659

Bruner, J. S. (1972). The nature and uses of immaturity. *American Psychologist, 27*, 1-22.

Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2009). Self-regulation and its relations to

adaptive functioning in low income youths. *American Journal of Orthopsychiatry, 79*,

19–30. https://doi.org/10.1037/a0014796.

Bunge, S. A., & Crone, E. A. (2009). Neural correlates of the development of cognitive control.

Neuroimaging in Developmental Clinical Neuroscience, 22-37.

Burns, M. K. (2011). School psychology research: Combining ecological theory and prevention

science. *School Psychology Review,* 40(1), 132-139.

Bursali, N., & Öz, H. (2018). The Role of Goal Setting in Metacognitive Awareness as a Self-

Regulatory Behavior in Foreign Language Learning. *Online Submission*, *5*(3), 662–671.

Retrieved from https://search-ebscohost

com.proxy1.ncu.edu/login.aspx?direct=true&db=eric&AN=ED585761&site=eds-live

Busari, A. O. (2012). Evaluating the Relationship between Gender, Age, Depression and

Academic Performance among Adolescents. *Scholarly Journal of Education, 1*(1), 6-12.

Cadinu, M., Maass, A., Lombardo, M., & Frigerio, S. (2006). Stereotype threat: the moderating

role of Locus of Control beliefs. *European Journal of Social Psychology*, *36*(2), 183.

Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory*

approach to human behavior. Springer-Verlag.

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*, 19 -35.

Carver, C. S. & Scheier, M. F. (2001). *On the self-regulation of behavior*. Cambridge University Press.

Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Psychology Review, 30*, 879 – 889. http://dx.doi.org/10.1016/j .cpr.2010.01.006

Caspi, A., McClay, J. Moffitt, T. E., Mill, J., Martin, J., Craig, I. W., Taylor, A., & Poulton, R. (2002). Role of genotype in the cycle of violence in maltreated children. *Science, 297,* 851-854.

Castillo, G. R., Cabello, R., Herrero, M., Rodríguez, C. R., & Fernández, B. P. (2018). A Three Year Emotional Intelligence Intervention to Reduce Adolescent Aggression: The Mediating Role of Unpleasant Affectivity. *Journal of Research on Adolescence (Wiley Blackwell)*, *28*(1), 186–198. https://doi-org.proxy1.ncu.edu/10.1111/jora.1232

Catalano, R.F., Berglund, M.L., Ryan, J.A.M, Lonczak, H.S., & Hawkins, J.D. (1998). *Positive Youth Development in the United States: Research Findings on Evaluations of Positive Youth Development Programs.* Washington DC: United States Department of Health and Human Services National Institute for Child Health and Human Development.

Centers for Disease Control and Prevention. (2019). *Children's Mental Health.* https://www.cdc.gov/childrensmentalhealth/data.html

Chen, X., McElwain, N. L., & Lansford, J. E. (2019). Interactive Contributions of Attribution Biases and Emotional Intensity to Child-Friend Interaction Quality During

Preadolescence. *Child Development, 90*(1), e114–e131. https://doi

org.proxy1.ncu.edu/10.1111/cdev.13012

Cicchetti, D. (2010). Resilience under conditions of extreme stress: a multilevel perspective.

World Psychiatry, 9(3), 145-154.

Collaborative for Academic, Social, and Emotional Learning. (2003). *Safe and sound: An*

educational leader's guide to evidence-based Social and Emotional Learning (SEL)

programs. Chicago, IL: Author.

Collaborative for Academic, Social, and Emotional Learning. (2013). *2013 CASEL guide:*

Effective social and emotional learning programs—Preschool and elementary school

edition. Chicago, IL:Author.

Collaborative for Academic, Social, and Emotional Learning (2019). *Core SEL Competencies.*

Retrieved from https://casel.org/core-competencies/

Collaborative for Academic, Social, and Emotional Learning (2019a). *What is SEL?*

https://casel.org/what-is-sel/

Conduct Problems Prevention Research Group. (2010). The effects of a multiyear universal

social-emotional learning program: The role of student and school characteristics.

Journal of Consulting and Clinical Psychology, 78, 156-168.

doi:10.1016/j.biotechadv.2011.08.021

Connell, D. B., Turner, R. R., & Mason, E. F. (1985). Summary of findings of the school health

education evaluation: Health promotion effectiveness, implementation, and costs. *Journal*

of School Health, 55, 316–321.

Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly, 25*, 65–83. http://dx.doi.org/10.1037/a0020149

Craig, W., Harel-Fisch, Y., Fogel-Grinvald, H., Dostaler, S., Hetland, J., Simons-Morton, B., . . . Pickett, W. (2009). A cross-national profile of bullying and victimization among adolescents in 40 countries. *International Journal of Public Health, 54*(Suppl. 2), 216 224. http://dx.doi.org/10.1007/s00038-009-5413-9

Crain, W. (2000). *Theories of development: Concepts and applications*. Prentice Hall.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*, 74 101.

Crockett, L. J., Petersen, A. C., Graber, J. A., Schulenberg, J. E., et al. (1989). School transitions and adjustment during early adolescence. *The Journal of Early Adolescence, 9*, 181–210. doi:10.1177/0272431689093002.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. Harper & Row.

Csikszentmihalyi, M. (1993). *The evolving self: A psychology for the third millennium*. Harper Collins.

Denham, S. A. Brown, C. E., & Domitrovich, C. E. (2010). Plays nice with others: Social emotional learning and academic success. *Early Education and Development, 21*, 652 680. doi: 10.1080/10409289.2010.497450

Denham, S. A., and R. P. Weissberg. (2004). "Social-emotional Learning in Early Childhood: What We Know and Where to Go from Here." In *A Blueprint for the Promotion of Prosocial Behavior in Early Childhood*, edited by E. Chesebrough, 13–50. Kluwer Academic/Plenum Publishers.

Detert, J. R., Trevino, L. K., & Sweitzer, V. L. (2008) Moral disengagement in ethical decision making: A study of antecedents and outcomes. *Journal of Applied Psychology, 93*(2), 374-391. doi: 10.1037/0021-9010.93.2.374.

Deutsch, M. (1962). Cooperation and trust: Some theoretical notes. In M. Jones (Ed.), *Nebraska Symposium on Motivation* (pp. 275–319). University of Nebraska Press.

Devaney, E., O'Brien, M. U., Resnik, H., Keister, S., & Weissberg, R. P. (2006). *Sustainable schoolwide social and emotional learning (SEL): Implementation guide and toolkit.* CASEL.

Diamond, A. (2013). Executive functions. *Annual Review of Psychology, 64*, 135–168. http://dx.doi.org/10.1146/annurev-psych-113011-143750

Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. Science, 333, 959-964.

Diekstra, R. F. W. (2008). Evaluation of effectiveness of school-based social and emotional education programmes worldwide. In Fundacion Marcelino Botin (Ed.), *Social and emotional education: An international analysis* (pp. 255-284). Madrid, Spain: Fundacion Marcelino Botin.

Dimaggio, G., Montano, A., Popolo, R., & Salvatore, G. (2015). *Metacognitive interpersonal therapy for personality disorders.* A treatment manual. Routledge.

DiPerna, J. C., Volpe, R. J., & Elliott, S. N. (2005). A model of academic enablers and mathematics achievement in the elementary grades. *Journal of School Psychology, 43*, 79-392.

Dobia, B., Parada, R. H., Roffey, S., & Smith, M. (2019). Social and emotional learning: From individual skills to class cohesion. *Educational & Child Psychology*, *36*(2), 78. https://search-ebscohost

com.proxy1.ncu.edu/login.aspx?direct=true&db=edb&AN=136549257&site=eds-live

Dobson, C. (2012). Effects of academic anxiety on the performance of students with and without learning disabilities and how students can cope with anxiety at school (Master's thesis, Northern Michigan University). https://www.nmu.edu/education/sites/DrupalEducation/files/UserFiles/Dobson_Cassie_P.pdf

Dodge, K. A., & Price, J. M. (1994). On the relation between social information processing and socially competent behavior in early school-aged children. *Child Development, 65*, 1385 1897.

Doidge, N. (2010). *The brain that changes itself* (Revised ed.). Scribe Publications.

Doll, B., LeClair, C., & Kurien, S. (2009). Effective classrooms: Classroom learning environments that foster school success. In T. B. Gutkin & C. R. Reynolds (Eds.), *The handbook of school psychology* (4th ed., pp. 791-807). Wiley.

Doll, B., Pfohl, W., & Yoon, J. (2010). *Handbook of youth prevention science. [electronic resource]*. Routledge.

Durlak, J. A., Domitrovich, C. E., Weissberg, R. P., & Gullotta, T. P. (Eds.). (2015). *Handbook of social and emotional learning: Research and practice.* The Guilford Press.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: a meta-analysis of school based universal interventions. *Child Development*, *82*(1), 405–432. https://doi org.proxy1.ncu.edu/10.1111/j.1467-8624.2010.01564.x

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A Meta-Analysis of After-School Programs That Seek to Promote Personal and Social Skills in Children and Adolescents. *American Journal of Community Psychology*, *45*(3–4), 294. https://doi org.proxy1.ncu.edu/10.1007/s10464-010-9300-6

Dusenbury, L., Zadrazil, J., Mart, A., & Weissberg, R. (2011). *State learning standards to advance social and emotional learning: The state scan of social and emotional learning standards, preschool through high school.* Chicago: Department of Psychology, University of Illinois at Chicago, and Collaborative for Academic, Social, and Emotional Learning. http://casel.org/wp-content/uploads/Forum-Brief-on-the-State Scan-5-10 2011.pdf

Dweck, C. (2000). *Self theories: Their role in motivation, personality, and development*. Psychology Press.

Dziak, M. (2019). Self-regulation theory (SRT). *Salem Press Encyclopedia*.

Einhorn, H. J., & Hogarth, R. M. (1981). Behavioral Decision Theory: Processes of
Judgment and Choice. *Annual Review of Psychology, 32*, 53-88.

Eklund, K., Kilpatrick, K. D., Kilgus, S. P., & Haider, A. (2018). Children, Research, and Public
Policy: A Systematic Review of State-Level Social-Emotional Learning Standards:
Implications for Practice and Research. *School Psychology Review*, (3), 316. https://doi
org.proxy1.ncu.edu/10.17105/SPR-2017.0116.V47-3

Elias, M. J., & Clabby, J. F. (1989). *Social Decision-making Skills: A Curriculum Guide For The
Elementary Grades. Rockville*. MD: Aspen Publishers.

Elias, M. J., & Haynes, N. M. (2008). Social competence, social support, and academic
achievement in minority, low-income, urban elementary school children. *School
Psychology Quarterly, 23*, 474–495.doi:10.1037/1045-3830.23.4.474

Elias, M. J., & Kress, J. S. (1994). Social Decision-Making and Life Skills Development: A
Critical Thinking Approach to Health Promotion in the Middle School. *Journal of School
Health*, *64*(2), 62.

Elias M. J., White, G. Stepney, C. (2014). Surmounting the challenges of improving academic
performance: Closing the achievement gap through social-emotional and character
development. *Journal of Urban Learning, Teaching, and Research, 10,* 14–24.

Elias, M. J., Zins, J. E., Graczyk, P. A., & Weissberg, R. P. (2003). Implementation,
sustainability, and scaling up of social-emotional and academic innovations in public
schools. *School Psychology Review, 32*(3), 303.

Elias, M. J., Zins, J. E., Weissberg, R. P., Frey, K. S., Greenberg, M. T., Haynes, N.M., Kessler, R., Mary Schwab-Stone, M. E., & Shriver, T. P. (1997). *Promoting social and emotional learning: Guidelines for educators.* Alexandria, VA., USA: Association for Supervision and Curriculum Development.

Elliot, A. J., & McGregor, H. A. (2001). A 2 x 2 achievement goal framework. *Journal of Personality and Social Psychology, 80*, 501–519. doi: 10.1037/10022-3514.80.3.501

Elliot, A. J., Murayama, K., Kobeisy, A., & Lichtenfeld, S. (2015). Potential-based achievement goals. *The British Journal of Educational Psychology, 85*, 192–206. doi: 10.1111/bjep. 12051

Emiko Kobayashi, & Farrington, D. P. (2020). Why Do Japanese Bully More than Americans? Influence of External Locus of Control and Student Attitudes Toward Bullying. *Educational Sciences: Theory & Practice*, *20*(1), 5–19. https://doi org.proxy1.ncu.edu/10.12738/jestp.2020.1.002

Epstein, M.H. (2004*). Behavioral and emotional rating scale examiner's manual* (2nd edition.). PRO-ED.

Erdogan, S (2015). Investigating pre-service gifted education teachers' self-efficacy toward science teaching and scientific attitudes. Eurasian *Journal of Educational Research*, *59*, 133-148.

Espelage, D. L., Low, S., & Jimerson, S. (2014). Understanding school climate, aggression, peer victimization, and bully perpetration: Contemporary science, practice, and policy. *School Psychology Quarterly, 29*, 233-237.

Espelage, D. L., Rose, C. A., & Polanin, J. R. (2015). Social-emotional learning program to reduce bullying, fighting, and victimization among middle school students with disabilities. *Remedial and Special Education, 36*, 299-311.

Evans, G., & Rosenbaum, J. (2008). Self-regulation and the income-achievement gap. *Early Childhood Research Quarterly, 23*(4), 504–514. doi:10.1016/j.ecresq.2008.07.002

Field, A., (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th edition). SAGE

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist, 34*, 906–911. http://dx.doi.org/10.1037/0003-066X.34.10.906

Flavell, J. H., Miller, P. H., & Miller, S. A. (2002). *Cognitive development 4th Edition*. Prentice Hall.

Flay, B. R., & Allred, C. G. (2003). Long-term effects of the Positive Action® program. *American Journal of Health Behavior, 27*(1), S6-S21.

Fleming, C. B., Haggerty, K. P., Catalano, R. F., Harachi, T. W., Mazza, J. J., & Gruman, D. H. (2005). Do social and behavioral characteristics targeted by preventive interventions predict standardized test scores and grades? *Journal of School Health, 75*, 342-349.

Folkman, S. Lazarus, R. S. Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1986). Dynamic of a Stressful Encounter: Cognitive Appraisal, Coping and Encounter Outcomes. *Journal of Personality and Social Psychology, 50,* 992-1003.

Fowler, R. D., Seligman, M. P., & Koocher, G. P. (1999). The APA 1998 Annual Report. *American Psychologist*, *54*(8), 537-568. doi:10.1037/0003-066X.54.8.537

Freeman, C. (2016). What is mentalizing? An overview. *British Journal of Psychotherapy, 32*, 189-201. http://dx.doi.org/10.1111/bjp.12220

Frey, K. S., Hirschstein, M. K., Edstrom, L. V., & Snell, J. L. (2009). Observed reductions in school bullying, nonbullying aggression and destructive bystander behavior: A longitudinal evaluation. *Journal of Educational Psychology, 101*, 466-481.

Furby, L., & Beyth-Marom, R. (1992). Risk-taking in adolescence: A decision-making perspective. *Developmental Review, 12*, 1-44.

Gartlehner G., Hansen R., Nissman D., Lohr, K., & Carey, T. (2006). *Criteria for Distinguishing Effectiveness From Efficacy Trials in Systematic Reviews*. Rockville (MD): Agency for Healthcare Research and Quality (US) (Technical Reviews, No. 12.) 1, Introduction. https://www.ncbi.nlm.nih.gov/books/NBK44024/

Gerald, B. (2018). A Brief Review of Independent, Dependent and One Sample t-test. *International Journal of Applied Mathematics and Theoretical Physics*, 4(2), 50-54. doi: 10.11648/j.ijamtp.20180402.13

Gervey, B., Igou, E. R., & Trope, Y. (2005). Positive Mood and Future-Oriented Self-Evaluation. *Motivation and Emotion 29*, 267-294.

Gillham, J. E., & Seligman, M. E. (1999). Footsteps on the road to a positive psychology. *Behaviour Research And Therapy*, *37 Suppl 1*S163-S173.

Ginsburg-Block, M. D., Rohrbeck, C. A., & Fantuzzo, J. W. (2006). A meta-analytic review of social, self-concept, and behavioral outcomes of peer-assisted learning. *Journal of Educational Psychology, 98*, 732–749. http://dx.doi.org/10.1037/0022-0663.98.4.732

Godwin, M., Ruhland, L., Casson, I., MacDonald, S., Delva, D., Birtwhistle, R., Lam, M., & Seguin, R. (2003). Pragmatic controlled clinical trials in primary care: the struggle between external and internal validity. *BMC medical research methodology*, *3*, 28. https://doi.org/10.1186/1471-2288-3-28

Gogtay, N., Giedd, J. N., Lusk, L., Hayashi, K. M., Greenstein, D., Vaituzis, A. C., et al. (2004). Dynamic mapping of human cortical development during childhood trough early adulthood. *Proceedings of the National Academy of Sciences, 101*(21), 8174-8179.

Goodmon, L.B., Kelly, C., Maudlin, M., & Young, K. (2015). Jumping to negative impressions: The relationship between pessimism, information valence, and likability. *North American Journal of Psychology, 17*(3). 485-507.

Goleman, D. (1995). *Emotional intelligence*. Bantam Books.

Goleman, D. (2006). *Social intelligence: The new science of human relationships*. Bantam Books.

Green, L. S., Grant, A., & Rynsaardt, J. (2007). Evidence-based life coaching for senior high school students: Building hardiness and hope. *International Coaching Psychology Review, 2*, 24–32.

Greenberg, M. T. (2006). Promoting resilience in children and youth. *Annals of the New York Academy of Sciences, 1094*, 139-150.

Greenberg, M. T., Weissberg, R. P., O'Brien, M. U., Zins, J. E., Fredericks, L., Resnik, H., & Elias, M. J. (2003). Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. *American Psychologist, 58*, 446 474.doi:10.1037/0003-066X.58.6-7.466

Greenfield, S. (2000). *The private life of the brain*. Penguin Books.

Gregan-Paxton, J., & John, D. R. (1995). "Are Young Children Adaptive Decision Makers? A Study of Age Differences in Information Search Behavior." *Journal of Consumer Research*, *21*(4), 567-580.

Gregan-Paxton, J., & John, D. R. (1997). The emergence of adaptive decision making in children. *Journal of Consumer Research*, *1*, 43.

Gresham, F. M. (2016). Social skills assessment and intervention for children and youth. *Cambridge Journal of Education, 46*(3), 319-332. https://doi.org/10.1080/030576 4X.2016.1195788

Gresham, F. M. (2018). *Effective interventions for social-emotional learning*. The Guilford Press.

Gross, J. J. (2015). Emotion regulation: current status and future prospects. *Psychological Inquiry, 26*, 1–26. https://doi.org/10.1080/1047840X.2014.940781.

Gullotta, T. P., Bloom, M., Gullotta, C. F., & Messina, J. C. (2009). *A blueprint for promoting academic and social competence in after school programs*. Springer.

Hackston, J. (2019). Maybe You're Aware … Self-Awareness Is in Short Supply. *Workforce*, *98*(5), 40–43.

Hawkins, J. D., Kosterman, R., Catalano, R. F., Hill, K. G., & Abbott, R. D. (2008). Effects of social development intervention in childhood 15 years later. *Archives of Pediatric Adolescent Medicine, 162*(12), 1133-1141.

Hay, D. F., Payne, A., & Chadwick, A. (2004). Peer relations in childhood. *Journal of Child Psychology and Psychiatry, 45*, 84-108.

Haynes, P., & Ayliffe, G. (1991). Locus of control of behaviour: is high externality associated with substance misuse? *British Journal of Addiction*, *86*(9), 1111–1117. https://doi org.accarcproxy.mnpals.net/10.1111/j.1360-0443.1991.tb01878.x

Hefferon, K., & Boniwell, I. (2011). *Positive Psychology: Theory, research, and applications.* Open University Press.

http://site.ebrary.com.proxy1.ncu.edu/lib/ncent/detail.action?docID=10604359

Henderson, N., & Milstein, M. M. (1996). *Resiliency in schools: Making it happen for students and educators*. Corwin.

Hill, R. (2011) *Teach internal locus of control.* Power Press.

Hirsch, C. R., Meeten, F., Krahe, C., & Reeder, C. (2016). Resolving ambiguity in emotional disorders: The nature and role of interpretation biases. *Annual Review of Clinical Psychology, 12*, 281–305. https://doi.org/10.1146/annurev-clinpsy-021815-093436.

Hofferth, S.L. & Sandberg, J.F. (2001) How American children spend their time, *Journal of Marriage and the Family*, *63*, 295–308.

Hughes, D. & Baylin, J. (2012). *Brain-Based Parenting*: *The Neuroscience of Caregiving for Healthy Attachment*. W. W. Norton & Company, Inc.

Humensky, J., Kuwabara, S. A., Fogel, J., Wells, C., Goodwin, B., & Van Voorhees, B. W. (2010). Adolescents with depressive symptoms and their challenges with learning in school. *The Journal of School Nursing, 26*, 377-392.

Hunter, L. J., DiPerna, J. C., Hart, S. C., & Crowley, M. (2018). At what cost? Examining the cost effectiveness of a universal social–emotional learning program. *School Psychology Quarterly*, *33*(1), 147–154. https://doi-org.proxy1.ncu.edu/10.1037/spq0000232

Johnson, E. B. (2009). Contextual teaching and llearning: Menjadikan kegiatan belajar mengajar mengasyikkan dan bermakna. Bandung: Mizan Learning Center.

Johnson, D. W., Johnson, R. T., & Maruyama, G. (1983). Interdependence and interpersonal attraction among heterogeneous and homogeneous individuals: A theoretical formulation and a meta-analysis of the research. *Review of Educational Research, 53*, 5–54. http://dx.doi.org/10.3102/00346543053001005

Jones, S. M., Barnes, S. F., Bailey, R., & Doolittle, E. J. (2017). Promoting Social and Emotional Competencies in Elementary School. *Future of Children, 27*(1), 49–72.

Jones, S. M., & Kahn, J. (2017). The Evidence Base for How Learning Happens: A Consensus on Social, Emotional, and Academic Development. *American Educator*, *4*, 16.

Kahneman, D., Slovic, P., & Tversky, A. (1982) *Judgment under uncertainly: Heuristics and biases*. Cambridge University Press.

Kann L, McManus T, Harris WA, et al. (2018). Youth Risk Behavior Surveillance—United States, 2017. Morbidity and Mortality Weekly Report. *Surveillance Summaries, 67*, SS-7.

Kaplan, R. M. (2000). Two pathways to prevention. *American Psychologist, 55*, 382–396.

Karatsoreos, I.N., & McEwen, B.S. (2013). Resilience and vulnerability: a neurobiological perspective. *F1000prime reports.*

Kaufman, J., Yang, B-Z., Douglas-Palumberi, H., Houshyar, S., Lipschitz, D., Krystal, J. H., & Gelernter, J. (2004). Social supports and serotonin transporter gene moderate depression in maltreated children. *Proceedings of the National Academy of Sciences, USA, 101,* 17316-17321.

Kay, C. L., & Green, J. M. (2016). Social cognitive deficits and biases in maltreated adolescents in UK out-of-home care: Relation to disinhibited attachment disorder and psychopathology. *Development & Psychopathology*, *28*(1), 73.

Keene, B. M. (2017). Emotion self-regulation. *Salem Press Encyclopedia*.

Kelley, T. (1996). At-Risk Youth and Locus of Control: Do They Really See a Choice? *Juvenile & Family Court Journal 47*(4) 39–54.

Kennelly, K. L., & Mount, S. (1985). Perceived Contingency of Reinforcements, Helplessness, Locus of Control, and Academic Performance. *Psychology in the Schools 22*(4) 465 469.

Khesht-Masjedi, M., Shokrgozar, S., Abdollahi, E., Habibi, B., Asghari, T., Ofoghi, R., & Pazhooman, S. (2019). The relationship between gender, age, anxiety, depression, and academic achievement among teenagers. *Journal of Family Medicine and Primary Care*, (3). Retrieved from https://search-ebscohost com.proxy1.ncu.edu/login.aspx?direct=true&db=edsgao&AN=edsgcl.580732603&site= ds-live

Kim S. Y. (2013). Efficacy versus Effectiveness. *Korean journal of family medicine*, *34*(4), 227. https://doi.org/10.4082/kjfm.2013.34.4.227

Kim T. K. (2015). T test as a parametric statistic. *Korean journal of anesthesiology*, *68*(6), 540-546. https://doi.org/10.4097/kjae.2015.68.6.540

Klayman, J. (1985). Children's decision strategies and their adaptation to task characteristics. *Organizational Behavior and Human Decision Processes, 35*(2), 179 201. https://doi.org/10.1016/0749-5978(85)90034-2

Knoblauch, H., and Pfadenhauer, M. (eds.). (2018). *Social Constructivism as Paradigm? The Legacy of the Social Construction of Reality*. Routledge.

Krasnegor, N. A., Lyon, G. R., & Goldman-Rakic, P. S. (1997). *Development of the prefrontal cortex: Evolution, neurobiology, and behavior*.

Kretchmar, J. (2019). Social Learning Theory. *Salem Press Encyclopedia*.

Kristjánsson, K. (2012). Positive psychology and positive education: Old wine in new bottles? *Educational psychologist*, *47*(2), 86-105. http://www.tandfonline.com.proxy1.ncu.edu/doi/full/10.1080/00461520.2011.610678

Laerd Statistics. (2018). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3444174/

Laible, D., McGinley, M., Carlo, G., Augustine, M., & Murphy, T. (2014). Does engaging in prosocial behavior make children see the world through rose-colored glasses? *Developmental Psychology, 50*, 872–880. https://doi.org/10.1037/a0033905

Layous, K., Chancellor, J., & Lyubomirsky, S. (2014). Positive activities as protective factors against mental health conditions. *Journal of Abnormal Psychology, 123*, 3–12.

LaBelle, B. (2019). Positive Outcomes of a Social-Emotional Learning Program to Promote Student Resiliency and Address Mental Health. *Contemporary School Psychology: The*

Official Journal of the California Association of School Psychologists, 1. https://doi

org.proxy1.ncu.edu/10.1007/s40688-019-00263-y

LeBuffe, P.A., & Naglieri, J.A. (1999). *Devereux early childhood assessment user's guide*.

Kaplan Early Learning Company Publishing.

LeBuffe, P.A., Shapiro, V.B., & Naglieri, J.A. (2009). *Devereux Student Strengths*

Assessment: A measure of social-emotional competencies of children in kindergarten

through eighth grade. Kaplan Early Learning Company Publishing.

LeBuffe, P. A., Shapiro, V. B., & Naglieri, J. A. (2014). *The Devereux Student Strengths*

Assessment (DESSA): Assessment, technical manual, and user's guide. Apperson, Inc.

(Original work published 2009).

Legrain, L., Cleeremans, A., & Destrebecqz, A. (2011). Distinguishing three levels in explicit

self-awareness. *Consciousness and Cognition*, *3*, 578.

Lerner, R. M. (2006). Editor's introduction: Developmental science, developmental systems, and

contemporary theories. In R. M. Lerner (Ed.), *Handbook of child psychology: Vol. 1.*

Theoretical models of human development (6th ed., pp. xxii–xxv). Wiley.

Lewis, M. (2007). Early emotional development. In A. Slater and M. Lewis (Eds.)., *Introduction*

to infant development. Blackwell.

Lewis, M., & Carmody, D. P. (2008). Self-representation and brain development. *Developmental*

Psychology, 44, 1329-1334.

Lindsay, M. (2013). *Integrating social emotional learning into secondary curriculum*. Submitted

in partial fulfillment of the requirements for the degree Master of Science in Education,

School of Education and Counseling Psychology, Dominican University of California, San Rafael, CA, March 2013.

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology, 12*(4), 857–885.

Lyubomirsky, S., King, L., & Diener, E. (2005). The Benefits of Frequent Positive Affect: Does Happiness Lead to Success? *Psychological Bulletin*, *131*(6), 803–855. https://doi org.proxy1.ncu.edu/10.1037/0033-2909.131.6.803

MacArthur, G., Caldwell, D. M., Redmore, J., Watkins, S. H., Kipping, R., White, J., et al. (2018). Individual, family, and school level interventions targeting multiple risk behaviours in young people. *Cochrane Database of Systematic Reviews*(10).

Magnano, P., Paolillo, A., & Giacominelli B. (2015). Dispositional Optimism as a Correlate of Decision-Making Styles in Adolescence. *SAGE Open*. https://doiorg.proxy1.ncu.edu/10.1177/2158244015592002

Magyar-Moe, J. L., Owens, R. L., & Scheel, M. J. (2015). Applications of positive psychology in counseling psychology current status and future directions. *The Counseling Psychologist*, *43*(4), 494-507.http://tcp.sagepub.com.proxy1.ncu.edu/content/43/4/494

Malinauskas, R. (2019). Differences in Social Skills and Personal Responsibility between Students of High and Youth Schools. *Croatian Journal Educational / Hrvatski Casopis Za Odgoj I Obrazovanje*, *21*(1), 189.

Martin, A. J. (2006). Personal bests (PBs): A proposed multidimensional model and empirical analysis. *The British Journal of Educational Psychology, 76*, 803–825. doi: 10.1348/ 000709905X55389

Martin, A. J., & Elliot, A. J. (2016a). The role of personal best (PB) and dichotomous achievement goals in students' academic motivation and engagement: A longitudinal investigation. *Educational Psychology, 36*, 1285–1302. doi: 10.1080/01443410. 2015.1093606

Martin, A. J., & Elliot, A. J. (2016b). The role of personal best (PB) goal setting in students' academic achievement gains. *Learning and Individual Differences, 45*, 222–227. doi: 10.1016/j.lindif.2015.12.014

Martin, A. J., Marsh, H. W., & Debus, R. L. (2001). Self-handicapping and defensive pessimism: Exploring a model of predictors and outcomes from a self-protection perspective. *Journal of Educational Psychology, 93*, 87–102.

Martin, A. J., Nejad, H. G., Colmar, S., & Liem, G. A. D. (2013). Adaptability: How students' responses to uncertainty and novelty predict their academic and non-academic outcomes. *Journal of Educational Psychology, 105*, 728–746. doi: 10.1037/a0032794

Martorell, G., Papalia, D., & Feldman, R. (2014). *A Child's World Infancy through Adolescence* (13th ed.). McGraw Hill.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56,* 227–238.

Masten, A. S. (2014). *Ordinary Magic Resilience*. Guilford Press.

Mathieson, L. C., Murray-Close, D., Crick, N. R., Woods, K. E., Zimmer-Gembeck, M., Geiger, T. C., & Morales, J. R. (2011). Hostile intent attributions and relational aggression: The moderating roles of emotional sensitivity, gender, and victimization. *Journal of Abnormal Child Psychology, 39*(7), 977–987. https://doi.org/10.1007/s10802-011-9515-5

Matz, L. "MACMH's Child & Adolescent Mental Health Conference." Duluth, MN. 27-29 April 2013.

Mazzone, L., Ducci, F., Scoto, M. C., Passaniti, E., D'Arrigo, V. G., & Vitiello, B. (2007). The role of anxiety symptoms in school performance in a community sample of children and adolescents. *BMC PUBLIC HEALTH*, *7*. https://doi-org.proxy1.ncu.edu/10.1186/1471 2458-7-347

Mazur, J. (1994). *Learning and behavior* (3rd ed.). Prentice-Hall, Inc.

McCarty, C. A., Rhew, I. C., Murowchick, E., McCauley, E., & Vander Stoep, A. (2012). Emotional health predictors of substance use initiation during middle school. *Psychology of Addictive Behaviors*, *26*(2), 351–357. https://doiorg.proxy1.ncu.edu/10.1037/a0025630

McClelland, M. M., & Cameron, C. E. (2011). Self-regulation and academic achievement in elementary school children. *New Directions for Child and Adolescent Development, 2011*(133), 29–44. doi:10.1002/cd.302

McClelland, M. M., Cameron, C. E., Connor, C. M., Farris, C. L., Jewkes, A. M., & Morrison, F. J. (2007). Links between behavioral regulation and preschoolers' literacy, vocabulary, and math skills. *Developmental Psychology, 43*(4), 947–959. doi:10.1037/0012 1649.43.4.947

McEwen, B. S., & Stellar, E. (1993). Stress and the individual: Mechanisms leading to disease. *Archives of Internal Medicine*, 153, 2093–2101.

Medlock, G. (2012). The evolving ethic of authenticity: From humanistic to positive psychology. *The Humanistic Psychologist*, *40*(1), 38-57. doi:10.1080/08873267.2012.643687

Mergler, A. (2017). Personal Responsibility: An Integrative Review of Conceptual and Measurement Issues of the Construct. *Research Papers in Education*, *32*(2), 254–267.

Mergler, A., & Patton, W. (2007). Adolescents Talking about Personal Responsibility. *Journal of Student Wellbeing, 1*(1), 57-70.

Mills, M. J., Fleck, C. R., & Kozikowski, A. (2013). Positive psychology at work: A conceptual review, state-of-practice assessment, and a look ahead. *The Journal of Positive Psychology*, *8*(2), 153-164. http://www.tandfonline.com/doi/abs/10.1080/17439760.2013.776622

Minnesota Department of Education. (2020). https://public.education.mn.gov/MDEAnalytics/Summary.jsp

Misso, D., Schweitzer, R. D., & Dimaggio, G. (2019). Metacognition: A potential mechanism of change in the psychotherapy of perpetrators of domestic violence. *Journal of Psychotherapy Integration*, *29*(3), 248–260. https://doi org.proxy1.ncu.edu/10.1037/int0000111

Miyake, A., Friedman, N. P. (2012). The nature and organization of individual differences in executive functions: Four general conclusions. *Current Directions in Psychological Science, 21*, 8-14.

Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., Howerter, A., & Wager, T. D. (2000). The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology, 41*, 49-100.

Mjelde, J. W., Litzenberg, K. K., & Lindner, J. R. (2011). Cognitive Development Effects of Teaching Probabilistic Decision Making to Middle School Students. *Journal of Natural Resources & Life Sciences Education*, *40*(1), 36–44.

Morin, A. (2004). A neurocognitive and socioecological model of self-awareness. *Genetic, Social, and General Psychology Monographs*, *130*(3), 197–222.

Moshman, D. (1990). The development of metalogical understanding. In W. Overton (Ed.), *Reasoning, necessity, and logic: Developmental perspectives* (pp. 205-225). Erlbaum.

Moshman, D., & Franks, B. A. (1986). Development of the concept of inferential validity. *Child Development, 57*, 153-165.

Moshman, D., & Timmons, M. (1982). The construction of logical necessity. *Human Development, 25*, 309-323.

Moskowitz, J. M., Schaps, E., & Malvin, J. H. (1982). Process and outcome evaluation in primary prevention: The Magic Circle program. *Evaluation Review, 6*, 775–788. doi:10.1177/0193841x8200600604

Muratori, P., Bertacchi, I., Masi, G., Milone, A., Nocentini, A., Powell, N. P., Lochman, J. E., Jones, S., Kassing, F., & Romero, D. (2019). Effects of a universal prevention program on externalizing behaviors: Exploring the generalizability of findings across school and

home settings. *Journal of School Psychology*, *77*, 13–23. https://doi
org.proxy1.ncu.edu/10.1016/j.jsp.2019.09.002

Nagel, M. C. (2012*). In the beginning*. Victoria: Australian Council for Educational
Research.

Nasby,W., Hayden, B., & Depaulo, B. (1979). Attributional bias among aggressive boys to
interpret unambiguous social stimuli as displays of hostility. *Journal of Abnormal
Psychology, 89*, 459–468.

Neil, A. L., & Christensen, H. (2009). Efficacy and effectiveness of school-based prevention
and early intervention programs for anxiety. *Clinical Psychology Review, 29*, 208-215.
doi:10.1016/j.cpr.2009.01.002

Nelson, C. A., Thomas, K. M., & deHann, M. (2006). Neural basis of cognitive development In
W. Damon & R. Lerner (Eds.), Handbook of Child Psychology (6th ed.). Wiley.

Newbury-Helps, J., Feigenbaum, J., & Fonagy, P. (2017). Offenders with antisocial personality
disorder display more impairments in mentalizing. *Journal of Personality Disorders, 31*,
232–255. http://dx.doi.org/10.1521/pedi_2016_30_246

Ng, W. (2015). Boosting well-being with positive psychology interventions: Moderating role of
personality and other factors. *Journal of Contemporary Psychotherapy, 45*(2), 79-87.
doi:10.1007/s10879-014-9291-y
http://link.springer.com.proxy1.ncu.edu/article/10.1007%2Fs10879-014-9291-y

Nickerson, A. B., Fredrick, S. S., Allen, K. P., & Jenkins, L. N. (2019). Social emotional
learning (SEL) practices in schools: Effects on perceptions of bullying

victimization. *Journal of School Psychology*, *73*, 74–88. https://doi

org.proxy1.ncu.edu/10.1016/j.jsp.2019.03.002

Nigg, J. T., Quamma, J. P., Greenberg, M. T., & Kusche, C. A. (1999). A two-year longitudinal

study of neuropsychological and cognitive performance in relation to behavioral

problems and competencies in elementary school children. *Journal of Abnormal Child

Psychology, 27*, 51-63.

Nolan, A., Taket, A., & Stagnitti, K. (2014). Supporting resilience in early years classrooms: the

role of the teacher. *Teachers & Teaching*, *20*(5), 595.

Norman, D. A., & Shallice, T. (1980). Attention to action: Willed and automatic control of

behaviour. In R. J. Davidson, G. E. Schwartz, & D. Shapiro (Eds.), *Consciousness and

self-regulation* (pp. 1-18). Plenum Press.

Nowicki, S., & Duke, M. P. (1994). Individual differences in the nonverbal communication of

affect: The Diagnostic Analysis of Nonverbal Accuracy Scale. *Journal of Nonverbal

Behavior, 18*(1), 9-35.

Oberle, E., Schonert-Reichl, K. A., Hertzman, C., & Zumbo, B. D. (2014). Social–emotional

competencies make the grade: Predicting academic success in early adolescence. *Journal

of Applied Developmental Psychology*, *35*(3), 138–147. https://doi

org.proxy1.ncu.edu/10.1016/j.appdev.2014.02.004

Ochoa-Becker, A. S. (1999). Decision Making in Middle School Social Studies: An Imperative

for Youth and Democracy. *Clearing House*, *72*(6), 337.

Oden, S. L., & Asher, S. R (1977). Coaching children in social skills for friendship making. *Child Development, 48*, 495-506.

O'Donnell, C. L. (2008). Defining, conceptualizing, and measuring fidelity of implementation and its relationship to outcomes in K-12 curriculum intervention research. *Review of Educational Research, 78*(1), 33-84.

Olson, S. L., Bates, J. E., Sandy, J. M., & Schilling, E. M. (2002). Early developmental precursors of impulsive and inattentive behavior: From infancy to middle childhood. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 43*(4), 435–447. doi:10.1111/1469-7610.00035

Pajares, K & Schunk, D. (2001). Self Beliefs and School Success: Self efficacy, Self-concept, and School Achievement. In Riding, R & Rayner, S. Perception, Ablex Publishing.

Pallant, J. (2007). SPSS Survival Manual: A Step by Step to Data Analysis Using SPSS for Windows (Version 15). Sydney: Allen and Unwin.

Pals, H., Love, T. P., Hannibal, B., & Waren, W. (2016). The Consequences of School Environment and Locus of Control on Adulthood Deviant Behavior. *Deviant Behavior*, *37*(9), 1003.

Panayiotou, M., Humphrey, N., & Wigelsworth, M. (2019). An empirical basis for linking social and emotional learning to academic performance. *Contemporary Educational Psychology*, *56*, 193–204. https://doiorg.proxy1.ncu.edu/10.1016/j.cedpsych.2019.01.009

Patnaik, G. (2013). Impact of Optimism and Positive Emotions on Mental Health. *Social Science International 29* (1) 121-7.

Paulus, M., Tsalas, N., Proust, J., & Sodian, B. (2014). Metacognitive monitoring of oneself and others: Developmental changes during childhood and adolescence. *Journal of Experimental Child Psychology, 122*, 153-165.

Payton, J.W., Wardlaw, D.M., Graczyk, P.A., Bloodworth, M.R., Tompsett, C.J., Weissberg, R.P. (2000). Social and emotional learning: A framework for promoting mental health and reducing risk behavior in children and youth. *Journal of School Health, 70*, 179-185.

Payton, J., Weissberg, R. P., Durlak, J. A., Dymnick, A. B., Taylor, R. D., Schellinger, K. B., & Pachan, M. (2008). *The positive impact of social and emotional learning for kindergarten to eighth-grade students: Findings from three scientific reviews.* Chicago, IL: Collaborative for Academic, Social, and Emotional Learning.

Perfect, T. J., & Schwartz, B. L. (2002). *Applied metacognition. [electronic resource].* Cambridge University Press. https://search-ebscohost com.proxy1.ncu.edu/login.aspx?direct=true&db=cat01034a&AN=nu.EBC202438&site eds-live

Peterson, C. (2000). The future of optimism. *American Psychologist*, *55*(1), 44–55. https://doi org.proxy1.ncu.edu/10.1037/0003-066X.55.1.44

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta analytic tests of three mediators. *European Journal of Social Psychology, 38*, 922–934. http://dx.doi.org/10.1002/ejsp.504

Pfeiffer, S.I. & Reddy, L.A. (1998) School-based mental health programs in the United States: present status and a blueprint for the future, *School Psychology Review, 27*, 84–86.

Pianta, R. C., Steinberg, M. S., & Rollins, K. B. (1995). The first two years of school: Teacher child relationships and deflection in children's classroom adjustment. *Development and Psychopathology, 7*, 295–312.

Portilla, X. A., Ballard, P. J., Adler, N. E., Boyce, W. T., & Obradovic, J. (2014). An integrative view of school functioning: Transactions between self-regulation, school engagement, and teacher–child relationship quality. *Child Development, 85*(5), 1915–1931. doi:10.1111/cdev.12259

Radliff, K. M., Wang, C., & Swearer, S. M. (2015). Bullying and peer victimization: An examination of cognitive and psychosocial constructs. *Journal of Interpersonal Violence, 31*(11), 1983 - 2005. https://doi.org/10.1177/0886260515572476

Rappaport, L. M., Carney, D. M., Verhulst, B., Neale, M. C., Blair, J., Brotman, M. A., ... Roberson-Nay, R. (2018). A developmental twin study of emotion recognition and its negative affective clinical correlates. *Journal of the American Academy of Child & Adolescent Psychiatry.*

Ratcliffe, M. (1997). Pupil decision-making about socio-scientific issues within the science curriculum. Int. J. Sci. Educ. 19:167–182.

Redding, S. (2013). *Through the student's eyes: A perspective on personalized learning.* Philadelphia, PA: Temple University (Center on Innovations in Learning).

Reid, R., Trout, A. L., & Schartz, M. (2005). Self-regulation interventions for children with attention Deficit/Hyperactivity disorder. *Exceptional Children, 71*(4), 361.

Revlin, R., (2013). *Cognition Theory and Practice.* Worth Publishers.

Reynolds, C.R., & Kamphaus, R.W. (2004). *Behavior assessment system for children-second edition: Manual.* American Guidance Service.

Robers, S., Kemp, J., & Truman, J. (2013). *Indicators of school crime and safety: 2012* (NCES 2013–036/NCJ 241446). Washington, DC: National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice.

Rochat, P. (2003). Five levels of self-awareness as they unfold early in life. *Consciousness and Cognition, 12*, 717–731.

Roddenberry, A., & Renk, K. (2010). Locus of Control and Self-Efficacy: Potential Mediators of Stress, Illness, and Utilization of Health Services in College Students. *Child Psychiatry & Human Development*, *41*(4), 353–370. https://doi-org.proxy1.ncu.edu/10.1007/s10578 010-0173-6

Roebers, C. M. (2017). Executive function and metacognition: Towards a unifying framework of cognitive self-regulation. *Developmental Review*, *45*, 31–51. https://doi org.proxy1.ncu.edu/10.1016/j.dr.2017.04.001

Romero-Martínez, A., Lila, M., Sariñana-González, P., González-Bono, E., & Moya-Albiol, L. (2013). High testosterone levels and sensitivity to acute stress in perpetrators of domestic violence with low cognitive flexibility and impairments in their emotional decoding process: A preliminary study. *Aggressive Behavior, 39*, 355–369. http://dx.doi.org/10.1002/ab.21490

Rose, G. (2016). *Visual Methodologies*. Sage.

Rosenblatt, J. L., & Elias, M. J. (2008). Dosage Effects of a Preventive Social-Emotional
Learning Intervention on Achievement Loss Associated with Middle School
Transition. *The Journal of Primary Prevention*, *29*(6), 535. https://doi
org.proxy1.ncu.edu/10.1007/s10935-008-0153-9

Roseth, C. J., Johnson, D. W., & Johnson, R. T. (2008). Promoting early adolescents'
achievement and peer relationships: The effects of cooperative, competitive, and
individualistic goal structures. *Psychological Bulletin, 134*, 223–246.
http://dx.doi.org/10.1037/0033-2909.134.2.223

Ross, C., & Mirowsky, J. (2013). The Sense of Personal Control: Social Structural Causes and
Emotional Consequences. In C. S. Aneshensel, J. C. Phelan, & A. Bierman (Ed.),
Handbook of the Sociology of Mental Health (pp. 379–402). Springer.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of
reinforcement. *Psychological Monographs: General and Applied*, *80*(1), 1–28.
https://doi-org.proxy1.ncu.edu/10.1037/h0092976

Runions, K. C., & Keating, D. P. (2007). Young children's social information processing:
Family antecedents and behavioral correlates. *Developmental Psychology, 43*, 838–
849. https://doi.org/10.1037/0012-1649.43.4.838

Russo, S. J., Murrough, J. W., Han, M., Charney, D. S., & Nestler, E. J. (2012). Neurobiology of
resilience. *Nature Neuroscience*, *15*(11), 1475. doi:10.1038/nn.3234

Rutter, M. (2013). Annual Research Review: Resilience – clinical implications. *Journal of Child
Psychology and Psychiatry, 54,* 474–487.

Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to

psychiatric disorder. *British Journal of Psychiatry, 147,* 598–611.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9*, 185-211.

Savanah, S. (2013). Mirror self-recognition and symbol-mindedness. *Biology & Philosophy*, *28*(4), 657–673. https://doi-org.proxy1.ncu.edu/10.1007/s10539-012-9318-2

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*, 1063-1078.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (2001). Optimism, pessimism, and psychological well-being. In E. C. Chang (Ed.), *Optimism and pessimism: Implications for theory, research, and practice* (pp. 189-216). Washington, DC: American Psychological Association.

Schonert-Reichl, K. A., Oberle, E., Lawlor, M. S., Abbott, D., Thomson, K., Oberlander, T. F., & Diamond, A. (2015). Enhancing Cognitive and Social-Emotional Development through a Simple-to-Administer Mindfulness-Based School Program for Elementary School Children: A Randomized Controlled Trial. *Developmental Psychology*, *51*(1), 52 66. https://search-ebscohost com.proxy1.ncu.edu/login.aspx?direct=true&db=eric&AN=EJ1049599&site=eds-live

Scholastic Inc. & the Bill and Melinda Gates Foundation. (2013). *Primary Sources: America's Teachers on Teaching in an Era of Change.* 23.

Scientific Council, N. (2014). Excessive stress disrupts the development of brain architecture. *Journal of Children's Services*, *9*(2), 143-153.

Segerstrom, S. (2005). Optimism and Immunity: Do Positive Thoughts Always Lead To Positive Effects? *Brain, Behavior, and Immunity 19* (3) 195-200.

Seidman, E., Allen, L., Aber, J., & Mitchell, C. (1994). The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development, 65*, 507–522. doi:10.2307/1131399.

Seifert, K. L. & Hoffnung, R. J. (1994). *Child and adolescent development*. Houghton Mifflin Company.

Seipp, B. (1991). Anxiety and academic performance: A meta-analysis of findings. *Anxiety Research, 4*(1), 27-41.

Seligman, M. E. (2011). Building resilience. *Harvard Business Review*, *89*(4), 100-6. http://proxy1.ncu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db bthAN=59480160&site=ehost-live

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An Introduction. *American Psychologist*, *55*(1), 5–14. https://doi org.proxy1.ncu.edu/10.1037/0003-066X.55.1.5

Seligman, M, Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive Education: Positive psychology and classroom interventions. *Oxford Review of Education, 35* (3), 293-311.

Seligman, M. E. P., Rashid, T., & Parks, A. C. (2006). Positive psychotherapy. *American Psychologist, 61*, 774–788.

Seligman, M. E. P., Reivich, K., Jaycox, L., & Gillham, J. (2007). *The Optimistic Child A Proven Program to Safeguard Children Against Depression and Build Lifelong Resilience.* Houghton Mifflin Company.

Selman, R. L. (1980). *The growth of interpersonal understanding: Developmental and clinical analyses.* Academic.

Semmar, Y. (2006). Adult learners and academic achievement: The roles of self efficacy, self regulation, and motivation. ERIC ED491441.

Senko, C. (2016). Achivement goal theory. In K. R. Wentzel & D. B. Miele (Eds.), *Handbook of motivation at school* (2nd ed., pp. 75–95). Routledge.

Shonkoff, P. (2000). Committee on Integrating the Science of Early Childhood Development; DA, eds. *From Neurons to Neighborhoods: The Science of Early Childhood Development.* Washington, DC: National Research Council and Institute of Medicine, National Academy Press.

Shriver, T. P., & Weissberg, R. P. (1996). No new wars! *Education Week, 15*(34), 33, 37.

Siegel, D. J., & Bryson, T. P. (2011). *The Whole-Brain Child Revolutionary Strategies To Nurture Your Child's Developing Mind.* Bantam Books.

Siegel, D. J., & Hartzell, M. (2003). *Parenting from the Inside Out How a Deeper Self Understanding Can Help You Raise Children Who Thrive.* Penguin Group (USA) Inc.

Siegler, R., (1991). *Children's Thinking: What Develops?* Prentice Hall.

Silvia, P. J., & O'Brien, M. E. (2004). Self-awareness and constructive functioning: Revisiting "the human dilemma." *Journal of Social and Clinical Psychology, 23*, 475–489.

Simmons, R. G., Burgeson, R., Carlton-Ford, S., & Blyth, D. A. (1987). The impact of cumulative change in early adolescence. *Child Development, 58*, 1220–1234. doi:10.2307/1130616.

Sklad, M., Diekstra, R., Ritter, M. D., Ben, J., & Gravesteijn, C. (2012). Effectiveness of school based universal social, emotional, and behavioral programs: Do they enhance students' development in the area of skill, behavior, and adjustment? *Psychology in the Schools*, *49*(9), 892–909. https://doi-org.proxy1.ncu.edu/10.1002/pits.21641

Slovic, P., Fischhoff, B., & Lichtenstein, S. (1977). Behavioral decision theory. *Annual Review of Psychology, 28,* 1–39. https://doi.org/10.1146/annurev.ps.28.020177.000245

Snyder, J., West, L., Stockemer, V., Gibbons, S., & Almquist-Parks, L. (1996). A social learning model of peer choice in the natural environment. *Journal of Applied Developmental Psychology, 17*, 215-237.

Soland, J., Jensen, N., & NWEA. (2017). Using Student Assessment Engagement as a Measure of Student SEL and School Engagement. In *NWEA*. NWEA.

Solberg Nes, L., Evans, D. R., & Segerstrom, S. C. (2009). Optimism and college retention: Mediation by motivation, performance, and adjustment. *Journal of Applied Social Psychology, 39*, 1887-1912.

Solberg Nes, L., & Segerstrom, S. C. (2006). Dispositional optimism and coping: A meta analytic review. *Personality and Social Psychology Review, 10*, 235-251. doi:10.1207/s15327957pspr1003_3

Somerville, S. C., Hadkinson, B. A., & Greenberg, C. (1979). Two levels of inferential behavior in young children. *Child Development, 50*, 119-131.

Srinivasan, M., (2019). *SEL Every Day Integrating Social and Emotional Learning with Instruction in Secondary Classrooms*. W. W. Norton & Company.

Srivastava, S., McGonigal, K. M., Richards, J. M., Butler, E. A., & Gross, J. J. (2006). Optimism in close relationships: How seeing things in a positive light makes them so. *Journal of Personality and Social Psychology, 91*, 143-153.

Sroufe, L.A., Egeland, B., Carlson, E., & Collins, W.A. (2005). The place of early attachment in development context. In K. E. Grossman, K. Krossman, & E. Waters (Eds.), *The power of longitudinal attachment research: From infancy and childhood to adulthood.* Guilford.

Stalker, K. C., Wu, Q., Evans, C. B. R., & Smokowski, P. R. (2018). The impact of the positive action program on substance use, aggression, and psychological functioning: Is school climate a mechanism of change? *Children and Youth Services Review*, *84*, 143–151. https://doi-org.proxy1.ncu.edu/10.1016/j.childyouth.2017.11.020

Stoiber, K. C. (2011). Translating knowledge of social-emotional learning and evidence-based practice into responsive school innovations. *Journal of Educational & Psychological Consultation, 21*(1), 46–55. doi:10.1080/10474412.2011.549039

Storer, J. H., Cychosz, C. M., & Lickuder, B. L. (1995). Rural school personnel's perception and categorization of children at risk: A multi-methodological account. *Equity and Excellence in Education, 28*, 36–45.

Story, M., Mays, R. W., Bishop, D. B., Perry, C. L., Taylor, G., Smyth, M., et al. (2000). 5-a Day Power Plus: Process evaluation of a multicomponent elementary school program to increase fruit and vegetable consumption. *Health Education & Behavior, 27*, 187–200.

Sullivan, G. M., & Feinn, R. (2012). Using Effect Size-or Why the P Value Is Not Enough. *Journal of graduate medical education*, *4*(3), 279–282. https://doi.org/10.4300/JGME-D 12-00156.1

Suryosubroto. (2009). *Teaching and learning process in schools.* Jakarta. Renika Cipta.

Tahrir, Nurdin, F. S., & Damayanti, I. R. (2020). The Role of Critical Thinking as a Mediator Variable in the Effect of Internal Locus of Control on Moral Disengagement. *International Journal of Instruction*, *13*(1), 17–34. https://doi org.proxy1.ncu.edu/10.29333/iji.2020.1312a

Tarbetsky, A. L., Collie, R. J., & Martin, A. J. (2016). The role of implicit theories of intelligence and ability in predicting achievement for Indigenous (Aboriginal) Australian students. *Contemporary Educational Psychology, 47*, 61–71. doi: 10.1016/j.cedpsych.2016.01.002

Taylor, S. E., & Armor, D. A. (1996). Positive illusions and coping with adversity. *Journal of Personality, 64*, 873-898.

Thapar, A., Collishaw, S., Pine, D. S., & Thapar, A. K. (2012). Depression in adolescence. *Lancet, 379*(9820), 1056-1067. http://dx.doi.org/10.1016/S0140-6736(11)60871-4.

Theron, L. C., & Engelbrecht, P. (2012). Caring teachers: Teacher-youth transactions to promote resilience. In M. Ungar (Ed.), *The social ecology of resilience: A handbook of theory and practice* (pp. 265-280). Springer.

Thorndike, E. L. (1898). Animal intelligence: An experimental study of the associative processes in animals. *Psychological Review Monograph Supplement 2*, 4-160. (p.273)

Trochim, W.M., Donnelly, J.P., & Arora, K. (2016). *Research Methods: The Essential Knowledge Base.* Cengage Learning.

Van Ryzin, M. J., & Roseth, C. J. (2018). Cooperative learning in middle school: A means to improve peer relations and reduce victimization, bullying, and related outcomes. *Journal of Educational Psychology*, *110*(8), 1192–1201. https://doi org.proxy1.ncu.edu/10.1037/edu0000265

Varela, A. D., Kelcey, J., Reyes, J. Gould, M., & Sklar, J. (2013). *Learning and resilience: The crucial role of social and emotional well-being in contexts of adversity.* Education Notes, Produced by The World Bank in collaboration with the International Rescue Committee. https://www.worldbank.org/education

Wagner, L., & Ruch, W. (2015). Good character at school: positive classroom behavior mediates the link between character strengths and school achievement. *Frontiers in psychology*, *6*, 610. https://doi.org/10.3389/fpsyg.2015.00610

Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research* 19, 52–90.

Waters, L. (2011). A review of school-based positive interventions. *The Australian Educational and Developmental Psychologist, 28*(2), 75-90.

Waters, L., & Loton, D. (2019). SEARCH: A Meta-Framework and Review of the Field of Positive Education. *International Journal of Applied Positive Psychology*, *4*(1–2), 1. https://doi-org.proxy1.ncu.edu/10.1007/s41042-019-00017-4

Weare, K., & Nind, M. (2011). Promoting mental health of children and adolescents through schools and school based interventions. School based interventions: Report of Workpackage Three. Manuscript submitted for publication.

Weber, M., & Ruch, W. (2012). The role of a good character in 12-year-old school children: do character strengths matter in the classroom? *Child Indic. Res.* 5, 317–334. doi: 10.1007/s12187-011-9128-0

Webster-Stratton, C., Herman, K. C. (2010). Disseminating Incredible Years series early intervention programs: Integrating and sustaining services between school and home. *Psychology in the Schools, 47*(1), 36-54.

Weissberg, R. P., Kumpfer, K. L., & Seligman, M. E. P. (2003). Prevention that works for children and youth: An introduction. *American Psychologist, 58*, 425–432.

Weist, M.D. (2005). Fulfilling the promise of school-based mental health: moving toward a public mental health promotion approach, *Journal of Abnormal Child Psychology, 33*, 735–741.

Wells, J., Barlow, J. & Stewart-Brown, S. (2003). A systematic review of universal approaches to mental health promotion in schools. *Health Education, 103*(4), 197–220.

Wentzel, K. R. (1993). Social and academic goals at school: Motivation and achievement in early adolescence. *Journal of Early Adolescence, 13*, 4-20.

Wentzel, K. R. (2009). Peers and academic functioning at school. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 531-547). Guilford Press.

Werner, E. E. (1995). Resilience in development. *Current Directions in Psychological Science, 4,* 81–84. http://dx.doi.org/10.1111/1467-8721.ep10772327

Werner, E.E., & Smith, R.S. (1982). *Vulnerable but invincible: A study of resilient children.* McGraw Hill.

White, M. A., & Murray, A. S. (2015). *Evidence-based approaches in positive education: Implementing a strategic framework for well-being in schools*. (M. A. White & A. S. Murray, Eds.). Springer Science + Business Media. https://doi org.proxy1.ncu.edu/10.1007/978-94-017-9667-5

Willatts, P. (1990). Development of problem-solving strategies in infancy. In D. F. Bjorklund (Ed.), *Children's strategies: Contemporary views of cognitive development.* (pp. 23–66). Lawrence Erlbaum Associates, Inc.

Wilson, S. J., Lipsey, M. W., Jo, S., & Mark, W. (2006). The effects of school-based social information processing interventions on aggressive behavior: Part I: Universal programs: A systematic review. *The Campbell Collaboration, 6*, 1-37. doi:10.4073/csr.2006.5

Winston, W., & Albright, C. (2001). *Practical Management Science.* (2nd ed.). Brooks/Cole.

Wong, V. C., Steiner, P. M., & Society for Research on Educational Effectiveness (SREE). (2015). Methodological Foundations for the Empirical Evaluation of Non-Experimental Methods in Field Settings. In *Society for Research on Educational Effectiveness*. Society for Research on Educational Effectiveness.

World Health Organization. (2012). Risk behaviours: Being bullied and bullying others. In C. Currie, C. Zanotti, A. Morgan, D. Currie, M. de Looze, C. Roberts, . . . V. Barnekow (Eds.), *Social determinants of health and well-being among young people: Health Behaviour in School-Aged Children (HBSC) study: International report from the 2009/2010 survey* (pp. 191–200). Copenhagen, Denmark: WHO Regional Office for Europe.

Yang, C., Bear, G. G., May, H., & Curby, T. (2018). Multilevel Associations Between School Wide Social-Emotional Learning Approach and Student Engagement Across Elementary, Middle, and High Schools. *School Psychology Review*, *47*(1), 45–61. https://doi org.proxy1.ncu.edu/10.17105/SPR-2017-0003.V47-1

Ylvisaker, M., & Feeney, T. (2002). Executive functions, self-regulation, and learned optimism in paediatric rehabilitation: a review and implications for intervention. *Pediatric Rehabilitation*, *5*(2), 51–70.
https://doiorg.proxy1.ncu.edu/10.1080/1363849021000041891

Yong-Sheng, Z. (1990). Development of "Locus of Control" Related to Responsibility in Middle-School Students. *School Psychology International*, *11*(3), 209.

Yousefi, F., Mansor, M. B., Juhari, R. B., Redzuan, M., & Talib, M. A. (2010). The relationship between gender, age, depression and academic achievement. *Current Research in Psychology*, (1). https://search-ebscohost com.proxy1.ncu.edu/login.aspx?direct=true&db=edsgao&AN=edsgcl.283946326&site= ds-live

Zelazo, P. D., & Bauer, P. J. (Eds.). (2013). National Institutes of Health Toolbox Cognitive

Battery (NIH Toolbox CB): Validation for children between 3 and 15 years. *Monographs
of the Society for Research in Child Development, 78*(4), 1-172.

Zelazo, P. D., & Carlson, S. M. (2012). Hot and cool executive function in childhood and

adolescence: Development and plasticity. *Child Development Perspectives, 6*, 354-360.

Zelazo, P. D., & Cunningham, W. A. (2007). Executive function: Mechanisms underlying

emotion regulation. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 135–158).

Guilford Press.

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2004). The scientific base

linking social and emotional learning to school success. In J. E. Zins, R. P. Weissberg, M.

Wang, & H. J. Walberg (Eds.), *Building academic success on social and emotional
learning: What does the research say?* (pp. 3–22). Teachers College Press.

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2007). The scientific base

linking social and emotional learning to school success. *Journal of Educational and
Psychological Consultation, 17*(2), 191-210.doi:10.1080/10474410701413145

Zins, J. E., & Elias, M. J. (2006). Social and emotional learning: In G. Bear & K. Minke (Eds.),

Children's needs: III. Development, prevention, and intervention (pp. 1-13). National

Association of School Psychologists.

Zins, J. E., & Elias, M. J. (2007). Social and emotional learning: Promoting the development of

all students. *Journal of Educational and Psychological Consultation, 17*, 233-255.

Appendix A

IRB Approval Letter

NORTHCENTRAL
UNIVERSITY

11355 N. Torrey Pines Road
La Jolla, CA 92037

Date: June 15, 2020
PI Name: Melissa Sollom
Chair Name (if applicable): Maria Antonia Rodriguez
Application Type: Initial Submission
Review Level: Exempt - Category 4
Study Title: A Quasi-Experimental Study of Social Emotional Learning in Middle School Students

Approval Date: June 15, 2020

Dear Melissa:

Congratulations! Your IRB application has been approved. Your responsibilities include the following:

1. Follow the protocol as approved. If you need to make changes with your population, recruitment, or consent, please submit a modification form.
2. If there is a consent process in your research, you must use the consent form approved with your final application. Please make sure all participants receive a copy of the consent form.
3. **If there are any injuries, problems, or complaints from participants (adverse events), you must notify the IRB at IRB@ncu.edu within 24 hours.**
4. IRB audit of procedures may occur. The IRB will notify you if your study will be audited.
5. When data are collected and de-identified, please submit a study closure form to the IRB.
6. You must maintain current CITI certification until you have submitted a study closure form.
7. If you are a student, please be aware that you must be enrolled in an active dissertation course with NCU in order to collect data.

Best wishes as you conduct your research!

Respectfully,

Northcentral University Institutional Review Board
Email: irb@ncu.edu

NCU.edu