The Effect of Implementing Coping Strategies

on the Academic Achievement of First-Grade Students

by

Caroline O'Brien

Submitted in Partial Fulfillment of the Requirements for the

Degree of Master of Education

July 2018

Graduate Programs in Education

Goucher College

List of Tables

Abstract

The purpose of this research study was to determine whether teaching young children coping strategies would improve student resilience. In this study, resilience was measured by academic achievement and student behavior. Measurement tools included the Measures of Academic Progress (MAP) assessment and student behavior charts. The design of the study is a one-group modified repeated measures as the sample population consisted of the researcher's first-grade class being measured by two separate tools. The instrument used to teach coping strategies was a teacher-created four-square self-regulation tool as well as a "calm down kit" with various resources and tools for students to use. Results of the study showed significant academic achievement gains in reading and math. It would be beneficial to continue research in this area to provide more insight and tools for educators that would support the development of resilience in young children. It is important to continue growing this area of study as more students are coming to school with social-emotional needs and underdeveloped coping strategies.

CHAPTER I

INTRODUCTION

Overview

Resilience research is a relatively new field of study; its origins came about from researchers studying the impacts of trauma on young children. During their studies, researchers came across children who been exposed to significant trauma yet displayed positive coping strategies and behaviors (Kolar, 2011). As our society grows and changes, resilience continues to be an important area of study. According to one study, 48% of children in the United States have been exposed to an adverse childhood experience (Bethell, Newacheck, Hawes, & Halfon, 2014). Adverse childhood experiences are associated with trauma and include abuse, household challenges, and neglect (Centers for Disease Control and Prevention [CDC], 2016).

As an area of study, the researcher was interested in resilience both professionally and personally. To begin with, the researcher is a first-grade teacher in a Title I school in Baltimore County; over 70% of the students live below the poverty line. Many of the students have experienced multiple adverse childhood experiences and need significant support in developing coping strategies. On a personal level, the researcher has self-identified exposure to four adverse childhood experiences. Studying resilience has provided significant understanding and answered many lifelong questions.

Statement of Problem

The purpose of this study is to determine whether or not exposure to coping strategies improves student resilience. Considering almost half of the children in the United States are

exposed to adverse childhood experiences, it seems advantageous to teach all children coping and behavioral regulation strategies.

Hypothesis

Null Hypothesis 1: There will be zero mean scale score change in the population from the MAP math pretest to the MAP math posttest.

Null Hypothesis 2: There will zero mean scale score change in the population from the MAP reading pretest to the MAP reading posttest

Null Hypothesis 3: There will be zero mean positive behavior count change in the population from the parent count pretest to the parent count posttest.

Operational Definitions

Independent Variable: Classroom strategies that promote student resilience

Independent Variable Operationally Defined:

1) Providing always available adult support

2) Explicit modeling of self-regulation strategies

3) Coaching of self-regulation strategies using a Four-Square model

    a. What happened?

    b. How am I feeling?

    c. How can I show my feelings?

    d. How can I maintain or change this feeling?

*Dependent Variable***:** Student MAP (Measure of Academic Progress) scores and student behavior charts

Dependent Variable Operationally Defined:

1) Student MAP scores from January and April.

2) Student behavior charts from January and April. Each student has a behavior chart to monitor his or her progress towards our school behavior goals (Respect, Attitude, Care, and Expectations). Students who do not meet these behavioral goals lose letters on their charts.

CHAPTER II

REVIEW OF THE LITERATURE

This review of the literature explores the issue of resilience. Section one provides a working definition of resilience and aims to provide an overview of resilience. Section two discusses the origins of resilience research and discusses the patterns identified in resilient children. Section three provides insight into the benefits of promoting resilience in young children. Section four relates the development of resilience to theories of attachment. Section five defines Adverse Childhood Experiences (ACEs) and discusses how these can impact children's development and ability to be resilient. Section six outlines factors that protect children from ACEs as well as factors that put children at risk to be exposed to ACEs. Section seven highlights how educators can positively influence the development of resilience. Section eight discusses the significance of a supportive and trusting relationship with an adult as a resilience intervention. Section nine provides insight into the benefits of using social-emotional instruction to enhance resilience. Section ten outlines strategies for supporting families in fostering resilience.

Overview of Resilience

Defining and Understanding Resilience

Children today are growing up in an increasingly emotionally disconnected world. Although the advent of technology has brought about innumerable positive changes, one could argue it has further deepened the divide between people as well as provided ample opportunity to disengage. As adults, we are preparing children for a future that we do not know will hold. It is for this reason that we must understand what resilience is and how we can support children in

4

developing their own resilience. We cannot afford to disengage and allow current research about resilience to be ignored. To be blunt, "The test of the morality of a society is what it does for its children," (Bonhoeffer as cited in Ellenbogen, Klein, & Wekerle, 2014, p. 1364).

Resilience is a term used to describe people who have been able to overcome trauma or difficult situations despite strong adversity (Archdall & Kilderry, 2016). Although most research on resilience has been conducted on children and adults who experienced hardship, it is important to consider that resilience can also be taught and applied to all individuals as well as everyday situations (Archdall & Kilderry, 2016).

Another way to look at resilience is the degree to which an individual can take a large amount of stress and transform it into a more tolerable level (Bellis et al., 2017). In doing so, the individual is able to overcome adversity and potentially mitigate the harmful effects of adverse childhood experiences (Bellis et al., 2017). Through an educational lens, it is critical to have a working knowledge of the components of resilience in order to identify children who are displaying resilient behaviors and those who are not.

History and the Characteristics of Resilient People

Resilience research is a fairly recent area of study pioneered by Norman Garmezy during the 1970's (Kolar, 2011). Researchers became interested in studying resilience after coming across children who had been exposed to significant trauma and adversity yet continued to display coping strategies and exhibit positive behaviors (Kolar, 2011). Being a somewhat subjective topic, the notion of resilience comes with multiple definitions and perspectives. In addition, researchers vary on whether resilience is a process – adaptation to difficult life events – or an outcome – the ability to behaviorally function despite exposure to risk factors (Kolar,

2011). Despite these differences, most researchers agree that resilience is not a fixed trait and can be developed throughout childhood and into adulthood (Archdall & Kilderry, 2016). However, as with most developmental topics, the significance of fostering resilience during early childhood cannot be understated (Ronnau-Bose & Frohlich-Gildhoff, 2009). Thus, there has been a strong surge in research to determine why some children are resilient while others are not.

After coming across patterns of resilient children, researchers began to develop characteristics of children who displayed resilient behaviors (Mayr & Ulich, 2009). Individual factors and traits related to resilience consist of (among others): easy temperament, positive self-concept/self-esteem, autonomy, independence, ability to problem-solve, persistence, and the ability to obtain positive attention from adults (Mayr & Ulich, 2009). In addition, as research on resilience has grown throughout the years, emphasis has been placed on social-level factors (family and peer relationships) and societal-level factors (community, school, and cultural norms) that promote resilience (Kolar, 2011). As cited in Kolar (2011) this ecological perspective is based on Bronfenbrenner's (2005) research and works towards providing a more holistic understanding of the development of resilience. Furthermore, the protective and risk factors children may experience are not limited to their individuality. Such social-level and societal level factors will be discussed later in the review.

Benefits of Fostering Resilience in Young Children

As mentioned previously, the need to promote resilience in young children is becoming more evident as research on the topic continues to be conducted and new questions posed. According to Skinner and Greene (2008), student engagement to tasks as well as their ability to cope with setbacks is the most important factor in determining academic progress. Both of these components – engagement and resilience – are well within adult (teacher or parent) control in

terms of exposure. The benefits of providing meaningful, engaging activities as well as coaching students on how to handle difficult situations are ample: increased academic performance and more resilient students. In addition, research on educators implementing resilience strategies in children has shown an increase in student self-esteem (Ronnau-Bose & Frohlich-Gildhoff, 2009).

Another benefit of fostering resilience can be looked at through the lens of neurobiology. Brain research has proven that stress (due to adversity or traumatic situations) can increase the release of cortisol to the brain (Ellenbogen et al., 2014). This, in turn, leads to potential lack of cognitive, physical, social, or emotional development (Ellenbogen et al., 2014). Considering this negative impact and the fact that teachers have the opportunity to provide young children with safe environments that are engaging and secure, it stands to reason that fostering resilience must be at the top of list when working with children.

Relating Resilience to Attachment

Bowlby's (as cited in Berk, 2010) Theory of Attachment provides additional insight into the significance of promoting resilience in young children. According to his theory, children begin to develop affectionate bonds with their caregivers as soon as they are born (Berk, 2010). These bonds provide children with a set of expectations, or an "internal working model" (p. 197) that lays the foundation for all future relationships and attachments. Bowlby (as cited in Berk, 2010) established four different types of attachment: secure, avoidant, resistant, and disorganized/disoriented. Secure attachment is the most ideal as in these relationships the child feels safe to explore as he or she has a secure base (caregiver) to return to (Berk, 2010). Research suggests that 60% of North American families with an average socioeconomic status (SES) demonstrate this attachment style, while children in families with low SES experience secure attachment at a lower rate (Berk, 2010).

This implies that children in families with low SES who are exposed to trauma or difficult situations are less likely to have social or societal-level protective factors to support their development of resilience. In addition, "Maltreated children are more than twice as likely than their peers to develop insecure attachments," (Crittenden as cited in Ellenbogen et al., 2014, p. 1366). It stands to reason, then, that educators – although they cannot replace caregivers – have an opportunity to provide children with a secure attachment and secure base from which to explore their world (Archdall & Kilderry, 2016). In doing so, educators are inadvertently able to foster resilience in children. The next question then becomes: why does this responsibility fall to educators?

Why Promote the Development of Resilience?

Explanation of Adverse Childhood Experiences (ACEs) and their Impact

Adverse Childhood Experiences (ACEs) is an all-encompassing term used to describe potentially difficult or traumatic situations that occurred in a child's life from birth to age 18 (Sacks, Murphey, & Moore, 2014). ACEs have been disaggregated into three categories: abuse, household challenges, and neglect (Centers for Disease Control and Prevention [CDC], 2016). Abuse includes emotional, physical, and sexual; however, they are all treated as an individual ACEs (CDC, 2016). Household challenges refer to situations such as the incarceration of a parent or guardian, mental illness of an adult in the household, domestic violence, parental drug/alcohol abuse, separation or divorce, death of a parent, or economic hardship (Sacks et al., 2014). Finally, exposure to neglect includes both emotional and physical (CDC, 2016). The impact of ACEs are not limited to the event or the memory; rather, exposure to ACEs can have long lasting and life altering effects.

According to research, nearly half (48%) of children in the United States have experienced at least one ACE (Bethell et al., 2014). Furthermore, "ACEs tend to be interrelated rather than independently occurring; the presence of one ACE often leads to increased risk for more ACEs," (Thomson & Jacque, 2017, p. 256). In case that is not enough, exposure to ACEs often causes lifelong problems with mental and physical health as well as adaptation of health-harming behaviors (ex. drug use, alcohol use, poor diet) (Bellis et al., 2017). In addition, researchers have found that children exposed to ACEs are also less likely to finish high school and are more likely to experience unemployment as well as have lower incomes (Beutel et al., 2017). Interestingly, researchers studying the impacts of ACEs have found that some children demonstrate resilience and can push through these traumatic and stressful situations. Many of these children experience protective factors that counter balance their exposure to ACEs (Moe, Johnson, & Wade, 2007).

Risk and Protective Factors

As stated earlier, the concept of risk and protective factors can be looked at through Bronfenbrenner's (as cited in Kolar, 2011) ecological perspective as these factors occur at the individual, social, and societal level. Defining these terms – risk and protective factors – is often done by looking at "…negative and positive ends of the same pole," (Kolar, 2011, p. 429). Therefore, they can be generalized as an individual's attitude, behavior, belief, and the environmental situations/circumstances that either put a person at risk or build resilience (Moe et al., 2007). Research in this field is ongoing and constantly evolving as researchers are continuing to learn more about childhood adversity and why some children are able to overcome while others are not.

Protective factors are often considered to be things that offset risk factors and promote resilience in children (Moe et al., 2007). These factors include, but are not limited to: attachment to an adult, intelligence, area of skill/accomplishment, feelings of self-worth and hopefulness, access to a good education or community services, and socioeconomic advantage (Moe et al., 2007). As one can see, these factors cross all levels of the ecological model from individual (intelligence) to social (socioeconomic status) to societal (education and community). Furthermore, Masten and Powell (as cited in Kolar, 2011) present the idea of "ordinary magic" (p. 428) when referring to protective factors. Simply put, one does not require access to exceptional resources or skills to experience resilience; rather, conscientious adults and educators have the ability to provide protective factors for children exposed to ACEs by being cognizant and sensitive to their situations (Kolar, 2011).

On the opposite end of the pole lie risk factors. Converse to protective factors, risk factors put a child more at risk for experience ACEs and trauma (Moe et al., 2007). Some of these risk factors include: poverty, life stress, quality of home environment, low social support, and perceived parental support/involvement (Nesheiwat & Brandwein, 2011). Interestingly, just as ACEs are often interrelated (exposure of one ACE increases the likelihood a child will experience more ACEs) so are risk factors (Kolar, 2011). According to one research study, "…the effect of multiple risk factors can be exponential," (Olsson et al. as cited in Kolar, 2011, p. 429). Upon merging the research on ACEs, risk, resilience, and protective factors, one begins to see the significant impact trauma has on children and why so many children arrive to school below grade level and/or with severe social-emotional needs. As educators, it is time to recognize the impact we can (or cannot) have on children.

Educators' Role in Developing Resilience

Abundant research cites trusting relationships with an adult as one of the most (if not the most) important protective factor in fostering resilience. In fact, "…having continuous access to a trusted adult in childhood may dramatically reduce the impacts of childhood adversity on mental well-being and the adoption of HHBs [health-harming behaviors]," (Bellis et al., 2017, p. 10). Educators have the opportunity to become trusted adults to the students they come into contact with on a daily basis. In addition, as discussed previously in this literature review, educators can promote academic progress by providing engaging activities and promoting resilient behaviors. Therefore, an educator has access to three different methods in supporting children who face adversity or trauma.

As stated above, a strong protective factor for children facing ACEs is a feeling of self-worth and hopefulness (Moe et al., 2007). Interwoven with self-worth is self-concept, or the beliefs one has about oneself. Although educators do not have control over many of the factors that influence a child's development, they do have the ability to impact self-concept (Nesheiwat & Brandwein, 2011). By highlighting the strengths and abilities of students, providing engaging content, and modeling/guiding students in the use coping strategies, educators can build more resilient students and effect generations to come.

Resilience Interventions

Access to Trusting and Supportive Relationships with Adults

A recent study sought to analyze the relationship between trusted adult support in childhood with later health-harming behaviors for children exposed to ACEs (Bellis et al., 2017). In this study, adult participants were provided with a questionnaire to determine exposure to ACEs, current physical health, and current mental health (Bellis et al., 2017). In addition, participants were asked the question, "While you were growing up, before the age of 18, was

there an adult in your life who you could trust and talk to about any personal problems," (Bellis et al., 2017, p. 3). Results of the study indicated that having access to a trusted adult could potentially reduce health-harming behaviors and decrease lower mental well-being by more than half (Bellis et al., 2017). The implications of this study are staggering as research has also indicated the opposite is true – exposure to one ACE or risk factor often leads to more ACEs or risk factors.

A multitude of factors are at play here: resilience, protective factors, risk factors, ACEs, and attachment. In addition, the children who are most susceptible to risk factors are often the most challenging to develop trusting relationships with (Varga, 2017). As we know from Bowlby's (as cited in Berk, 2010) Attachment Theory, the attachment we develop with our primary caregiver sets the tone for all future attachments. It stands to reason, then, that children with insecure, avoidant, or disorganized attachment with their primary caregiver will struggle to develop a relationship with another adult (Varga, 2017). Although this information poses a challenge, it is not a setback. More than half of the children in the United States have been exposed to ACEs, and many of those children will more than likely be exposed to more. In fact, "…developing caring relationships in schools, based on respect, encouragement, and attentiveness, may help young students elude the negative outcomes related to environmental stress," (Arincorayan, Applewhite, Garrido, Cashio, & Bryant, 2017, p. 2). Adults – in the role of teacher, mentor, coach, or friend – can offset potential risk factors by simply being available and accessible.

Teaching Social-Emotional Skills to Children

In addition to being available to students, educators can also promote resilience by teaching children how to develop coping strategies, manage their emotions, and deal with

setbacks. Furthermore, educators have the ability to contribute positively to a student's self-concept. According to Nesheiwat and Brandwein (2011), "…one would think that best practices that target the development of self-concept would be at the forefront of curriculum development," (p. 9). Unfortunately, this is not the case and many educators do not have the skills, knowledge, or experience to teach resilience or effectively develop self-concept (Archdall & Kilderry, 2016).

A study conducted to gauge teacher insight on resilience found although most educators acknowledge teaching resilience is important, they are not sure where to start and most of social-emotional instruction is done incidentally (Archdall & Kilderry, 2016). The same study found an effective way to teach resilience is to allow children to learn from their mistakes, be a positive adult role model, and talk to students about their feelings to help them understand their reaction to an event (Archdall & Kilderry, 2016). All of the strategies listed above can be implemented by a trusted adult. This, in a way, provides a "double-dose" of resilience to children; considering the risk factors and ACEs today's youth encounters, this seems an appropriate way to foster resilience.

A more focused intervention for children exposed to ACEs would be engaging them in non-directive play (Ahuja & Saha, 2016). In this type of play, the child leads the direction of the scenario and the adult follows unconditionally (Ahuja & Saha, 2016). Advocates of non-directive play explain its significance, "Play acts as a medium of expressing the child's inner world and needs," (Ahuja & Saha, 2016, p. 169). Young children often struggle for the words to explain their trauma, and older children may not feel comfortable exposing their struggles. Engaging in play with an adult not only promotes the potential growth of a supportive relationship, it also provides a platform for self-expression. When participating in these

experiences, the adult can provide guidance for the child on how to cope with stressful situations as well as how to react to events (Archdall & Kilderry, 2016). Although play therapy can be a time-consuming process, it can provide valuable healing experiences to children who have been exposed to ACEs (Ahuja & Saha, 2016).

Providing Support to Families in Fostering Resilience

Beyond providing access to a trusted adult and social-emotional instruction, healthy family practices may also promote resilience. Often, trauma occurs and a family is left rattled; parents may not know how to cope themselves, let alone support their children through the crisis (Patterson & Kirkland, 2007). Furthermore, although children from all socioeconomic groups are exposed to ACEs, families with lower SES are more frequently affected (Ellenbogen et al., 2014). Research has shown children living in poverty or with a lower SES are less likely to have access to social supports (Kolar, 2011). From these pieces of information, it is evident that families who may need the most instruction and support on fostering resilience may be the least likely to receive it.

Patterson and Kirkland (2007) outline a variety of family protective and recovery factors to promote family resilience. Many of their suggestions involve spending time as a family, celebrating as a family, and communicating effectively. In addition, the researchers highlight the importance of developing family traditions and routines; such strategies unite the family and allow members to take pride in their family. Coaching parents and families on these resilient behaviors not only enhances the family unit, it provides a strong buffer for children exposed to ACEs. Such an intervention has the potential to improve student and family livelihood. To be specific, resilient children are more engaged in school and less likely to be retained. In contrast,

children exposed to ACEs who do not demonstrate resiliency are 2.67 times more likely to repeat a grade (Bethell et al., 2014).

As stated earlier by Nesheiwat and Brandwein (2011), schools would do well to focus on social-emotional well-being and developing a positive self-concept. Not only would this create more resilient students, it may increase student engagement and decrease student retention. Educators and administrators have the opportunity through open communication with families to build up family and student resilience (Patterson & Kirkland, 2007). Knowing our most at risk children generally live in environments with the least amount of social support, it does fall to educators and community members to provide resilience interventions to children as well as families.

Conclusion

Although the field of resilience research is relatively new, it continues to provide valuable insights and pose new questions. When reviewing the existing literature, many conclude that further research is needed on the topic. In addition, questions arise whether a person needs to be exposed to risk in order to be resilient, or if resilience can be viewed apart from risk (Kolar, 2011). Despite these questions, researchers, educators, and healthcare professionals are taking note of resilience. In fact, some accountable care organizations, "…now recognize the economic and health costs of not addressing adverse childhood experiences and the opportunity to improve individual and population health using childhood trauma-informed approaches," (Bethell et al., 2014, p. 2017). There is much talk in the education world about leveling the academic playing field; fostering resilience in children just may be the missing link in that field.

CHAPTER III

METHODS

The purpose of this research study was to determine whether teaching coping strategies to young children would improve resilience and enhance academic achievement.

Design

This study was developed using a one-group modified repeated measures design as there were two data points, both being measured via pretest and posttest data. Baseline data for academic achievement was collected from a single measurement point using student MAP scores from their winter (January 2018) assessment. Baseline data from the second point, student behavior, was gathered over a four-week period in January using student behavior charts. The baseline data was followed by an eight-week period of intervention. The independent variable in this study was classroom strategies that promote student resilience. Throughout the intervention period, students were explicitly instructed on how to use coping strategies to manage their behaviors. Posttest data was collected using student MAP scores from their spring (April 2018) assessment and behavior charts from the month of April.

Constraints of this study include student attendance and student transience. Absent students missed instruction on the coping strategies. In addition, several students moved away or joined the class during the intervention period. While there is no comparison group to compare the pre- to posttest changes, there are national normative growth scores for the MAP tests.

Participants

The participants in this study were selected using a convenience sampling technique as they were researcher's first-grade students during the 2017-2018 school year. The students in the research study attend a public school in Baltimore County, Maryland. The school is a Title I school where approximately 75% of students qualify for FARMs (free and reduced meals). Students are in a general education classroom with one teacher. Students in the sample represent diverse demographic backgrounds as 38% identify as Caucasian, 33% identify as Hispanic, 19% identify as African American, and 10% identify as two or more races.

All students in the researcher's classroom participated in this study. Five of the students receive ESOL services and are pulled out by the ESOL teacher one to two times a week for small group instruction. The students represent a wide range of ability levels. When considering Guided Reading Level (GRL) measures, students range from a GRL D to GRL N. The first-grade end of year GRL expectation is J. The researcher decided to include all students in the study as data has shown that over half of the children in the United States are exposed to Adverse Childhood Experiences. Considering the students in the sample population attend a school in a low socioeconomic area, it is pertinent to provide all children with explicit instruction on coping strategies.

Instrument

The researcher used two instruments in this study to measure data points, one to measure student behavior and one to measure academic achievement. In order to measure student behavior, the researcher used the school-wide behavior chart created by the school Climate Committee. This chart is given to students every week and tracks their behavior daily using the

school-wide terminology of RACE (Respect, Attitude, Care, and Expectations). Every week students work to earn 90% or more of their letters. Students lose letters when they do not demonstrate the RACE behaviors expected in the classroom, special areas, hallway, and cafeteria. Since this tool was created by the school, there are no reliability or validity data reports.

The second instrument used was the MAP assessment (Measure of Academic Progress). This is a computerized nationally norm-based standardized test that can be administered to students in grades two through ten. Students in the sample population were given both the MAP reading and math assessments. Each assessment contains approximately 50 multiple choice questions that are tailored to be at the individual student's level according to his or her prior RIT (Rasch UnIT) score (Cizek & Gierl, 2016). Norm data was collected from 23 million students during spring 2001 and fall 2004 (Cizek & Gierl, 2016). MAP provides two types of norm data: status and growth (Cizek & Gierl, 2016). Status data determines the student's initial placement based on a single assessment; growth data determines a student's projected growth based on his or her status data (Cizek & Gierl, 2016).

According to the Cizek and Gierl (2016), MAP assessment data provides reliable and valid results. Reliability was estimated in the 90% range for internal consistency (the items within each test measure one trait or construct) (Cizek & Gierl, 2016). Also, MAP scores were shown to be normatively stable across the school year (80% range) (Cizek & Gierl, 2016). Validity was assessed with respect to the content coverage and correlations (80% range) with other widely used standardized achievement tests (Cizek & Gierl, 2016).

Procedure

This study was completed from January 2018 through April 2018. The researcher collected the baseline data during the month of January. Student behavior charts were collected weekly, and the total number of letters lost (implying students were not meeting behavioral expectations) was determined at the end of the month. In addition, students took the winter MAP assessment on January 22, 2018. Three students did not finish the assessment in the time allotted; their tests were paused and they completed it at a later date. All students completed the MAP assessment, and all behavior charts where students had lost letters were collected by the researcher.

Intervention began at the beginning of February. The researcher created a four-square self-regulation tool to support students in managing their emotions. Each square had a different reflection question: What happened? How am I feeling? How can I show my feelings? How can I keep or change this feeling? In addition, underneath the square was a box titled "Positive Self-Talk" where the students wrote positive and encouraging messages such as, "I am kind. I am loved. I am safe. I am strong." The sentences were generated by the students and written on a poster by the researcher for the students to refer to when making their tool. The tool was modeled during the daily class meeting by the researcher. The researcher went through the four-square step-by-step and added personalized illustrations to each square of the tool dictating what the researcher would say or do for each question. For example, the researcher drew a variety of facial expressions for the "How am I feeling" square to represent common feelings for the researcher (frustrated, tired, upset, and sad).

In order to complete the bottom portion of the four-square (showing feelings and maintaining/changing feelings), students were asked to pull from the tools and strategies taught

previously. In the classroom, the researcher has an area called "Safe Space" which is a calm down area for students. It contains sensory materials, drawing/writing materials, and books to read. Students were introduced to this area at the beginning of the school year, and it is constantly evolving/changing based on student needs. In addition, each student has a personalized "Calm Down Kit" that is stored in his or her desk. This kit was also introduced at the beginning of the year and has been added to throughout the year. Most of the tools in the kit are mindful breathing cards. The breathing technique for each card was taught to the students during class meeting time, and students were then allowed to personalize the card by coloring and adding decorations. For example, one of the cards is a hexagon; the students trace the edges of the card and breathe in and out as they trace the edges. Students could add pictures of things that would calm them down in the middle of the hexagon to help them.

After creating and laminating the four-square tool, the researcher gave the tool back to the students to keep in their desks. During the months of March and April, students were prompted to use their four-square tool by the researcher. The researcher prompted students when they appeared upset, frustrated, or were struggling to engage in learning tasks. Student progress was measured by the posttest data from the spring MAP assessment given in April and the student behavior chart data collected from the month of April. The paired t-test measured the degree of change from pre-treatment to post-treatment for mean achievement and mean behavior.

CHAPTER IV

RESULTS

During this study, the researcher attempted to determine whether implementing coping strategies for Grade 1 students in a low socioeconomic public school would improve academic achievement. The researcher measured academic achievement with the Measures of Academic Progress (MAP) continuous nationally norm-referenced standard scores at two-time points. The pretest was administered in January 2018 and the posttest in April 2018. Behavior was measured by parent contacts with the pretest in February 2018 and the posttest in April 2018. Although there is no control group, the MAP scale score is indexed to the national norms and increases in standard scores indicates net growth. Data points were taken from 21 first-grade students in the researcher's class. The intervention – implementing coping strategies – occurred for eight weeks between the pretest and posttest data collection.

The mean MAP math score for the posttest (Mean = 177.3, SD = 9.88) [t = 4.71, p < .000] was significantly higher than the mean MAP math score for the pretest (Mean = 170.9, SD = 8.01) (Please see Table 1 on the following page). Therefore, the null hypothesis that there will be zero mean scale score change in the population from the MAP math pretest to the MAP math posttest is rejected. The mean MAP reading score for the posttest (Mean = 176.3, SD = 11.95) [t = 3.12, p < .005] was significantly higher than the mean MAP reading score for the pretest (Mean = 171.3, SD = 9.61) (Please see Table 2 on the following page). Thus, the null hypothesis that there will be zero mean scale score change in the population from the MAP reading pretest to the MAP reading posttest is rejected. Finally, the mean parent contacts gathered from the baseline data (Mean = .67, SD = 1.20) did not change significantly compared with the mean parent contacts gathered from the posttest data (Mean = .62, SD = 1.63) [t = .15, p >.883].

Consequently, the null hypothesis that there will be zero mean positive behavior count (parent

contact) change in the population from the pretest to the posttest was not rejected.

Table 1

Pre- to Post-Paired t-test for MAP Math Scale Scores

Variable	N	Mean	S.D.	t	p	Significant Change	Cohen's Effect Size
Pre MAP Math	20	170.9	8.01				
Post MAP Math	20	177.3	9.88	4.71	.000	Yes	1.05, large

Table 2

Pre- to Post-Paired t-test for MAP Reading Scale Scores

Variable	N	Mean	S.D.	t	p	Significant Change	Cohen's Effect Size
Pre MAP Read	21	171.3	9.61				
Post MAP Read	21	176.3	11.95	3.12	.005	Yes	.68, medium

Table 3

Pre- to Post-Paired t-test for Behavior Counts

Variable	N	Mean	S.D.	t	p	Significant Change	Cohen's Effect Size
Pre Parent Contacts	21	.67	1.20				
Post Parent Contacts	21	.62	1.63	.15	.883	No	.03, none

Table 4

Frequencies of Pre and Post Intervention Parent Contacts

parent contacts feb	Freq.	Percent	Cum.
0	15	71.43	71.43
1	1	4.76	76.19
2	3	14.29	90.48
3	1	4.76	95.24
4	1	4.76	100.00
Total	21	100.00	

parent contacts apr	Freq.	Percent	Cum.
0	18	85.71	85.71
3	1	4.76	90.48
4	1	4.76	95.24
6	1	4.76	100.00
Total	21	100.00	

When looking at the data collected, it is clear that math and reading achievement increased significantly from pre-intervention to post-intervention. There was a greater increase in math achievement as well as a higher mean posttest score. In terms of monitoring behavior through parent contacts, there was not a significant change from pre-treatment to post-treatment. As seen in Table 4, at pre-treatment 15 parents had no contact from the researcher whereas post-treatment 18 parents had no contact with the teacher. This implies a positive trend as the parent contact data stems from the school wide behavior plan. Each student has a behavior chart that is transported to and from school daily. Parents are contacted on this chart if their child did not meet behavioral expectations. Therefore, less parent contact on the behavior chart implies that

there were fewer behavioral incidents at school that day. After reviewing the data, it can be determined implementing coping strategies with first grade students in a low socioeconomic public school does improve academic achievement.

CHAPTER V

DISCUSSION

This study examined whether implementing coping strategies with first-grade students would enhance academic achievement. The study began with three null hypotheses. The researcher hypothesized that there would be zero mean scale score change in the population from the MAP math pretest to MAP math posttest as well as MAP reading pretest to MAP reading posttest, and zero mean positive behavior count change from the parent contact pretest to parent contact posttest. After completing the study, two of the three null hypotheses were rejected as there was significant academic achievement measured between the MAP pretest and posttest in both reading and math. The null hypothesis that there would be zero mean positive behavior count change cannot be rejected as there was not a statistically significant difference between pretest and posttest data at the p=.05 level.

Implications of Results

The data collected from this study indicates that providing young children with coping strategies to manage their emotions has a positive impact on academic achievement. Student gains were observed in both the math and reading MAP assessment. In addition, the total number of students whose behavior required parent contacts for positive behavior went from 15 students to 18 students; implying that fewer students exhibited negative behavior that warranted parent contact (Please see Table 4 in the Chapter IV).

In addition to the results indicated by the data, the researcher noticed many of the students becoming more independent in using coping strategies during and after the eight-week intervention period. When facing a setback such as a negative peer interaction, teacher

redirection, or undesirable outcome, students would either ask to use their calm down kit or use it on their own. Furthermore, some students would use their calm down kit or four-square self-regulation tool upon entering the classroom in order to deescalate from an event that occurred earlier.

It can also be inferred that implementing coping strategies with the first-grade students increased time on task for both the teacher and students. More time on task in the classroom means more time spent on instruction and skill development, which is a benefit to both the teacher and students. Oftentimes, teachers are required to stop instruction to provide emotional support and regulation to students. However, in giving students the space, the tools, and the time to do their own self-regulation, the teacher also gives herself and students the ability to be more engaged and present with the instruction at hand.

When considering the results of this study, it seems that this intervention would be valuable to use in similar settings with similar populations. The intervention can be implemented simply during daily instruction. The researcher taught students coping strategies (including the self-regulation four square and calm down kit) during a daily morning meeting session. The researcher modeled appropriate use of the tools and coached students as necessary when they needed to use the tools. In addition, the researcher reminded the students to use their coping strategies throughout the day or as the situation warranted. There were several students who needed more frequent reminders to use their coping strategies as well as students who needed more intensive instruction on how to use the tools provided. However, considering the increase in academic achievement and the noted time on task by the researcher, it is worth the time to support students who may need additional coaching with the self-regulation tools.

Theoretical Consequences

On a theoretical level, the results of this study indicate that implementing coping strategies with young children promotes resilience and increases academic achievement. As students became more confident and independent in using their four-square regulation tool, time on task increased, which allowed for more academic instruction and thus greater academic gains. Social-emotional education is often not a priority in classroom settings where math and reading instruction reign supreme. This study provides evidence that teaching young children self-regulation skills and coping strategies can actually enhance reading and math progress. Therefore, when teachers meet the basic needs of students (which often fall in the social-emotional range) genuine academic gains can occur.

Threats to Validity

When reflecting on this study, the researcher notes several internal threats to validity. To begin with, student attendance in the researcher's classroom is often an issue. Several students typically arrive to school late whereas others have frequent absences. Since the four-square self-regulation tool and the calm down kit were taught during morning meeting – which occurs at the beginning of each day – some students missed important instruction on using coping tools and strategies. In addition, morning meeting is a discussion time and often is when teacher and students share ideas, examples, or their own experiences. Such discussion is beneficial as it provides times for students to interact with each other and learn from each other.

Another threat to validity relates to instrumentation. Behavior was monitored by parent contact, which is recorded on a student behavior chart that is brought to and from school daily in each student's binder. Students keep the chart in a plastic sleeve, and it stays in their binder

throughout the day. During the intervention period and data collection period, a few students

lost their binders and/or behavior charts. Although some of this can be attributed to carelessness

or mishaps, it can also be traced back to the inconsistency in many students' home lives. For

example, a few students moved during the study and misplaced their backpack/binder. In

addition, several students have separated parents and backpacks/binders/charts are lost in the

switch between houses.

A third threat to internal validity is the maturation of first-grade students. The MAP test

is a 43-question test taken during one sitting. It often takes students 30 to 45 minutes or longer.

The test gradually increases or decreases the complexity of questions based on student responses.

When looking at the pretest and posttest scores of students and knowing the daily experiences of

the students, it was interesting to reflect on why some students demonstrated significant

academic achievement whereas others did not. In addition, considering the topic of this study

(resilience) it is worth noting that some students are more resilient than others during mentally

taxing situations like the MAP assessment. It is important to keep in mind that standardized

assessments like MAP are just one snapshot of a student and do not reflect the entire scope of

that student's abilities.

In addition to internal threats to validity, the researcher also observed external threats to

validity. For example, the pretest-treatment interaction may have impacted student academic

achievement. It should be noted that data collected from the posttest is the third time students

have taken the MAP assessment (first in the fall and second in the winter). Although the

questions are different, students are familiar with the format and layout of the assessment. In

addition, 43 questions is a large number of questions for first graders to complete; knowing how

long the test takes and wanting to finish it may cause students to rush or not think through each answer.

Another factor to consider in terms of validity is the convenience sampling technique used. The researcher's population consisted of her first-grade students. It does not reflect the general population, and it may be difficult to replicate this study outside of the first-grade (or primary-grade classroom). Furthermore, it is important to note the time of year this study occurred. The researcher collected baseline data in February and posttest data in April. Although the researcher implemented new interventions for the study, she still had five months prior to the study to build relationships with the students. It would be interesting to conduct the same study earlier in the school year and compare results.

Connections to Previous Studies

Pincus and Friedman (2004) determined that teaching students coping strategies – even at a young age – improved their ability to manage and cope with stressful situations. The researchers in this study taught two types of coping strategies, "problem-focused coping" and "emotion-focused coping" (p.225). According to the study, problem-focused coping is defined as modifying the environment or using stimuli to make the situation less stressful; in contrast, emotion-focused coping teaches children strategies to emotionally regulate by using positive self-talk, seeking support, or re-framing one's thoughts (Pincus & Friedman, 2004).

Results of the study indicated that use of coping strategies can be looked at developmentally. Although it was determined that teaching coping strategies is beneficial to all students, the researchers noted that young children tended to use problem-focused coping strategies more frequently whereas older children were more successful with emotion-focused

29

coping strategies (Pincus & Friedman, 2004). However, according to the researchers, young

children may not have, "…the behavioral skills necessary to execute these strategies when in a

stressful situation," (Pincus & Friedman, 2004, p. 228). Despite the developmental difference in

use of coping strategies, it was made clear in the results of the study that all children benefit from

the teaching of coping strategies and that these strategies can be exposed to students at a young

age and still yield positive results (Pincus & Friedman, 2004).

Similar to the study completed by Pincus and Friedman (2004), this action research

project examined the use of emotion-focused coping strategies with young children. However,

the sample population used in Pincus and Friedman's study was drawn from third- and fourth-

grade classrooms, whereas this study's population consisted of only first graders. Another

difference in the two studies was who implemented the intervention; Pincus and Friedman asked

undergraduate psychology majors to implement the intervention, whereas the researcher

implemented the intervention in this study. Furthermore, the study completed by Pincus and

Friedman did not measure academic achievement, which was a core complement of this action

research project. Despite these differences, it is clear that both research studies aimed to

establish the importance of teaching young children coping strategies in order to create more

resilient and well-adjusted students.

Implications for Future Research

When reflecting on this study, the researcher suggests several areas that could be

improved or strengthened. To begin with, a larger sample size would provide more insight into

the pros and cons of this intervention. In the researcher's school, there are four first-grade

classrooms; it would be interesting to provide this intervention in all classrooms and then

compare results between the four classrooms. However, this would require all teachers to be

trained in teaching coping strategies, including the four-square regulation tool. This is easier said than done, as not all teachers are open or able to teach emotional regulation strategies to students. However, the researcher could create a lesson plan guide or even short curriculum unit using the materials and ideas from this research project that would provide teachers with the background knowledge, tools, and resources to implement the intervention in their own classroom.

Another area to consider for future research is the collection of behavior data. In this study, the researcher used the school-wide behavior chart tool. Although this tool is an effective measure of behavior, the nature of it allowed for threats to internal validity of the study as some of the students misplaced their behavior charts. If this study were conducted again, it would be beneficial to use a data collection tool that stays in school. In addition, it would have been interesting to measure how often the students used their four-square tool, when they used the tool, and whether the students used the tool independently or with teacher support. Such data would provide more insight on the behavioral aspects of the study.

Finally, after reviewing the study completed by Pincus and Friedman (2004), the researcher would consider providing more choice in coping strategies used as well as more concretely defining when to use coping strategies. Young children are concrete learners and providing more structure may enhance results. In addition, although the four-square tool was designed to provide students choice in how they managed stressful situations, it was more of a self-regulation plan. Students had to refer to the tool in order to calm down and then choose their coping strategy; it may be beneficial in the future to have all the tools necessary in one location for ease of student use.

Summary/Conclusion

It is clear that providing young children with self-regulation tools in order to cope with stressful situations can enhance academic achievement. This study sought to determine whether or not teaching coping strategies would improve academic achievement and resilience. The results indicate that even a short intervention (eight weeks) of teaching self-regulation and coping strategies yield positive results. The intervention used in this study consisted of a four-square self-regulation tool that was modeled and taught to first-grade students. In addition, the researcher provided students with a "calm down" kit that contained materials for students to use after referring to their four-square tool. According to Perlman, Dawson, Dardis, Egan, and Anderson (2016), "Adaptive coping strategies, such as positive reframing of situations or seeking emotional support, are associated with positive long-term developmental consequences," (p. 156). As children continue to grow and develop in our ever-changing world, it is critical to provide them with the tools and strategies necessary to deal with stressful situations. In doing so, educators are not only enhancing resilience, but providing students with the ability to be more present to learn, which – as this study shows – can enhance the academic achievement of all students.

References

Ahuja, S., & Saha, A. (2016). They lead, you follow: Role of non-directive play therapy in building resilience. *Journal of Psychosocial Research, 11*(1), 167-175. Retrieved from https://search.proquest.com/docview/1800182782

Archdall, K., & Kilderry, A. (2016). Supporting children's resilience: Early childhood educator understandings. *Australasian Journal of Early Childhood, 41*(3), 58-65. Retrieved from http://search.informit.com.au/documentSummary;dn=461574408233727;res=IELAPA

Arincorayan, D., Applewhite, L., Garrido, M., Cashio, V., & Bryant, M. (2017). Resilience-enhancing relationships: What we can learn from those with a history of adverse childhood experiences. *U.S. Army Medical Department Journal 2*(17), 25-32. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/28853116

Bellis, M., Hardcastle, K., Ford, K., Hughes, K., Ashton K., Quigg, Z., & Butler, N. (2017). Does continuous trusted adult support in childhood impact life-course resilience against adverse childhood experiences – A retrospective study on adult health-harming behaviours and mental well-being. *BMC Psychiatry 17*(110), 1-12. doi: 10.1186/s12888-017-1260z

Berk, L. E. (2010). *Development through the lifespan* (6th ed.). Boston, MA: Pearson.

Bethell, C., Newacheck, P., Hawes, E., & Halfon, N. (2014). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs 33*(12), 2106-2115. doi: 10.1377/hlthaff2014.0914

Beutel, M., Tibubos, A., Klein, E., Schmutzer, G., Reiner, I., Kocalevent, R., & Brahler, E.

    (2017). Childhood adversities and distress – The role of resilience in a representative

    sample. *PLoS One 12*(3), 1-14. doi: 10.1371/journal.prone.0173826

Cizek, G. J., & Gierl, M. J., (Eds.). (2016). *The eighteenth mental measurements yearbook*.

    Lincoln, NE: Buros Center for Testing.

Ellenbogen, S., Klein, B., & Wekerle, C. (2014). Early childhood education as eta resilience

    intervention for maltreated children. *Early Child Development and Care, 184*(9-10),

    1364-1377. doi: 10.1080/03004430.2014.916076

Kolar, K. (2011). Resilience: Revisiting the concept and its utility for social research.

    International Journal of Mental Health & Addiction 9, 421-433. doi: 10.1007/s11469-

    011-9329-2

Mayr, T., & Ulich, M. (2009). Social-emotional well-being and resilience of children in early

    childhood settings – PERIK: An empirically based observation scale for practitioners.

    Early Years, 29(1), 45-57. doi: 10.1080/09575140802636290

Moe, J., Johnson, L., & Wade, W. (2007). Resilience in children of substance abusers: In their

    own words. *Substance Use & Misuse, 42*, 381-398. doi: 10.1080/1082608061142147

Nesheiwat, K., & Brandwein, D. (2011). Factors related to resilience in preschool and

    kindergarten students. *Child Welfare, 90*(1), 7-24.

Patterson, J., & Kirkland, L. (2007) Sustaining resilient families for children in primary grades.

    Childhood Education 84(1), 2-7.

Perlman, M. R., Dawson, A. E., Dardis, C. M., Egan, T., & Anderson, T. (2016). The association between childhood maltreatment and coping strategies: The indirect effect through attachment. *Journal of Genetic Psychology, 117*(5), 156-171. doi: 10.1080/00221325.2016.1220912

Pincus, D. B., & Friedman, A. G. (2004). Improving children's coping with everyday stress: Transporting treatment interventions to the school setting. *Clinical Child & Family Psychology Review*, 7(4), 223-240. doi:10.1007/s10567-004-6087-8

Ronnau-Bose, M., & Frohlich-Gildhoff, K. (2009). The promotion of resilience: A person-centered perspective of prevention in early childhood institutions. *Person-Centered and Experiential Psychotherapies, 8*(4), 299-318.

Sacks, V., Murphey, D., & Moore, K. (2014). Adverse childhood experiences: National and state-level performance. *Child Trends 2014*(28), (1-11). Retrieved from https://www.childtrends.org/publications/adverse-childhood-experiences-national-and-state-level-prevalence/

Skinner, E., & Greene, T. (2008). *21st Century Education: A Reference Handbook*. Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412964012.n13

Thomson, P., & Jaque, S. (2017). Adverse childhood experiences (ACE) and adult attachment interview (AAI) in a non-clinical population. *Child Abuse & Neglect 70*, 255-263. doi: 10.1016/j.chiabu.2017.06.001

Varga, M. (2017). *The effect of teacher-student relationships on the academic engagement of students* (Unpublished master's thesis). *Goucher College Master of Education*. Retrieved from https://mdsoar.org/handle/11603/3893.