

Preventing Anxiety and Depression: An Evaluation of a Social-Emotional Curriculum

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Table of Contents

Review of Literature	2
Gender Prevalence	4
Racial Prevalence	4
Underidentification	5
Negative Outcomes	7
Risk Factors	10
Protective Factors	12
The Role of School Systems in Social and Emotional Education	16
Intervention for Internalizing Problems: A Three-Tiered Model for Prevention	18
<i>Strong Kids</i>	19
Method	22
Participants	22
Materials	23
Procedure	24
Results	25
Discussion	28
Conclusion	31
References	34
Appendix	

List of Tables and Figures

Table 1: *Analysis of Covariance of Post-test Symptom Scores as a Function of Condition, With Pre-test Symptom Scores as Covariate*

Table 2: *Analysis of Covariance of Post-test Knowledge Scores as a Function of Condition, With Pre-test Scores as Covariate*

Abstract

This study evaluates the effectiveness of the *Strong Kids* curriculum in promoting social-emotional resiliency among fifth graders. Using a pre-test/post-test design with a non-equivalent control group, the researcher aimed to answer two questions. First, do students who participate in *Strong Kids* exhibit a greater increase in knowledge about social-emotional health? Second, do students receiving *Strong Kids* exhibit a greater decrease in symptoms of internalizing problems? Using pre- and post-test surveys measuring knowledge of social-emotional health and internalizing symptoms, the researcher compared the changes between treatment and control groups. Analyses of covariance indicated that the treatment group significantly increased in knowledge about socio-emotional health, but level of depressive symptoms did not significantly decrease. A discussion of results and future research follows.

Preventing Anxiety and Depression: An Evaluation of a Social-Emotional Curriculum

Mental health is the subject of increasing recognition and concern within society. One need only turn on the television to find advertisements for a multitude of medications promising to help alleviate the burdens of depression and other mental health concerns. Bookstores devote entire sections to titles offering self-help for readers interested in managing stress and anxiety. Indeed, the public media is speaking more candidly about the existence of mental illnesses such as anxiety and depression. However, the majority of this attention is directed towards adults who suffer from these illnesses. But what about the children? It is easy to forget that mental illness does not discriminate against the younger generations. Unfortunately, internalizing disorders, including childhood depression and anxiety, are equally concerning mental health issues many young people face today.

The number of children and adolescents who suffer from the symptoms of one or more internalizing disorders is concerning. Reports indicate that between 10 and 15 million children and adolescents will experience symptoms of depression at some point during their development (United States Department of Health and Human Services [DHHS], 1999). Children and adolescents diagnosed with depression stand a 70 percent chance of relapsing into a depressive episode by the time they reach adulthood (DHHS). Similar to depression, anxiety is also commonly found among children and adolescents. The Surgeon General's report on childhood mental health estimates that the one-year prevalence of all anxiety disorders experienced by children ages 9 to 17 is 13 percent (DHHS, 1999).

Since internalizing problems are difficult to identify among children and adolescents, the prevalence rates of children who experience problems in this category should be considered conservative estimates. One may infer that many more children experience symptoms of anxiety

and depression than who are officially identified. As a result, many children's symptoms go untreated: only one-third of children with diagnosable mental conditions receive assistance (Center for Disease Control and Prevention, 2005). Fortunately, school systems are recognizing the need to provide services to students at-risk for a variety of problems, including anxiety and depression. Schools are implementing prevention and early intervention programs to assist students in achieving successful academic and emotional outcomes. However, because this movement toward prevention and early intervention is relatively recent, more research is needed to evaluate the effectiveness of such programs.

The present study aims to contribute to the body of research on one such prevention program. The *Strong Kids* curriculum is a social-emotional curriculum that targets children in grades four through eight. The objective of this study was to evaluate the effectiveness of *Strong Kids* in several domains, including knowledge about social-emotional health and changes in internalizing symptoms and self-perception. By means of a pre-test/post-test design, the researcher examined the changes in scores of participants in both a treatment (receive the *Strong Kids* instruction) and control (no instruction) group over time. The researcher hypothesized that a classroom of fifth grade students who participated in *Strong Kids* would show a greater increase in knowledge about social-emotional health than students in a control classroom. The researcher also hypothesized that, after participating in *Strong Kids*, students would show a decrease in self-reported internalizing symptoms and an increase in positive self-perception. The researcher believed that the control group would show less of a change in these domains.

Review of Literature

In 1999, the Surgeon General issued a report illustrating the mental health of Americans, including a specific section devoted to children and mental health. According to the report,

between 10 and 15 million children or adolescents experience some symptoms of depression at some point in their development (United States Department of Health and Human Services [DHHS], 1999). According to a prevalence study conducted by Schaffer et al. in 1996, approximately 5 percent of children between the ages of 9 and 17 meet the criteria for a major depressive diagnosis (as cited in DHHS). Of children who experience a major depressive episode, 20 to 40 percent relapse into another episode within two years. This is not an issue confined to childhood; 70 percent of children who experience depression during youth will relapse by adulthood (DHHS).

Like depression, anxiety disorders are commonly found in child and adolescent populations. Although there are many categories of anxiety disorders under which a child's symptoms may fall, the Surgeon General's report provided a combined prevalence rate for all anxiety disorders. According to this document, the one-year prevalence of all anxiety disorders experienced by children between the ages of 9 and 17 is 13 percent (DHHS, 1999). These statistics provide information regarding the typicality of internalizing disorders among all children. Since prevalence rates vary according to individual characteristics, one can gain a greater understanding of childhood anxiety and depression by examining the rates of occurrence according to subsets of the population.

Trends in prevalence rates indicate that the number of youth exhibiting symptoms of depression and anxiety increases significantly as they enter adolescence and peaks around the age of 16 (Connelly & Johnston, 1993). Explanations for this increase in symptoms have cited increased stress levels due to physical changes associated with puberty, increasing demands of school life, pressure to be accepted by peers, and the struggle for independence from parents and family (Connelly & Johnston; Wichstrøm, 1999).

Gender Prevalence

When considering the population of children and youth experiencing internalizing disorders, it is important to consider gender differences. According to the American Psychiatric Association, adult females experience higher prevalence rates of depression and anxiety than adult males (Diagnostic and Statistical Manual of Mental Disorders [*DSM-IV-TR*], 2000). In the case of children, however, research is inconclusive. According to the *DSM-IV-TR*, major depressive disorder and dysthymic disorder occur equally in prepubertal males and females. Whereas some studies indicate that the prevalence rates are similar, studies such as Angold and Rutter's (as cited in Hammen & Rudolph, 2003) found that prevalence rates among preadolescent males actually exceed rates of depression among preadolescent females. Nevertheless, during adolescence the differences in prevalence become noticeable: females appear to be more susceptible to internalizing problems during adolescence (Merrell, 2003). According to the *DSM-IV TR*, major depressive disorder is twice as common among adolescent females as males, and research has indicated that these gender differences tend to emerge at the beginning of adolescence (Wichstrøm, 1999).

Racial Prevalence

Although African American, Latino, and Hispanic youth exhibit similar prevalence rates of mental disorders as European Americans, there are differences in prevalence when specific mental illnesses are taken into consideration. Results from the National Health and Nutrition Examination Survey III suggest that the prevalence of depression differs significantly across ethnic groups, and according to type of depression (Riolo, Nguyen, Greden, & King, 2005). According to this analysis, African American and Mexican American populations have a higher prevalence of dysthymic disorder, whereas Whites have higher incidences of major depressive

disorder. National statistics support this statement. According to the Center for Disease Control and Prevention (2005), African American youth are less likely to suffer from major depression than their non-Hispanic white counterparts. However, African American youths are more likely to experience anxiety-related conditions, such as phobic disorders, and somatic illnesses than non-Hispanic whites.

In a comparison of Latino and Caucasian populations, Latino children and adolescents exhibit higher prevalence rates for anxiety and depression in comparison to non-Hispanic whites. Although only 6% of Hispanics commit suicide compared to 13% of whites, research shows that Hispanics exhibit higher rates of suicide ideation and attempts than either African Americans or non-Hispanic whites (Center for Disease Control and Prevention [CDC], 2005). These studies indicate that depression and anxiety affect all racial groups, but different groups may be more susceptible to certain conditions.

Underidentification

Although the Surgeon General's report on childhood mental illness provides the public with estimates of the prevalence of mental health conditions including anxiety and depression, these percentages are not absolute by any means. In actuality, the number of children who suffer from internalizing problems such as depression and anxiety is difficult to calculate for a variety of reasons. For example, children may exhibit many symptoms of depression or anxiety, but fail to meet specific diagnostic criteria as outlined in the *DSM* (Merrell, 2003). In the case of anxiety disorders, abnormal fears or phobias may be masked by child development. It is typical for children to experience certain fears as they pass through various stages of development. As a result, parents, teachers, or professionals may dismiss excessive fear or atypical phobias as a typical part of development that will eventually be outgrown (Albano, Chorpita, & Barlow,

2003). It is also possible for symptoms of depressive disorders to be ignored as the byproduct of development (Connelly & Johnston, 1993).

Whereas some children may go undiagnosed because symptoms are mistaken for normal development, others may fail to be identified due to the presence of co-occurring disorders. Research indicates that children who suffer from an internalizing condition such as depression often present symptoms of another internalizing disorder, such as anxiety or social withdrawal (Merrell, 2003). It is possible that some professionals classify children with multiple diagnoses under one diagnostic category and not the other applicable disorder. These situations contribute to inaccurate, deflated prevalence rates. Given the challenges associated with identifying students with internalizing behavior problems, prevalence rates can be viewed as conservative estimates of the number of children who suffer from these illnesses.

The under-identification of children with internalizing disorders is more than just deflated percentages - it is a serious concern. Because of the difficulties in identifying children suffering from depression, anxiety, and other internalizing disorders, one can infer that many more children experience symptoms of internalizing problems such as anxiety and depression than officially identified. Subsequently, there are a greater number of children in need of intervention than are actually receiving support. According to the Centers for Disease Control and Prevention (2005), only one-third of children with a diagnosable mental condition receive assistance for their condition. Children who exhibit symptoms or characteristics that place them at risk for potentially harmful mental health issues are in a similar situation. Only 36 percent of students who have shown indications of risk for suicide received mental health services according to Crockett (2003).

Negative Outcomes

A failure to identify children in need of intervention can have a negative impact on outcomes later in life. In a study of elementary-aged children, Pomerantz and Rudolph (2003) studied the relationship between emotional distress and two variables: perception oneself and the world and perceived level of personal competence. The researchers found that participants with high levels of emotional distress, namely anxiety and depressive symptoms, have negative views of themselves and the world around them. These negative perceptions lead children and adolescents to underestimate their capabilities, both socially and academically (Pomerantz & Rudolph). A negative opinion of oneself can contribute to negative outcomes in life. Studies on the relationship between self-esteem and negative outcomes show that adolescents with low self-esteem may be at an increased risk for poor mental and physical health (Trzeniewski et al., 2006). Other adverse outcomes include lower income and an increased likelihood for conviction of a crime (Trzeniewski et al.).

Additional research has examined the link between internalizing symptoms and negative outcomes. Students who suffer from problems related to internalizing symptoms/disorders may also exhibit deficits in academic achievement (Merrell, 2001). Researchers examining the relationship between academic achievement and depressive symptoms have found support for this claim (Cole, 1990; Blechman, McEnroe, Carella, & Audette, 1986). A recent study of students from Spain also supports this hypothesis. Aluja and Blanch (2002) investigated the relationship between scores on the Child Depression Inventory (CDI) and various individual characteristics, including academic achievement. In their study, academic achievement was measured as the official grades on core academic subjects (math, language, science, and social science) in the past two years. The researchers conducted a correlational analysis to determine

the relationship between scores on the CDI and academic achievement. Results showed that participants' CDI scores were negatively correlated with academic achievement, suggesting that the greater the indicators of depression, the lower the participant's level of academic achievement.

Children with depression are not the only ones who face challenges in the area of academic achievement. Children who exhibit symptoms of anxiety also face achievement problems in the classroom. According to the Anxiety Disorders Association of America (2004), if left untreated, children who suffer from anxiety are at risk for poor school performance. Academic performance is not the only area that is influenced by symptoms of anxiety; school attendance may also be affected. Children with specific phobias, such as school phobia, may miss out on much instructional time due to their fear of simply attending school. Even though the source of the fear is different, anxiety issues influence how well a child or adolescent achieves in school.

The impact of an internalizing disorder extends beyond the realm of academics. Children and adolescents with symptoms of anxiety and depression may experience difficulty acquiring and maintaining quality friendships with peers. Friedberg and McClure (2002) discussed the impact that symptoms of depression have on a child's social world. Symptoms of childhood depression include decreased interest and pleasure in previously-enjoyed activities. Consequently, children with depression may have less desire to engage in social activities. Moreover, friends may stop inviting a child with depression to participate in activities due to their depressed mood and withdrawal. For some children, a lack of positive friendships can contribute to symptoms of depression. Depression in turn may aid in reducing the quality of the

friendships the child actually has. In such situations, lack of friendships not only brings on depression, but it also serves to maintain it (Merrell, 2001).

Children with symptoms of anxiety may also have trouble with peer relationships. The DSM-IV separates the broad concept of anxiety into nine specific disorders. Differentiation between these specific anxiety disorders is dependent upon the focus of the child's anxiety (Albano, Chorpita, & Barlow, 2003). Many of the anxiety-provoking situations that a child encounters are present in the school environment. For example, fears such as reading aloud, being chosen for a team at recess, and taking tests are common sources of anxiety in children that are present in the academic setting (Friedberg & McClure, 2002). Excessive fears and/or worries in situations such as these can lead a child or adolescent to avoid interaction with peers. Moreover, students with anxiety may be excluded by their peer groups on account of their obsession with fears and the physical and emotional outcomes that accompany them.

While difficulties with academics and social interactions can be classified as immediate consequences of internalizing symptoms, longer-term outcomes are also worthy of discussion. If left untreated, children with anxiety and/or depression may experience similar symptoms into adulthood (Albano, Chorpita, & Barlow, 2003). It is also possible that children and adolescents who experience these difficulties are at risk for more severe mental health problems later on in life (Merrell, 2001). In some instances, the long-term consequences of shrugging off depression or anxiety may be fatal. Suicide is the third leading cause of death among adolescents, and the second leading cause of death among college-aged youth (National Mental Health Association [NMHA], 2006). An evaluation of suicide trends indicates the seriousness of this issue: rates of suicide among youths aged 15 – 24 has nearly tripled since the 1960s (NMHA, 2006).

Clearly, the outcomes associated with symptoms of depression and anxiety pose a serious threat to the wellbeing of children and adolescents who experience these conditions. Because the short- and long-term repercussions of inaction are considerable, it is important to recognize the factors that place a child at risk for developing internalizing problems. An awareness of risk factors can lead to appropriate prevention and early intervention efforts that may aid in reducing the life-long outcomes associated with the conditions of anxiety and depression.

Risk Factors

No person – child, adolescent, or adult – is immune from developing mental health concerns (U. S. Department of Health and Human Services, 1999). However, certain people are more likely to develop a mental health condition. What factors influence whether a child will develop a mental illness such as anxiety or depression? Risk factors are elements of one's environment or biological condition that increase the likelihood of developing a psychological disorder (Cook & Cook, 2005). These factors that place students at risk for mental illness can influence a child from early on. Children with prenatal damage due to maternal use of drugs, alcohol and tobacco are more susceptible to difficulties in their social-emotional development (DHHS, 1999). Infants born with a low birth weight or difficult temperament are also at risk for future mental health concerns (DHHS). Characteristics that increase a child's risk for developing mental illness begin to develop early on in life – even prior to birth.

In addition to factors that are present early on in the life of a child, characteristics within one's family are linked to childhood anxiety and depression. Nilzon and Palmerus (1997) studied specific characteristics within families of children with and without anxiety and/or depression. In their study, they selected 32 children (aged 12-14) and their families to participate. Sixteen of the children met criteria for childhood depression; the remaining 16 participants were categorized as

non-depressed and were matched with the depressed group on age, sex, and school. The parents of each participant filled out questionnaires concerning family cohesion, marital harmony, and life stressors. Upon comparison of the survey results across conditions, the researchers detected several statistically significant differences between the families of depressed and non-depressed youths. The parents of depressed children reported higher levels of major family problems and major changes within the family system. Moreover, families of depressed participants were more likely to indicate that a parent was living with a new partner. Mothers of participants with depression were more likely to report being treated for depression themselves. Furthermore, the parents of the participants with depression were more likely to be classified as overprotective in comparison to parents of non-depressed participants. These results suggest that stressors on a family, including divorce or other changes to the family structure, the mental health of parents, and parenting style are all factors that may increase the likelihood of childhood depression.

Longitudinal research has corroborated the impact of a variety of risk factors on mental health in early adolescence. In a study that followed 360 kindergarteners from the northeast United States until the age of 21, Reinherz, Giaconia, Carmola Hauf, Wasserman, and Paradis (2000) identified parental depression, especially maternal depression, as a risk factor for depression in early adolescence. In addition to parental mental health, Reinherz et al. found that parent and teacher-reported anxious and/or depressed behavior in children as early as age six correlates with depression at age 21. Furthermore, the researchers found a relationship between self-reported peer rejection at age nine and depression at age 21. Based on these findings, parent mental health, relationships with peers, and early behavior patterns can all contribute to internalizing behavior problems.

In 1954, researchers from the University of California collaborated with colleagues from the University of Hawaii and Hawaii's Department of Health to follow 3000 pregnant women and, subsequently, 1000 of these children and their families over the course of 10 years (Werner, Bierman, & French, 1971). At the conclusion of this preliminary study, researchers continued to collect data on the original participants as they passed through adolescence and into adulthood (Werner & Smith, 1992). This extensive study has contributed to the understanding of factors that place children at risk for negative life outcomes. Among the results, researchers found that the standard of living into which a participant was born was a predictor of mental health problems later on. This result was limited to males in the sample population (Werner & Smith). Moreover, male participants born to mothers with a low level of education and low family stability also were more likely to develop mental health problems. For female participants, low socioeconomic status was the greatest predictor of later mental health problems.

The research reviewed in this report provides examples of a small number of characteristics and situations that place a person at risk for developing internalizing problems in life. This list is not exhaustive. More risk factors exist than would be feasible to explore in this review. However, one should note that these factors potentiate one another, greatly increasing the level of risk for developing such a condition (Fan & Eaton, 2001). In other words, as the number of risk factors present in the life of a child increases, so does the likelihood that mental health problems will develop later on in life.

Protective Factors

When one considers the many factors that place children at risk for developing mental health issues such as depression or anxiety, it is a wonder that some children fare as well as they do. Consider a child who comes from a low-income, single parent family. His mother suffers

from recurring bouts of depression, and they live in a neighborhood where robberies and shootings are frequent. At school, he has few close friends and has no teacher to whom he can turn for guidance. In spite of all of the risk factors that are present in his life, he shows few symptoms of depression or anxiety. How can this be possible?

Fortunately, while the presence of risk factors increases the likelihood of a negative outcome, it does not *guarantee* that the negative outcome will take place (Murray, 2003). This resiliency against negative outcomes may be attributed to the effects of protective factors. Protective factors are characteristics within an individual or one's environment that block or reduce the negative effects of risk factors (Cook & Cook, 2005). Although there are many factors that place a child at risk for negative outcomes, there are also many protective factors that can reduce the impact of risk factors. Protective factors exist in several different domains: within the individual, family, school, and community (Murray, 2003).

Characteristics within a person can help reduce the negative impact of risk factors. For example, in some cases, temperament may be considered protective factor within an individual. Thomas and Chess (1977) described children with easy temperaments as primarily positive and adapts well to change (as cited in Cook & Cook, 2005). Children with temperaments described as such are more likely to adapt to situations than those with difficult temperaments – they are more resilient to adversity. Other internal characteristics that can be considered protective factors include internal locus of control, high self-esteem, positive outlook on the future, and above average intelligence (Murray, 2003).

In their study of 1000 Hawaiian children, Werner and Smith (1992) described the individual characteristics that were common among high-risk children who developed into adults without major coping problems. Independent raters who conducted an evaluation of participants

at age two gave significantly different ratings to children who, as adults, did or did not develop positive coping strategies. Observers used a significantly greater number of positive adjectives to describe those participants who later in life developed positive coping strategies (Werner & Smith).

Evaluations of the participants at 10 years of age provide insight into important individual protective factors. Researchers discovered a significant positive relationship between participants' score on an assessment of problem-solving skills and adaptation in adulthood (Werner & Smith, 1992). This finding suggests that children who develop effective problem solving skills early on in life may be more successful in adapting to life's changes and challenges as adults. Researchers also noted that participants who developed coping problems as adults scored significantly lower on a reading achievement test at age 10 than their well-adapted counterparts (Werner & Smith).

At the age of 18, participants who developed coping problems as adults and those who did not also showed some differences. Participants who developed normal patterns of coping in adulthood were rated significantly higher in popularity by their peers (Werner & Smith, 1992). Research assistants conducting interviews with the participants rated those who went on to develop positive coping strategies as exhibiting significantly higher levels of self-esteem. Finally, Werner and Smith noted that participants who made healthy transitions despite an abundance of risk factors exhibited more of an internal locus of control, meaning that they felt that their actions could direct the course of their future.

The work of Werner and Smith, along with other studies of protective factors, highlights several characteristics within an individual that may help to overcome adversity. One's temperament and the agreeableness of one's personality contribute to fending off adverse

outcomes. Level of intelligence and one's ability to develop effective problem solving skills can aid in the development of coping strategies as adults. Moreover, an internal locus of control may empower individuals to believe that they have more control over life's outcomes, therefore protecting them from negative outcomes. Each of these characteristics can be considered a protective factor.

Just as family stress such as divorce or changing family structure can make a child more susceptible to develop internalizing behavior problems, some family factors protect children against such negative outcomes. Children who have warm, supportive relationships with their parent(s) possess an important protective factor (Murray, 2003). Moreover, effective parenting strategies are considered protective against emotional problems such as anxiety and depression. The Werner and Smith (1992) study of families in Hawaii sheds light on the identification of protective factors at the family level. These authors reported that mothers of boys who grew up to develop positive coping strategies were significantly more likely to be described as intelligent, self-confident, and self-controlled. For female participants, having a mother who maintained steady employment was identified as a protective factor.

In addition to characteristics of one's home environment, certain elements within a child's school may also protect against emotional disorders. Along with the quality of the school, feeling a sense of belonging at school can be a protective factor for some children. Moreover, establishing healthy relationships with peers in the educational setting can also protect students from developing depression or anxiety (Murray, 2003). Werner and Smith (1992) indicated that having a caring, supportive teacher was critical in the lives of participants who transitioned successfully into adulthood.

Protective factors within the community include having an adult who provides a child with social support and involvement in a prosocial activity, such as a church or youth group (Murray, 2003). Werner and Smith (1992) also emphasized the importance of positive relationships with others in the community, indicating that the more positive relationships within the community, the greater the protective factor for a child.

The Role of School Systems in Social and Emotional Education

Schools are prime locations for addressing student mental health needs, considering the number of children in the educational system that are at risk for negative mental health outcomes (Doll & Lyon, 1998). Fortunately, today's school systems are broadening their educational goals to include the development of healthy social and emotional skills. Indeed, schools are becoming aware of the importance of providing intervention in order to protect the life outcomes of students, and the benefits of such education are considerable. According to the National Association of School Psychologists (NASP), the benefits of psychological wellness include secure attachments to caregivers, satisfying relationships with others, the development of positive coping strategies and skills, and effective functioning in the domains of home, school, and the community (NASP, 2003). Given the advantages of educating children on health socio-emotional behavior, it is reassuring to hear that schools are beginning to take a serious look at social and emotional education.

The profession of school psychology in particular is facing a change in how educational systems deal with mental health issues. In the past, school psychologists served as "repairers" – interventions took place after a problem had occurred (Fagan & Wise, 2000). Merrell (2002) advocated for change in the way school psychologists handle social-emotional issues. Instead of solving problems on a case-by-case basis, Merrell proposed that practitioners aim to solve "big"

problems. Instead of waiting until a student is referred for social-emotional difficulties, school practitioners should push for early intervention and prevention of such problems. School psychology is gradually changing into a profession in which intervention takes place before problems become severe. As a result, the number of preventative curricula and programs for social and emotional problems has increased over the years.

Indeed, addressing the social-emotional needs of children is emerging as a concern in many school districts. The increased interest in the promotion of psychological wellness among students has sparked the development and implementation of programs that target aspects of social and emotional health, such as social skills, anger management, and stress reduction. In fact, districts are taking a proactive approach by implementing social and emotional programs at the primary prevention level, targeting all students before problems develop or exacerbate.

Although a growing number of districts are addressing the mental health needs of children within the schools, this trend is relatively recent. In particular, school psychologists have experienced a role-shift in mental health prevention and intervention. Beginning in the late 1980s transferred from special education placement to intervention with children at risk for problems, including anxiety and depression (Fagan & Wise, 2000). This paradigm shift has fueled research in the areas of prevention and intervention for children at risk for mental illness. Although existing research on particular interventions is promising, additional research is needed on these programs to increase our understanding of the outcomes associated with implementation. Proposed interventions need to be examined for effectiveness with specific groups of individuals (e.g., males and females, minorities, working class students, and students with special needs). In addition, research is needed on the generalization of skills and the long-term outcomes of these programs. Although the creation of social and emotional interventions is

a step in the right direction, researchers must continue to add to the existing body of research to ensure that these programs are effective in promoting resilience among children.

Intervention for Internalizing Problems: A Three-Tiered Model for Prevention

Programs that are successful in preventing internalizing problems like depression share common characteristics. According to Herman, Merrell, Reinke, and Tucker (2004), programs that are successful in preventing depressive symptoms target maladaptive cognitions as a risk factor. Such programs teach children how to substitute faulty, unhealthy thought processes with adaptive thinking and coping skills. Herman et al. also note that these programs are typically conducted at school by school personnel. The remainder of this literature review will provide an overview of the service delivery model employed by school systems as well as examples of programs that have been used to combat symptoms of anxiety and/or depression in the educational environment.

School-based interventions can be divided into three categories based on level of intensity. At the most basic level, schools can implement prevention programming that may benefit all students. Known as primary prevention, these universal programs are designed to prevent problems from developing among the entire student population (Walker & Shinn, 2002). Primary prevention aims to build up the protective factors in students. For example, schools that hold school-wide assemblies to help educate students about how to deal with anger or sadness are providing all students with tools for dealing with stressful situations. When all students receive the same level of intervention, the strategy is considered a primary prevention technique. These interventions, though basic, are useful in the identification students who do not respond, subsequently requiring more intensive intervention.

Some students are at higher risk for developing such problems due to personal and environmental characteristics. These students may benefit from the next tier of prevention – secondary prevention. Students who do not respond to intervention at the primary level may require additional assistance. Secondary prevention provides support that is more intensive and tailored to the student’s concern (Walker & Shinn, 2002).

Secondary prevention programs may be enough to help some at-risk students develop resiliency to internalizing problems. For severely at-risk students, or students who are already experiencing problems with anxiety and/or depression, even more intensive measures must be taken. For students in this category, tertiary prevention may be most appropriate. According to Walker and Shinn (2002), programs at the tertiary level utilize support from the school, family, community, and other resources to help the student overcome the challenges he or she faces. Since the nature of the risk the student faces is severe, tertiary prevention should be initiated as soon as possible after the nature of the risk has been identified (Walker and Shinn).

As a consequence of many educational systems emphasizing the importance of addressing students’ social and emotional well-being in addition to academic subjects, a variety of programs and curricula have emerged. The development and utilization of such programs in school settings is relatively new. As a result, more research is needed to support the efficacy of programs that promote social and emotional resiliency at the primary and secondary levels. The remainder of this review will focus on one such intervention: *Strong Kids* (Merrell, Carrizales, & Feuerborn, 2004), a social and emotional curriculum for elementary students.

Strong Kids

Strong Kids program, a social and emotional learning curriculum for children ages 9 through 14, is designed to be used as a prevention or early intervention tool (Merrell, Carrizales,

& Feuerborn, 2004). Researchers are continuing to collect data on the effectiveness of this program in promoting emotional resiliency among children and adolescents. Merrell, Juskelis, and Tran (2004) implemented the curriculum with 65 general education students in grades seven and eight in a Midwestern junior high school. All participants were Caucasian and came mostly from lower middle class or working class families. Participants took a pretest prior to completing the course and took a posttest upon completion of the program. Upon comparison of the pre- and post-tests, students exhibited significantly greater knowledge and awareness of healthy social and emotional behavior. Moreover, students self-reported significantly fewer internalizing symptoms upon completion of the curriculum.

Feuerborn (2004) conducted a study to test the effectiveness of the *Strong Kids* curriculum with students exhibiting internalizing symptoms. In this study, two groups of students in grade eight and two groups from grade four participated. At the fourth grade level, teachers nominated 14 students from their classrooms who exhibited greater internalizing symptoms than other students to participate in the study. The fourth grade groups received *Strong Kids* as a selected, small group intervention. One group of fourth graders served as a control, receiving only the pre- and post-test. The remaining group – the treatment group - completed the pre- and post-tests as well as the *Strong Kids* curriculum. This part of the study yielded several significant differences between the control and treatment conditions. Compared to the control group, the participants in the treatment condition showed significantly fewer internalizing behavior symptoms at post-test. The treatment group also exhibited a significant increase in knowledge of health social and emotional behaviors; the control group displayed no significant changes in knowledge. Based on the results, *Strong Kids* appeared to increase knowledge about social and

emotional health while decreasing existing symptoms of internalizing behavior problems among children at the secondary prevention level.

The eighth graders in the study served as participants to examine the effectiveness of *Strong Kids* as a universal prevention program. The researcher selected fourteen eighth graders from the general education setting and assigned each participant to either the treatment or control group. Unlike the fourth grade condition, participating students did not have at-risk levels of internalizing symptoms. The treatment group received the *Strong Kids* curriculum in addition to taking the pre- and post-test measures; the control group received no treatment, only the pre-and post-tests.

Feuerborn's study shows several significant results in the eighth grade group. First, results show that the eighth grade treatment group reported fewer symptoms of internalizing problems than the control group at post-test. Participants in the treatment condition also received significantly lower scores on a parent-teacher rating scale of internalizing and severe behavior problems at the post-test stage of the study. Furthermore, eighth graders who participated in the *Strong Kids* curriculum displayed higher scores on a post-test measure assessing their knowledge regarding healthy social and emotional behaviors compared to eighth graders who did not participate in the curriculum. Finally, results showed that the treatment group scored significantly higher on a self-perception rating scale than the control group at post-test. These findings lend support to the hypothesis that the *Strong Kids* curriculum is effective at reducing symptoms of internalizing behavior problems at the primary level.

Based on the emerging research presented thus far, *Strong Kids* appears to show promise as a beneficial program for students at both the primary and secondary prevention levels. Participation in the curriculum has been demonstrated to increase student knowledge about

topics related to social and emotional behavior, such as handling stress, dealing with anger, and identifying feelings. Initial findings indicate that the curriculum may increase student knowledge about healthy behaviors and decrease self-reported symptoms of anxiety and depression in children. Although the available research conducted on *Strong Kids* to date supports its effectiveness, it is limited. In order to further evaluate the potential of this curriculum, more research needs to be conducted. The purpose of the present study is to contribute to the research on *Strong Kids* curriculum. This study aims to partially replicate results found in Feuerborn's study by implementing the curriculum as a universal prevention program in a fifth grade classroom in the Midwestern United States.

Method

Participants

The researcher obtained participants from two fifth grade classrooms at an elementary school in a suburban district located in the Midwestern United States. The original sample pool consisted of 50 students (28 male; 22 female). Ten students were absent from either the pre- or post-test session and were therefore excluded from data analysis. Subsequently, the final sample for this study consisted of 40 fifth grade students, 22 male and 18 female between the ages of 10 and 12 ($M = 10.63$). Ninety-five percent of the entire sample identified themselves as Caucasian while the remaining 5% identified themselves as Hispanic. In the overall sample, 12.5 % of the participants were on free and reduced lunch.

Participants were divided into conditions based on their classroom assignment – one classroom served as the control; the other served as the treatment group. The control group consisted of 20 students, 9 male and 11 female (Average age = 10.45). Nineteen of the students were Caucasian and one student was Hispanic. The treatment group was also comprised of 20

students, 13 male and 7 female (Average age = 10.8). Similar to the control group, the treatment condition consisted of 19 Caucasian students and 1 student of Hispanic descent.

Materials

Participants in the treatment condition completed the 12 core lessons in the *Strong Kids* curriculum. The researcher facilitated these lessons using the materials produced by Merrell, Carrizales, and Feuerborn (2004). Each lesson followed the same format: review of the previous lesson, definition of terms, instruction of concepts, practice, and wrap-up. The lessons contained an optional script for the examiner to follow. In the present study, the researcher adhered to the script provided in the materials. The weekly lesson plans also included overhead diagrams and handouts to increase student involvement during instructional time. The examiner consolidated all handouts into a workbook and distributed it to each student for use during the curriculum.

Internalizing Symptoms. The researcher measured symptoms of internalizing problems with the Strong Kids Symptoms Test (Merrell, 2004). This pencil-and-paper measure consisted of ten Likert scale items that required the participant to rank the extent to which they agreed with a statement (3 = Often true; 0 = Never True). Participants could potentially score between 0 and 30 on this measure; the higher the score, the greater the symptoms of internalizing problems. The researcher analyzed the psychometrics of this symptoms checklist and found the inter-item reliability of this scale to be sufficient ($\alpha = 0.8$). The approximate time of completion for this survey is 5 minutes.

Knowledge of Social-emotional Health. Knowledge of social-emotional health was measured by the Strong Kids Knowledge Test (Merrell, 2004). This 20-item, paper-and-pencil test required participants to answer true or false and multiple choice questions about various

topics presented in the Strong Kids curriculum. The time estimated for participants to complete this test was approximately 15 minutes.

Procedure

The researcher sent letters home to the parents/guardians of each participant describing the nature of the study. Along with this informational letter, the researcher also attached a consent form. Parents were asked to sign and return the form to the classroom teacher indicating their consent for their child to participate. The classroom teacher collected all consent forms and submitted them to the researcher prior to the start of the study.

During the week the *Strong Kids* curriculum was scheduled to commence, the researcher visited the classroom of control participants to administer the pre-test. The researcher introduced herself to the class of participants and explained the test procedures. After reviewing the instructions and asking if the participants had any questions, the researcher passed out the pre-tests. After the students finished, the researcher collected the tests and provided each participant with a piece of candy as a thank you for their cooperation. Later that day, the researcher visited the treatment classroom. After introducing herself and providing students with an overview of the *Strong Kids* curriculum, the researcher administered the pre-test to the treatment classroom following the same procedures as in the control condition. After all participants had completed the test, the researcher collected and scored all assessments. Scores were entered into an Excel spreadsheet; participant responses were coded according to classroom number so the researcher had no indication of how any individual student performed.

During the following 10 weeks, the researcher visited the treatment classroom one time per week for 40 minutes to teach the *Strong Kids* lessons. Each class session followed the same format: a review of homework from the previous session, a review of the topic from last session,

introduction to the current lesson, definition of terms, discussion, practice of skills, and assignment of homework for next time. During this time, the control group participated in guidance lessons with the school's guidance counselor, but did not receive instruction from the researcher.

Twelve weeks after the researcher administered the pre-test, she re-visited the control classroom and administered the post-test following the same procedures as during the pre-testing session. The following day, the researcher visited the treatment condition to conduct the twelfth and final *Strong Kids* lesson. The objective of this lesson was to review each of the lessons in the curriculum. After the review, the researcher administered the post-test to the participants. The researcher followed the same procedures as during the other administrations of pre- and post-tests. After the assessment was completed, the researcher gathered and scored all tests and entered scores into the Excel spreadsheet according to the participants' classroom identification number.

Results

The researcher aimed to address two questions through statistical analysis. First, do students who participate in *Strong Kids* show a significant decrease in internalizing symptoms at post-test? Second, do students who complete the *Strong Kids* curriculum exhibit an increase in knowledge regarding social and emotional health? The researcher conducted a one-way between-groups analysis of covariance (ANCOVA) on each of these variables to address these research questions.

The first ANCOVA the researcher conducted was to determine the level of symptomology between the groups at post-test. Table 1 illustrates the results of this analysis.

Table 1

Analysis of Covariance of Post-test Symptom Scores as a Function of Condition, With Pre-test Symptom Scores as Covariate

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>ω^2</u>
Covariate (Pre-symptoms)	1	405.38	405.38	30.36	.45
Condition (<i>Strong Kids</i>)	1	3.5	3.5	.26	.007
Error	37	493.97	13.35		
Total	5955	40			

In this first analysis, the intervention (*Strong Kids* and regular guidance lessons) constituted the independent variable and the dependent variable was level of symptoms after the implementation of intervention (scores on the symptoms post-test). Participants' scores on the symptoms pre-test were used as the covariate in this analysis. Preliminary analyses were conducted to test for equivalence of error variance across conditions. Results showed that the groups did not differ significantly – the groups were equally influenced by the affect of error variance. After accounting for pre-intervention scores, analysis indicated that there was no significant decrease in internalizing symptoms in either condition at post-test.

The second research question in this study was whether students who participated in *Strong Kids* demonstrated significantly greater increases in knowledge regarding social-emotional health from pre- to post-test. Table 2 illustrates the results of the analysis of covariance for this research question.

Table 2

Analysis of Covariance of Post-test Knowledge Scores as a Function of Condition, With Pre-test Scores as Covariate

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>ω^2</u>
Covariate (Pre Knowledge)	1	43.84	43.84	8.95**	.195
Condition (Strong Kids)	1	43.37	43.37	8.86**	.193
Error	37	181.17			
Total	39	261.1			

** $p < .01$.

In this second ANCOVA, the independent variable was again the type of intervention, and the dependent variable was that participants' knowledge of social and emotional health at post-test. The covariate in this analysis was participants' knowledge score prior to the intervention (pre-test). Preliminary analyses on the homogeneity of variances indicate that the groups did not differ significantly on the contribution of error variance. Once the scores of pre-intervention knowledge had been accounted for, statistics indicated that there was a significant difference between the two conditions on the level of knowledge about social and emotional health at the time of the post-test [$F(1, 37) = 8.95, p = .005, \omega^2 = .19$]. Specifically, the participants in the *Strong Kids* intervention demonstrated significantly higher scores on the knowledge post-test than participants in the general guidance condition.

Although the treatment condition did not significantly decrease their level of self-reported internalizing symptoms at the time of the post-test, the results of analysis are worth discussion. The researcher calculated the changes in scores on the symptoms test of each participant and found that, the average change in score on the symptoms measure decreased in

the treatment condition ($M = -1.45$; $SD = 5.59$). However, this change was not specific to the treatment condition. The change in level of internalizing symptoms from pre- to post-test also decreased in the control condition ($M = 1.6$; $SD = 2.98$).

Correlational statistics were gathered on the variables that are pertinent to the discussion of social and emotional education in the schools. First, the researcher looked at participants in the treatment and control conditions as a whole, and conducted correlations between scores on the pre- and post-test knowledge and symptom measures. Results indicated that, in the population under evaluation, lower scores on social and emotional knowledge were negatively correlated with level of internalizing symptoms at both pre- and post-test ($p < .05$).

When the groups were examined separately, the control group demonstrated a significant positive correlation between knowledge at pre- and post-test ($p < .01$). However, the treatment condition exhibited no significant correlation, suggesting that level of knowledge prior to the intervention did not impact knowledge level at the time of the post-test.

Discussion

Schools are becoming an integral component in the development of resiliency in children and adolescents. Although the importance of social and emotional education in the schools is receiving increased recognition, empirical evidence on specific resiliency programs is limited. The purpose of the present study was to contribute to the research base on *Strong Kids*, a social and emotional curriculum for students in grades 4-8. The researcher examined two main questions in this project. First, do students who participate in *Strong Kids* exhibit a decrease in symptoms of anxiety and depression? Second, do students show an increase in knowledge about socio-emotional health upon completion of the *Strong Kids* program?

Regarding the first research question, the researcher hypothesized that participants receiving *Strong Kids* instruction would exhibit a significantly greater decrease in self-reported symptoms from pre- to post-test. The results of analysis did not support this hypothesis. Students participating in *Strong Kids* did not show a significant decrease in their level of internalizing symptoms from pre- to post-test. However, a comparison of mean changes in scores across the pre- and post-test measures indicated that scores on the symptoms test decreased in the treatment condition. Students exhibited fewer symptoms of anxiety and depression at post-test, but these results cannot be attributed exclusively to the influence of the *Strong Kids* curriculum.

On the second research question, the examiner hypothesized that participants in the *Strong Kids* condition would demonstrate a significantly greater increase in knowledge about socio-emotional health from pre- to post-test. The results of analysis supported this hypothesis. Participants in the treatment condition exhibited significantly greater knowledge than the control group at the time of the post-test. This indicates that students who participated in *Strong Kids* demonstrated significantly greater knowledge about socio-emotional health after completing the curriculum in comparison to students who did not go through the program.

Correlational analyses indicated that, in the overall sample, there was a significant negative correlation between scores on the knowledge assessment and the symptoms questionnaire. In other words, participants who possessed less knowledge about socio-emotional health exhibited significantly greater symptoms of depression and anxiety. This finding supports the notion that educating students on healthy socio-emotional behaviors is important in efforts to prevent or reduce high levels of internalizing problems in children and adolescents. Increasing the amount of knowledge students have regarding healthy ways to deal with conflicts and

emotions has the potential to reduce the symptoms of anxiety and depression they experience during adversity.

One final finding that is pertinent to the issue of social and emotional education is the lack of correlation between knowledge at pre- and post-test in the treatment condition. Acknowledging the possibility that high pre-test scorers had fewer items available to them at post-test to demonstrate gain, the researcher interpreted this lack of correlation as a sign of hope. The students who knew more at the beginning of the study were not necessarily the students who demonstrated the most knowledge at the end. This suggested that students who may have had less of an understanding of the concept increased their knowledge in this area. In short, the growth of knowledge was not exclusive to students who already demonstrated a high level of understanding in the domain of social and emotional health.

Statistical support for the effectiveness of an intervention is important, but it is not the absolute criteria for an intervention to be considered effective. The intervention must be considered valuable by the person responsible for implementation, or its effectiveness will be limited at best. In the present study, the examiner solicited feedback from the cooperating classroom teacher and the students who participated in *Strong Kids*. The teacher viewed the curriculum as a positive experience for her students. She commented, “The weekly lessons have taught my students many worthwhile coping strategies and allowed them to think about and acknowledge their feelings. Our day is filled with so many academics that it was refreshing to take out 40 minutes a week to allow the kids to express their concerns about situations that may be happening at school or at home.” The teacher also mentioned that she has seen the students apply the skills they learned in *Strong Kids* to interpersonal conflicts and stressful situations in

their daily lives. The classroom teacher's comments can be viewed in their entirety at the end of this document (Appendix).

Upon completion of the curriculum, all the students took the time to write letters of thanks to the examiner for the experience. The comments of these students also suggest that they found the curriculum to be a positive, engaging experience. One student's note commented, "I feel so much more confidence in myself after [Strong Kids]." In general, students remarked that the role-plays and relaxation techniques were fun to do, and they expressed a desire to do the program again in the future.

When discussing the results of this study, it is important to take into consideration its limitations. One limitation is the size of the sample involved in the present study. Each condition consisted of 20 participants who were assigned to conditions based on convenience. Because of the small number of students and the lack of random assignment to condition, the results of this study cannot be generalized to populations other than the sample under consideration.

In this study, the examiner was responsible for teaching the *Strong Kids* curriculum, but the full-time guidance teacher taught the guidance lessons in the control group. Given the fact that the researcher was not a licensed educator, it was not possible to control for differences in instruction between these two groups. Because the researcher could not control for this variable, it is possible that the results were confounded by a factor related to the quality of education received (e.g., teaching experience and classroom management skills).

Conclusion

In the present study, students who participated in *Strong Kids* exhibited significantly greater knowledge at post-test than students in the control group. This means that, after participating in this curriculum on social and emotional health, students demonstrated

significantly greater knowledge about concepts related to this domain than students who received the traditional guidance lessons. Although knowledge about socio-emotional health increased, participants in the treatment condition did not show a significant decrease in internalizing symptoms upon completion of the program. The researcher posits that since *Strong Kids* increases students' awareness and understanding of their emotions, it may be possible that students were able to identify their feelings more accurately at the time of the post-test. This is one explanation for the lack of change in symptoms. However, a greater understanding of this outcome warrants additional exploration.

The understanding of the effectiveness of social and emotional curricula is limited, given its recent attention from school systems. Thus, additional research is needed to contribute to the knowledge about the effectiveness of specific school-based programs. *Strong Kids* is one such program. The results of research on this program have produced promising results. However, additional studies must address additional questions in order to increase its status as an evidence-based prevention/intervention program for children. It is necessary that research address specific questions. For example, *Strong Kids* increases knowledge about socio-emotional health after 12 weeks, but is this knowledge stable over longer periods of time? Do students who participate in the program exhibit greater resilience from depression and anxiety during high school and into adulthood? If the curriculum has a longer-lasting impact on the life outcomes of its students, it must be supported by future research. Currently, our understanding of the effectiveness of this program on specific sub-groups of the student population is also lacking. Additional research must address the influence of the program over students from culturally and linguistically diverse backgrounds, as well as students with special needs and disabilities. An examination of such

questions will contribute to our understanding of the program and provide direction for further modifications and the development of supplemental materials.

To conclude, the initial base of research on the *Strong Kids* curriculum has provided support for its effectiveness in increasing student knowledge about healthy socio-emotional behavior. Moreover, students and teachers who have been exposed to *Strong Kids* have found it to be simultaneously enjoyable and informative. Although the research is promising, there is much for researchers to discover. Future research contributions will only increase this program's effectiveness and provide support for the usefulness of socio-emotional education in our schools.

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Appendix

To Whom It May Concern:

After Jess Faust has completed the twelve-week Strong Kids program in my classroom I've been able to reflect on the growth I have seen in my students. The weekly lessons have taught my students many worthwhile coping strategies and allowed them to think about and acknowledge their feelings. Our day is filled with so many academics that it was refreshing to take out 40 minutes a week to allow the kids to express their concerns about situations that may be happening at school or at home.

My students have used the terms and strategies that they have learned outside of school. Several students have discussed how they used problem resolution skills at home with their brothers and sisters. I have also witnessed kids discussing negative thoughts and working together to think of better ways to handle different situations. Jess has done an excellent job of exposing these students to life-long strategies on how to cope with stress, anger and upset feelings. These skills will stay with these kids for the rest of their lives! I highly recommend this program as I feel that my students benefited greatly from the lessons and experience. I would hope that this is something that our school could use in the future.

Thank you,

Fifth Grade Teacher