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Julie-Anne McCarthy
Sacred Heart University

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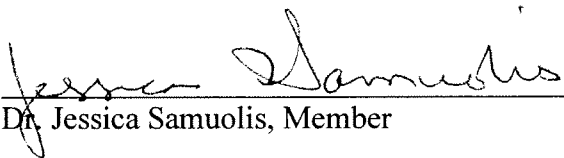
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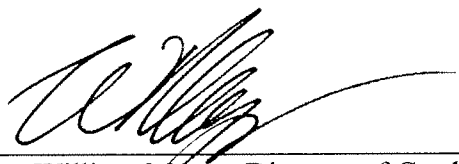
by

JULIE-ANNE MCCARTHY

Approved as to style and content by:

_____

Dr. Dawn Melzer, Chair

_____

Dr. Jessica Samuolis, Member

_____

Dr. William Mayer, Director of Graduate Program

Mental Illness Prevention: Exploring Effective Coping Strategies for School-Aged Children

Julie-Anne McCarthy

Sacred Heart University

Abstract

Anxiety Disorders are the most prevalent mental illnesses in Western society, affecting the population in multiple ways. Onset for many anxiety disorders is as early as childhood or adolescence. The earlier the onset, the more chronic or severe it may be; it is important to focus on preventing anxiety disorders before they are developed. Research has shown that adaptive coping strategies can work as a mediator between stress and mental health. The current study explored effective coping strategies for young children in the general population, in an effort to further expand our knowledge about coping in children, and increase the applicability of these coping strategies in real-world settings. Children between five and ten years of age participated in training sessions where one of three types of coping strategies was taught using a therapeutic board game: relaxation, positive self-talk, and coping behaviors. Children's coping abilities were assessed using the Self Report Coping Scale (SRCS) before and after the training sessions occurred. Results revealed that the majority of children used coping behavior types of strategies prior to being trained on new adaptive coping methods, and adopted coping behavior strategies more easily than relaxation or self-talk techniques. Comparisons of the SRCS scores after the training sessions to the SRCS assessment conducted prior to the training revealed that males and females were influenced differently by participation in the training: females increased, and males decreased the likelihood of using certain coping strategies. Future research is needed to continue exploring how gender, and type of coping strategy taught, influence the likelihood that children will adopt new adaptive coping strategies. This vital information will help educators, therapists, and parents to prevent or decrease anxiety in young children.

Mental Illness Prevention:

Exploring Effective Coping Strategies for School-Aged Children

The history of research conducted on diagnosis and treatment of anxiety disorders dates back a few decades (DeLongis, Folkman, & Lazarus, 1988). However, in spite of the efforts and gains made by various researchers, anxiety disorders consistently remain the most prevalent class of mental illness in the population (Center for Disease Control, 2011). According the DSM 5, Anxiety Disorders are a class of disorders "that share features of excessive fear and anxiety related to behavioral disturbances" (American Psychological Association [APA], 2013, p.189). This class of disorders includes illnesses such as panic disorder, generalized anxiety disorder, post-traumatic stress disorder, specific phobias, as well as childhood anxiety disorders such as separation anxiety disorder, and selective mutism (child who is usually able to speak becomes unable to speak in a given situation) (APA, 2013). As described by the National Institute of Mental Health (NIMH), "each anxiety disorder has different symptoms, but all the symptoms cluster around excessive, irrational fear and dread" (NIMH, 2009, p.3). As for the term *anxiety,* it is generally used in a more global sense to describe a psychological reaction to stressful situations and includes emotional, behavioral and physical symptom, such as fear (emotional), avoidance (behavior) and rapid heartbeat (physical) (NIMH, 2009). Although some level of anxiety is considered to be a normal and adaptive reaction to a perceived stressful situation, and can also work as a motivator to strive towards certain goals, excessive anxiety is maladaptive and can be quite debilitating. For example, anthropologically speaking, the "fight or flight" response that takes place when faced with imminent danger (such as a predator in the jungle or a dark shadow lurking in an alley) automatic symptoms such as fear and rapid heart rate are adaptive stress signals that will help to escape possible threat or death (APA, 2013). Important work deadlines or public speaking events can also have similar effects. However, for some people,

this fight or flight response (or anxiety) is always activated, even when there is no real threat,

danger, or deadline (APA, 2013; NIMH, 2009).

Unfortunately, the negative effects associated with constant or chronic anxiety are

plentiful, impacting the individual, their immediate environment, and society as a whole. For

instance, chronic stress has been shown to reduce autoimmune function, making the individual

more vulnerable to illness and diseases (Karbassioun, 2011). In turn, national studies conducted

in the United States have revealed that anxiety-related disorders cost approximately $4.1 billion

per year due to factors such as absenteeism from work and reduced productivity, in addition to

an estimated $23 billion per year from a frequent and unnecessary use of health care resources

(Kessler & Greenberg, 2002). Given these numbers and many other negative consequences

associated with stress and anxiety, this is indeed a topic worth investigating and preventing.

Anxiety Disorders in the General Population

Prevalence. A recent study conducted by the World Health Organization (WHO) that

looked at average rates of anxiety disorders across several countries, revealed that anxiety

disorders have a lifetime prevalence of 15%, a 12-month prevalence of approximately 10-11%,

and do exist worldwide (Center for Disease Control, 2011; Kessler, Aguilar-Gaxiola, Alonso,

Ormel, Ustun, & Wang, 2009). National studies have also shown that people living in western

and developed countries are at an even greater risk of having an anxiety disorder. In fact,

according to the research, there is an astounding 31% lifetime prevalence and 19% twelve-month

prevalence rate in the general United States population (Kessler et al., 2009). In other words, 1

in 3 people in the US are at risk of developing at least one type of anxiety disorder at one point in

their lives. The mere fact that this class of mental disorders affects so many people on a very real

and personal level highlights the need to target it at the macro and micro societal levels.

Given that many anxiety disorders do begin during childhood and adolescence, some studies have turned their focus to this younger population. A meta-analysis conducted by Cartright-Hatton, McNicol & Doubleday (2006) revealed that, according to the existing literature, prevalence rates during childhood can range from 2.6% to an alarming 41.2%, depending on the type of anxiety disorder that is being addressed. Through their of review epidemiological studies, Beesdo, Knappe, and Pine (2009) found that the lifetime prevalence of anxiety disorders in children and adolescents is approximately 15%-20%. The most common childhood anxiety disorders include separation anxiety, specific phobias, generalized anxiety disorder (GAD) and social phobia (APA, 2013; Cartright-Hatton, et al., 2006; NIMH, 2009). Anxiety disorders which most commonly begin during the later childhood years or teen years include obsessive compulsive disorder, affecting approximately 2.2 million children and adolescents in the US, and panic disorders, which affect an approximately 6 million children and teens (NIMH, 2009). In fact, given that the research on childhood anxieties is still in its infancy, it is possible that many early signs of anxiety issues in younger populations still go undetected (Beesdo, et at., 2009; Cartright-Hatton, et al., 2006). As assessment tools continue to be developed and designed to identify anxiety in children, it is possible that the prevalence rates may even continue to grow. The fact that anxiety disorders are so widespread for children, teens and adults highlights a need to prevent even more anxiety disorders from emerging.

Comorbidity. This issue is further amplified by the fact that people who suffer from anxiety disorders are also at risk for developing a number of other mental or physical issues. With regards to mental illness, there are high comorbidity rates between the various types of anxieties, as well as with mood disorders, such as major depression, impulse-control disorders, such as attention deficit/hyperactivity disorders (ADHD), and substance use disorders (Kessler

& Greenberg, 2002; National Institute of Mental Health, 2005). For example, Hussong and

Chassin (2004) revealed an association between anxiety issues during early adolescence and

alcoholism in adulthood. Their study provided support for the fact that adolescents who used

better coping skills, such as *planful coping* (i.e. thinking about the situation and planning ahead

on how to respond) as opposed to *cognitive-avoidant coping* (simply avoiding the situation) did

indeed reduce the risk for heavy drug and alcohol use in adulthood (Hussong & Chassin, 2004).

Another study revealed that adolescents are increasingly using marijuana as a way to alleviate

symptoms of stress and anxiety (Bottorff, Johnson, Moffat, & Mulvogue, 2009). In fact,

according to this study, some teens perceived marijuana to be the only available option when

they are experiencing stress (Bottorff, et al., 2009). The fact that adolescents are self-

medicating, or feel as though they have no other alternatives is cause for concern and highlights

the need to provide other, healthier coping options to young populations.

　　　As for physical illness, research has shown a strong link between high levels of anxiety

and a variety of physical issues. For example, pioneer anxiety researchers Delongis, Folkman

and Lazarus (1988) found a significant relationship between chronic, daily stress and minor

issues such as the flu, sore throat, headaches and backaches. Other studies have also shown a link

with more severe health issues, such as vascular conditions, cancer, diabetes, autoimmune

diseases, chronic pain, asthma, thyroid diseases, and neurological conditions (Lee, 2011). One of

the causes for this comorbidity has been explored by the field of psychoneuroimmunology. It has

been found that high or chronic anxiety is indeed linked with a decreased immune response, thus

making the individual more vulnerable to an array of physiological and physical problems

(Karbassioun, 2011). In fact, in many cases where there is a strong association between

psychological distress and physical ailments, therapy aimed at reducing the psychological

distress can help reduce, or even remove those physical ailments (Karbassioun, 2011).

      Chronicity. Another important issue to consider is that anxiety is a chronic illness.

Although the course of the illness depends on the specific type of disorder and the individual,

anxiety disorders do generally persist for some time. In some severe cases, symptoms of the

illness can persist for several decades, especially if they go untreated. In the case of Post

Traumatic Stress Disorder (PTSD) for instance, if the traumatic incident was high in severity,

duration, and proximity to the individual, or also if the individual had pre-existing conditions that

could worsen the impact of the event, such as family history or childhood experiences, then the

symptoms of PTSD could "wax and wane" through their lives (American Psychological

Association, 2000, p.466). Due to the strong association between age of onset and chronicity or

severity, this is an important factor to consider; the earlier the onset, the higher the chances that it

will become a chronic illness for that individual (Kessler & Greenberg, 2002). For example, in

the case of Obsessive-Compulsive Disorder (OCD), females will generally start showing signs

between ages 20 to 29, whereas age of onset for males is as early as 6 to 15 years old (American

Psychological Association, 2000) and could persist, at least to some degree, for the better part of

that person's life. The average age of onset for many of the anxiety disorders in both Canada and

the US is in fact15 years old, and oftentimes, some warning signs appear at an earlier age

(Kessler & Greenberg, 2002). In fact, according the DSM 5 "many of the anxiety disorders

develop in childhood and tend to persist if not treated" (APA, 2013, p.189). Due to the fact that

the unbearable symptoms of anxiety may start early in life, and that these may contribute to other

issues, there has been a growing body of research focused on identifying these early signs and

determining predictors that may contribute to, or increase the risk of developing an anxiety disorder.

Childhood Stressors and Risk Factors

Anxiety disorders for children were not recognized as a diagnosable issue until the DSM-IV (Beesdo, Knappe, & Pine, 2009). However, recent studies have revealed that children can and do experience stress and anxiety in a variety of settings. Hooker and Fodor (2008) discussed two aspects of childhood that may explain why onset is so early and why prevalence rates of stress and anxiety in children are so high. Firstly, it was posited that children may generally be more focused on the present than adults making them more attuned to their immediate environment. Secondly, this notion, in combination with the fact that children have a lack of control on their environment, creates a potential vulnerability to daily stress (Hooker & Fodor, 2008).

Based on various self-report studies, the types of stressors identified by children differ greatly with regards to type and severity. Examples of childhood stressors can include interpersonal issues (e.g. bullying) (Blasey, 1995), trauma (e.g. abuse, or death of a close-other), early exposure to mental-illness, or situational and environment factors (such as poverty, immigration, or parental divorce) (Bagdi & Pfister, 2006). Children can even experience stress related to standard or normal life events, such as entering school, going through developmental changes, or having a new sibling (Gershuny, Peterson, Raksin, & Sher, 1997). Ultimately, regardless of the potential severity of a situation as determined by an outside source, the important element is the level of stress perceived by the child, as this will help to determine the level of risk to the child's mental wellbeing (Bagdi & Pfister, 2006; Gershuny, Peterson, et al., 1997). An additional influence on children's perceived levels of stress is their parents' reactions. For example, Badgi and Pfister (2006) compared 5 to 9-year-olds' perceived level of

stress to what parents thought would be stressful for their child. Their findings demonstrated that

parents often underestimated the level of stress experienced by their child, and were also often

incorrect in guessing which types of situations would actually provoke stress for these little ones

(Bagdi & Pfister, 2006). These are important findings to consider because it sheds light on the

notion that children do experience stress, and also that adult appraisals of children's stressor may

be inaccurate and may lead them to respond inappropriately to their children's fears.

Children often have little control over their environment and may have parents that do not

appreciate the high levels of stress that they are experiencing. Therefore an important factor

affecting the outcome or manifestation of childhood stressors is their ability to cope with

distressing situations.

Coping Strategies Identified in Children

Lazarus and Folkman have defined *coping* as "constantly changing cognitive and

behavioral efforts to manage specific external and/or internal demands that are appraised as

taxing or exceeding the resource of the person." (as cited in Hussong & Chassin, 2004, p. 986).

Coping *strategies* or *methods* are tools that are actively used by the individual when faced with

those internal/external demands (Bagdi & Pfister, 2006). In fact coping methods are arguably

the key factor to developing resiliency, because of their role as a mediator between stress and

mental health (Federowicz, 1995). Although there are many different types of coping strategies

that may successfully alleviate the undesired or stressful feelings associated with the situation,

these strategies may not necessarily be healthy or helpful in the long-run. For example, someone

who avoids a situation, which can be referred to as distancing (Causey & Dubow, 1992), may

merely alleviate the symptoms temporarily, and may not remove the stressful issue altogether.

Another person who drinks alcohol when experiencing feelings of anxiety may also temporarily

reduce the unpleasant feelings, but will likely add more barriers and complexity to the situation

(Hussong & Chassin, 2004). On the other hand, if an individual engages in a healthy behavior to

reduce symptoms of stress, such as doing yoga (Boeshansz, 2009), than he/she will successfully

remove the unwanted feelings without adding more layers of problems to the issue.

Until recently, most of our understanding about coping in children was simply taken from

our knowledge of adult coping and imposed on these younger generations. Since the mid 1990s

however, much more effort has been given to determine specific types of coping methods that

are used during childhood (Federowicz, 1995; Blasey, 1995). As a result, we know that children

do use coping strategies which differ somewhat from those used by adults, and that the methods

employed during those early years of life can indeed be predictors of later adjustment. Recent

literature has shown that the ways in which children handle daily stressors are impacted by their

cognitive, social and emotional functioning (Bagdi & Pfister, 2006; Eschenbeck, Heim-Dreger,

Tasdaban, Lohaus, & Kohlmann, 2012; Causey & Dubow 1992). As such, it is important that

coping strategies taught to children address one of these three areas of functioning; such as

teaching a child to seek social support, or help from an adult in a difficult situation, therefore

increasing social function in coping behaviors. Although some research has also revealed that

the types of coping methods that children use may fall under specific subtypes, the findings are

limited and sometimes contradictory. For example, one study conducted with four and five year-

olds (Blasey, 1995), found that children's coping strategies could be categorized as either being

problem-focused coping styles, which fit under cognitive functioning, or as being emotion-

focused coping styles. In that particular study, researchers found ten variations of problem-

focused coping strategies, such as confrontational-coping or planful problem solving, and four

subtypes of emotion-focused coping, such as self-control strategies or distancing (Blasey, 1995;

Causey & Dubow, 1992). Conversely, another study, conducted by Bagdi and Pfister (2006)

found two subtypes of cognitive coping (wishful thinking and problem-solving), four subtypes of

social coping (distraction, discussing feelings, taking initiative and seeking support) and six

subtypes of emotional coping (comfort seeking, avoidance, crying, aggressive behavior, pouting

and using humor).   Finally, very recently, Eschenbeck et. al. (2012) posited that palliative

emotion regulation, anger-related emotion regulation, and media-use should be added to the list

of coping methods in middle-aged children. These variations in our understanding of coping

strategies used in children highlight the fact that more research is need to truly get a sense of

what children are doing to cope.

A major consistency across studies is that there are definite gender differences with

regards to type of coping method used by young children (Blasey, 1995; Causey & Dubow,

1992; Badgi & Pfister, 2006). Generally speaking, girls are more likely to use social support and

verbal strategies to cope with stressors and boys are more likely to use either avoidant coping or

aggressive behaviors to handle unwanted situations. In addition to this, most studies found that

specific there are specific coping methods that are indeed linked with better adjustment.   In

particular, problem-solving coping methods are reflective of better adjustment and joy, and are

seen as being positive strategies, while emotion-focused coping tends to be associated with

behavioral problems, poorer adjustment, as well as physical and emotional stress (Eschenbeck et

al., 2012; Causey & Dubow, 1992). In order to explore the type of coping employed by children,

Causey and Dubow (1992) looked at five overarching categories of coping techniques by

creating an assessment tool. Specifically, their research discussed two *approach* strategy types,

which involve using a strategic approach to handle the situation such as *social support seeking*

(i.e. asking someone else for help), and *self-reliance* or *problem solving* techniques (i.e. thinking

about a possible solution and then following through with it) (Causey & Dubow, 1992). They

also discussed three *avoidance-strategies,* which involve less focus on planning, and more focus

on removal of the self from the situation such as *distancing* (i.e. removing oneself from the

situation)*, internalizing* (becoming introspective, or quite to avoid confrontation), or spontaneous

emotional reactions, such as *externalizing* (experiencing and engaging in emotional outbursts or

reactions).

Overall, the strategies used by children to manage stress are a crucial predictor for health

and success throughout life. On the positive side, there is evidence to support that appropriate or

adaptive coping strategies can be taught to individuals in an effort to prevent the repeated use of

unhealthy strategies, thus preventing the onset of anxiety disorders (Hussong & Chassin, 2004;

Folkman & Lazarus, 1988).

Prevention: Teaching Coping Strategies

When it comes to providing therapy for people who are struggling with anxiety issues, or

other mental illnesses that are exacerbated or comorbid with anxiety (such as Depression or

Addictions), many forms of treatment will focus, at least in part, on teaching new adaptive

coping strategies to deal with the symptoms of stress associated with stressors or triggers. For

example, Cognitive Behavior Therapy for adults with a Social Anxiety Disorder (SAD) includes

sessions that focus on identifying specific thoughts or behaviors that have helped maintain the

disorder over the years. The next few sessions are then used to teach and rehearse different ways

to think and behave in the face of the stressful situations (i.e. teaching adaptive ways in which to

cope) (Barlow, 2008). Therapies such as CBT and Mindfulness therapy have also been adapted

to be used with children who show early signs of psychological distress or issues. For example,

Osbern (2002) explored a therapeutic method called Cognitive Behavioral Play Therapy (CBPT)

for preschool aged children, which includes a component providing opportunity for the child to

practice and learn different behaviors and coping strategies. Recent studies have shown that

CBPT is only now beginning to grow in popularity. In fact when Osbern (2002) surveyed child

psychologists (and members of the Association for Play Therapy) about their opinions and

knowledge of CBPT, although most responded optimistically to this form of play therapy, very

few had used it in their practice or even heard of it. This highlights the fact that the integration of

therapy geared specifically to treating anxiety in children is relatively new, and may still be

unknown or unused in child therapy setting.

Some researchers have also turned their attention to prevention. A recent study focused

on prevention targeted parents of preschoolers with moderate to severe symptoms of anxiety, by

delivering a 10-week intervention on Strengthening Early Emotional Development (Fox, Warner,

Lerner, Ludwig, Ryan, Colognori, et al., 2012). Although the study's sample was relatively

small ($N = 16$), the results suggested that prevention aimed at teaching parents how to address

their child's coping skills did increased the parent's willingness and confidence in guiding their

child through stressful situations, in addition to reducing the parents' level of anxiety (Fox, et al.,

2012). Other prevention efforts have focused on providing curriculum-based interventions in

schools. For example, the FRIENDS prevention program has been developed for school-based

curricula and aims to increase socio-emotional competence and reduce emotional and behavioral

difficulties in young children, in an effort to help them handle daily stressors (Phal & Barrett,

2007). Studies showing the effectiveness of this program have been replicated in other countries,

such as Scotland (Liddle & Macmillan, 2010). Although more research has provided support for

the success of this school-based prevention program, it is time intensive, requiring 10 or more 1

½ hour session and is demanding for teachers and counselor, therefore affecting the likelihood

that all schools would adopt this type of prevention program. A study looking at brief (six 45

minute group sessions) school-based prevention of childhood anxiety did find that anxiety

symptoms were reduced after a six-month follow-up, suggesting that shorter interventions may

be sufficient (Balle & Tortella-Feliu, 2010). However, the study also indicated that more

research was needed to verify differences in reduction of anxiety symptoms between the

experimental group and the wait-list control group (Balle, et al., 2010).

Current Study

Unfortunately, many new and effective methods developed to help children cope are only

accessed by a small portion of those who could benefit from it due to factors such as insurance or

financial restrictions, stigma, or lack of awareness. Public education and dissemination is also

lacking when it comes to understanding how to raise children in an environment that promotes

healthy coping (Boeschansz, 2009). Furthermore, new prevention efforts developed for schools

or parents are typically intensive, requiring a lot of time and effort to implement, therefore

reducing the chances that schools or parents will fully commit to the process. As a result, many

children may continue to go without any guidance in their coping attempts, and may using

maladaptive coping strategies to deal with their everyday stressors; continued use of maladaptive

coping may indeed lead to the development anxiety disorders by the time these children reach

adolescence or adulthood (APA, 2013; Hussong & Chassin, 2004). The present study therefore

aimed at looking for simple and effective ways in which we (therapists, parents, teachers, etc.)

can teach **all** children how to manage their daily stress, in order to prevent the onset of an anxiety

disorder. Specifically, the goal of this study was to explore coping strategies utilized by school

aged children, as well the effectiveness of teaching simple coping strategies to children, in order

to investigate how easily these students integrated new strategies in novel situations.

Coping Games. A challenging aspect about teaching children how to cope is to keep them engaged and interested in adopting these new strategies. Some authors have developed books, such as the *Helping Children to Cope with Change, Stress and Anxiety* collection, as teaching tool for families (Plummer, 2010). Conversely, a great deal of learning can also take place through play, as is the case for many therapies designed for children (Osbern, 2002). As a result, a few researchers have designed board games and card games specifically aimed at teaching adaptive coping strategies to children. Examples of these types of games include: *Dr. PlayWell's Coping With Stress Card Game, Charge Up Your Confidence*, and *The Coping Skills Game* (The Creative Therapy Store, 2010; Childwork/Childsplay, 2012). Not only do these types of innovative tools help to increase the use of adaptive copings strategies, they work at reducing the stigma and normalizing conversations about stress and anxiety (Franklin Learning Systems, 2009). Unfortunately, such tools are not yet commonly used outside of therapeutic settings, and still need to be tested with diverse populations as well as the general public (rather than only with children who already have anxiety issues). In order to address this gap in the literature, the present study employed a modified version of a game currently used in therapeutic settings, in an attempt to teach adaptive coping strategies to children in a real-world setting (i.e. in public schools). This game, called *Bridge Over Worried Waters,* was developed by Franklin Rubenstein (Franklin Learning Systems, 2009) as a way to provide Cognitive Behavior Therapy (CBT) to children suffering from anxiety issues. The game, consisting of problem and solution cards, focused on three major healthy coping styles typically taught through CBT: *relaxation, positive self-talk,* and *coping behaviors* (Franklin Learning Systems, 2009). The relaxation methods, like breathing exercises, are meant to help reduce the automatic physiological symptoms associated with feelings of anxiety, such as muscle tension or rapid heart rate Lohaus,

Klein-Hebling, Vogele, & Kuhn-Hennighausen, 2001). Positive self-talk techniques involve

repeating positive messages to oneself, such as "I don't have to be perfect, I just have to try"

(Frankin Learning Systems, 2009) in an attempt to produce cognitive restructuring and

counteract internal self-defeating or critical thoughts that may produce or worsen anxious

feelings (Kamann & Wong, 1993). Finally, coping behaviors are behavioral strategies that help

to handle stressful situations, such as writing or drawing the worry on a piece of paper (Franklin

Learning systems, 2009). A total of 30 problem cards and 30 solution cards were selected from

the original set problem and solution cards included in the game. These cards were selected

based on the likelihood that they would address common anxiety-provoking situations (such as

the first day at a new school) and present simple coping strategies (such as taking five deep

breaths). Cards that were excluded by the researchers of the present study were determined to be

too advanced for the participants, or too specific to children with existing anxiety-disorder, such

as "you have a phobia about germs. Someone just sneezed on you and you feel panic-stricken"

(Franklin Learning Systems, 2009, Bridge Over Worries Waters problem card).

Executive Functioning

Some studies have shown that there is a connection between Executive Functioning and

children's academic and social success, and general ability to learn new information, such as

learning new coping skills (Brocki & Bohlin, 2004; Willoughby, Blair, Wirth, Greenberg, & the

Family Life Project Investigators, 2011). The term *executive functioning* (EF) can be described

as a constituent of self-regulation (Molfese, Molfese, Molfese, Rudasill, Armstrong & Starkey,

2010). Specifically, EF is an overarching term that encompasses various types of cognitive

abilities, such as cognitive flexibility, goal setting abilities, and information processing skills

(Willoughby, et al., 2011).   Children who have higher levels of EF have been shown to have

greater abilities at staying on-task and filtering-out other distracters; children who have lower EF

are more easily distracted, and may show more disruptive behaviors in class (Molfese, et al.,

2010). Given that EF has been shown to be related with academic and social success, it was

included in the present study to explore its relationship with abilities to cope with stressors that

arise in school (such as public speaking or taking a difficult test) and social settings (such as

getting into an argument with a friend). This was also integrated to explore relationships

between ability to do well on executive function tasks, and ability to learn and integrate new

coping strategies into novel situations. The Knock-Tap Task (Molfese, et al., 2010) is an EF test

commonly used with young children and was therefore selected for this present study. Given that

the EF task addresses cognitive abilities and self-regulation, it was that older children would

have greater abilities with executive functioning than younger children. Furthermore, it was

hypothesized that executive functioning would be related to children's ability to remember new

coping strategies and integrate them into novel questions.

Purpose of the study

Taking into account the prevalence and severity of anxiety disorders in Western society,

it is clear that continued prevention efforts are needed to reduce the number of people who

develop this class of mental health issues. Although there are some existing tools used to help

prevent the onset of an anxiety disorder, our knowledge and development of these tools is still in

its infancy. The purpose of the present study was to make use of a previously developed

therapeutic tool for anxiety issues in children (i.e. Bridge over Worried Waters) and adapt it to

teach all children (not just those with existing anxiety issues) how to use and integrate adaptive

coping strategies into their everyday lives. Given that onset for anxiety disorders can be as early

as 6 years of age (e.g., obsessive compulsive disorder) (APA, 2013) and with little research on

the usefulness of existing tools with very young children, this study included preschool and

school-aged children. It was hypothesized that age differences would exist in the type of coping

strategies preferred and adopted by children, when faced with a novel stressful situation.

Specifically, it was hypothesized that older children would be more likely to integrate new

coping strategies into a novel situation than younger children. It was also the hypothesis that

gender differences would exist in the tool's effectiveness on the application of the strategies to

novel situations presented to children.

     Another goal was to explore age and gender related differences in coping strategies.

Using the Self Report Coping Scale originally introduced by Causey and Dubow (1992) we were

able to assess the five subcategories of coping strategies employed by children before they were

taught any coping strategies in the study and after the training sessions, at the end of the study. It

was hypothesized that females would seek *social support* as a coping strategy more frequently

than males, or than any of the four types of coping strategies addressed in the SRCS (self-

reliance, distancing, internalizing, externalizing). It was also hypothesized that males would

report exhibiting *externalizing* coping behaviors more frequently than females, or than any of the

four types of coping strategies addressed in the SRCS.

     Finally this study aimed at identifying how quickly children are able to recall coping

strategies that were newly taught to them in an effort to determine how easily we can introduce

adaptive coping techniques into their lives. Therefore, at the end of each session after

participants were taught specific coping strategies, they were asked to name their favorite

strategy. It was hypothesized that age differences would be found in the number of sessions it

took for them to recall at least one of the strategies, namely that older children would remember

them sooner and more frequently than younger children. Furthermore, it was hypothesized that

age and gender differences would exist in the types of strategies that children named as being

their favorite. Children were also presented with a novel situation at the beginning and after all

their sessions had been completed to investigate if they integrated the new strategies into their

coping repertoire. It was hypothesized that older children would integrate more of the new

strategies into their explanations of how they would cope with a novel situation than younger

children.

Information collected through this study is aimed at deepening our understanding of

coping abilities in today's children, and contributing to the literature in terms of ways in which

we can promote adaptive coping in the child-development year. The hope is that healthy coping

strategies will eventually be integrated into home and school life in order to build resilience in

young children and prepare them to deal with greater stressors later in life.

Methods

Participants

Children aged 5 to 10-years-old were recruited through four elementary schools in

Eastern Connecticut. Letters and consent forms were sent out to all parents of participating

schools; those who signed and returned consent to work with their children were included in the

study. Participating students received stickers after every session, as well as an age-appropriate

book at the end of their participation in the study. The University Institutional Review Board

(IRB) approved all procedures.

Consent forms were returned for 49 children, 25 female and 24 male. One child was

noncompliant and was unable to complete all of the required tasks. Forty-eight children between

preschool and grade four successfully completed all tasks required for the study (N=48), 24

female and 24 male. The mean age of the participants was 7.2 years ($SD = 1.31$, range $5.00 -$

10.03 years). Mean age in preschool (n=2) was 5.02 years ($SD = .02$), in Kindergarten (n=9) was 5.6 year ($SD = .49$), in grade 1 (n=10) was 6.6 years ($SD = .49$), in grade 2 (n=15) was 7.4 years ($SD = .45$), in grade 3 (n=11) was 8.9 years ($SD = .59$), and in grade 4 (n=1) was 9.1 years.

Materials and Measures

Demographics. A Parent Survey, which contained questions pertaining to demographic information, was sent to parents along with the consent form. Parents were instructed to complete the Parent Survey and return it with the signed consent form to their child's school (see Appendix A). The demographic information was used to explore factors or characteristics, such as parent education, that may be influencing coping in children.

Novel Question. Participants were asked to answer a Novel Question at the beginning of the first session (Time 1), and at the end of their final session (Time 2). Specifically, the researcher asked the following question to participants: "You watch a movie that scared you with your friends, and now you can't fall asleep, what can you do?". This question was developed by the research team and was based on problem situations presented to participants during the study (see Appendix B). Participant answers were recorded and were used to explore whether participant-answers changed from Time 1 (baseline) to Time 2 (post-test) to include any of the coping strategies that were taught during the study, and were also used to see the type of coping strategies children used prior to being taught new coping strategies.

Coding for answers was determined according to their relevance to the three types of coping strategies taught during the study, *relaxation, self-talk,* and *coping behavior.* Answers on the Novel Question Time 1 were classified as either being *Relaxation, Self Talk, Coping Behavior, Not relevant to any strategies,* or *No answer.* For example, a response such as "I

would try to think of something silly" was coded as a *Coping Behavior* strategy. Answers on the Novel Question Time 2 were coded similarly to those of Novel Question Time 1 but additional categories were added to account for children's responses that had integrated coping techniques they had learned during the training sessions.   For example, if the child in the *relaxation* group responded "You could imagine your favorite place" to cope with being afraid after watching the scary movie, that response was coded as a *relaxation* technique that was related to one taught during the study due to its similarity to the strategy "Close your eyes and imagine being at your favorite place. Think about the sights, sounds, smell, and feel of that place" (see Appendix E).

Knock-Tap Task. The Knock-Tap Task is a method used to measure executive functioning in children aged 5 to 12 years old (Molfese, Molfese, Molfese, Rudasill, Armstrong & Starkey, 2010). Researchers provided participants with specific instructions to follow through two series of 15 rapid movements. In the first series, if the researcher knocked on the table, the participant was instructed to tap on the table as quickly as possible, if the researcher tapped, the participant had to do the opposite and knock (see Appendix B). In the second series, a third rule was added to the original two stating that if the researcher pounded his/her fist on the table, the participant had to withhold any movements (i.e. do nothing) (see Appendix B). This third instruction measured participants' ability to inhibit their action (Molfese, et al., 2010). Any mistakes made by participants during both series were recorded. Children received a score from 0 to 15 on each of the series of the Knock-Tap Task Time 1 and Time 2. They received one point for every successful trial they completed. The Knock-Tap Task was conducted on the first (Time 1) and last (Time 2) session to assess whether there were any major differences in executive function between sessions or between children of varying ages, and to explore whether participants' Executive Functioning was related to their ability to learn new coping skills.

Self Report Coping Scale. Students completed *Situation B* (see Appendix C) of the Self-Report Coping Scale (Causey & Dubow, 1992) at the beginning of the first session, and at the end of the final session. The Self-Report Coping Scale (SRCS) is a 34 item measurement (see Appendix C) designed to measure five different coping strategies in school-aged children, including approach strategies - social support seeking, self-reliance/problem solving - and avoidance strategies - distancing, internalization, and externalization/emotional reaction. The validity and reliability of the SRCS has been tested with elementary school children (Causey & Dubow, 1992). Internal consistencies in test-retest showed reliability for the five coping subcategories. Validity was supported through significant correlations for children's self-report and peer ratings of their use of types of coping strategies (Causey & Dubow, 1992). Situation B was selected based on its applicability to children of all ages (i.e. having a fight with a friend), as opposed to Situation A, which dealt with academic success and was mostly relevant to older children. The researcher read Situation B aloud to the participants, as well as the thirty-four items related to Situation B. Items included questions such as "I usually tell a friend or family member what happened." Answers were provided on a 5-point Likert scale, 1= None of the time, 5= All of the time. Each participant received mean scores (by adding up the Likert scale scores on all their answers related to a specific coping category and finding the average for each category) on each of the following categories during the child's first and last session: *Social Support, Self-Reliance, Distancing, Internalizing,* and *Externalizing* for a total of ten scores (i.e. five scores for Time 1, and five scores for Time 2). Higher mean scores on a category indicated that the child frequently engaged or made use of that particular coping method; for example, a high score for the *Social Support* category would indicate that this child often seeks social support to cope with the issue of having had a fight with a friend. Time 1 mean scores were used

as baseline information, and Time 2 mean scores were used as post-test information to

investigate the influence of the coping strategies taught during the study.

Bridge Over Worried Waters. The participating children were presented with a revised

version of the board game *Bridge Over Worried Waters* (Franklin Learning Systems, 2009). This

game was developed by a team of psychologists and social worker to provide Cognitive

Behavior Therapy (CBT) to young children suffering from anxiety issues. The three categories

of coping strategies are based on components of CBT, namely, relaxation techniques to reduce

muscle tension, positive self-talk to produce cognitive restructuring, and coping behaviors to

distract children from their anxious feelings (Franklin Learning Systems, 2009). The game

consists of problem cards that present typical childhood stressors, such as "You won an award

and in a few minutes you will have to go on stage in front of the school to receive it. You feel

nervous. What can you do about your feelings?" (for the complete list, see Appendix D).

Solution cards then instruct the players to engage in a specific type of coping strategy that is

either based in relaxation/mindfulness, positive self-talk, and behavioral coping to address the

problem presented, such as "Take five deep breaths, in through your nose and out through your

mouth. Imagine blowing out stressful feelings" (for complete list, see Appendix E). For the

present study, ten cards were selected from each of the three coping categories according to their

appropriateness for all types of children and situations, and ability to address everyday stressors

in the general population (not just for situations or problems relating to children with anxiety

issues). Thirty problem cards were then selected based on their compatibility with the 30 chosen

solution cards.

In order to play the game, the players had to successfully build a bridge with the solution

cards, to cross over a picture of a river. The cards had the solutions on one side, and a picture of

a piece of a bridge on the other. In order to obtain cards to build the bridge, each player had to take turns reading the problem cards and solution cards out loud. Once the solution was read, every player was required to correctly perform the coping strategy written on that card (e.g., taking 5 deep breaths, in through the nose and out through the mouth). The solution card could then be added to the bridge (with the help of plastic base holders). After the bridge was completed children were given a toy car to drive over it and play.

Participant Feedback. After each of the sessions, participants were asked to name their favorite strategy that was taught through the game Bridge Over Worried Waters. Answers were recorded verbatim and were used to determine how frequently children remembered the strategies that were taught, and which strategies children preferred.

Participant answers on the Participant Feedback were coded according to their relevance to the three types of coping strategies taught through the game Bridge Over Worried Waters (*relaxation, self-talk,* and *coping behavior*). Given that many of coping strategies taught to the participants had similar activities associated with them, data for the original 30 coping strategies were collapsed into 20 coping strategies to respond to the generalizations in the responses provided by participant. For example, in the *coping behavior* group, three of the strategies began by asking the children to "write down or draw their worry on a piece of paper", and two strategies in the *relaxation* group instructed children to close their eyes and imagine their favorite place (see Appendix E). Data on the Participant Feedback was used to explore trends in number of sessions that it took to recall strategies and types of strategies that received most popularity amongst children.

Procedure

Prior to beginning the study, children were randomly assigned to one of three conditions for the duration of their participation of the project: the *relaxation* group, the *self-talk* group, and the *coping behavior* group.   More than half the children completed 4 sessions of coping training (*n* = 28) but due to time constraints some children (*n* = 20) only received three sessions. All three or four sessions were delivered over 2 weeks' time; groups of participant received training every few days (e.g. Monday, Wednesday, the following Monday, and Wednesday). The *relaxation* group were taught ten specific relaxation/mindfulness strategies (see Appendix B) for a total of three (*n* = 5) or four sessions (*n* = 10). The *self-talk* group were taught ten specific positive self-talk strategies on three (*n* = 9) or four sessions (*n*= 9). The *coping behavior* group were taught ten specific adaptive behavioral coping strategies during three (n = 4) or four sessions (n = 11). Groups consisted of 2 or 3 children of the same grade and from the same school. Once children were assigned to a group, this remained their group and they were never exposed to any of the other types of coping strategies presented in the study.

The study took place in the students' respective schools, during regular school day hours, or during afterschool programs. Once participants were assigned to specific groups, the principal investigator recruited the children within a group from their classroom.   After introducing themself to the children, the principal investigator told the children the purpose of the study and children were told they could go back to their classrooms at any time if they did not want to participate. If they agreed to participate, children 7 and older were asked to provide their assent on a consent form to participate in the study. The principal investigator, the research assistant (present only during some sessions) and the children then settled down on the hallway floor, across from the children's classroom, in a classroom or in the school's library.

Session 1. The first session took an average of 15 to 20 minutes from the time the

children were taken out of their classroom to the time they returned. Each child was assigned to

one of the research assistants to complete the Novel Question (Time 1), the Knock-Tap Task

(Time 1), and the Self-Report Coping Scale (Time 1). For sessions during which there were no

research assistants, the principal investigator recruited one child at a time from their classroom.

Researchers began by asking the Novel Question and recorded all answers provided by that

child. Researchers then conducted the Knock-Tap Task with participants and recorded any errors

on each of the series. Following the Knock-Tap Task, the researcher explained the goal of the

Self-Report Coping Scale (SRCS) (see Appendix C) and read *Situation B* out loud to the child.

Following the completion of the SRCS, children and researchers came back into a group in order

to play the game Bridge Over Worried Waters. The Principal Investigator provided instructions

on how to play the game, and its purpose. For example:

> The way it works is that I'm going to read a card from this pile. These cards have short
>
> stories about things that we don't necessarily like; like when you trip and scrape your
>
> knee. Has that every happened to you? On the other side, of these cards, there are things
>
> you can do when things don't work out the way you want.

In order to play the game, participants were required to read aloud the problem and solution

cards (assistance was provided to children who had difficulty reading), and actively engaged in

the solution stated on the card. For example, if a *self-talk* solution card said "Say to myself: I

don't have to be perfect, I just have to try" all participants (including the principal investigator)

playing the game were required to participate in the activity proposed on the card. Once all

participants had correctly performed the task on a solution card, that card would be used to build

a small bridge to cross over the picture of a river (on the board). After all ten problem cards and

strategies were read out loud and performed, and the bridge of cards was built (using the solution cards), children were able to play with toy cars to drive over the bridge. The principal investigator then asked each child "What was your favorite strategy or bridge card that we just did?". Participant answers were recorded as Participant Feedback. Each child selected a sticker for their participation and the researchers then brought the participants back to their classroom.

       Session 2. The second session took approximately 10-15 minutes from the time the children were taken from their classroom to the time they returned. The principal investigator gathered the same 2 to 3 participants from their classroom to create the same group as Session 1 and settled in the same place as Session 1; if any of the participants were not at school, the second session was postponed to another day. The second session only consisted of playing the game Bridge Over Worried Waters. Children were reminded of the rules and purpose of the game. After the bridge was completed children were then asked to name their favorite strategy; answers were recorded as Participant Feedback. Each child selected a sticker for their participation, and the researchers brought them back to their classroom.

       Session 3. For children who received a total of 4 sessions, the procedure for Session 3 was identical to Session 2. For children who only received a total of 3 sessions, the procedure can be found in the next section ("Final Session").

       Final Session. The final session took an average of 15 minutes. The principal investigator would retrieve the children from their classroom and the children would individually complete, with the principal investigator or research assistant, the Knock-Tap Task for the second time (Time 2) as well as the same SRCS for the second time (Time 2). Everyone (2 to 3 children and the researchers) would come together to play Bridge Over Worried Waters for one final time. At the end of the game children were once again asked what their favorite strategy

was and it was recorded as Participant Feedback. Each child was then asked the same Novel

Question for the second time (Time 2) and answers were recorded. At the end of the final

session, children received an age appropriate book to thank them for their participation.

<div align="center">**Results**</div>

Due to the limited number of children representing each age group it was difficult to

compare performance on each task according to this variable. Instead, age was controlled for

during the analyses, and the focus was placed on gender, and the coping group to which the

children were assigned during the study.

Executive Function

Knock-Tap Task. There were no significant differences in the results of the knock-tap

task with regards to age, grade, or gender due to a ceiling effect. Average scores on the knock-

tap task during the first test session were 14.25 (SD = .96) and 14.6 on the second test session

(SD = .895) out of a possible 15. Average scores on the knock-tap task during the final session

were 14.23 (series 1, SD = .96) and 14.36 (series 2, SD = .895) out of a possible 15.

Children's Coping Strategies

Novel Question (Time 1- Baseline). A chi-square for goodness of fit showed that the

difference between the frequencies of types of coping strategies children reported they would use

during the first presentation of the novel question was significant X 2 (4, N = 48) = 41.58 $p<.01$.

Over half of the children (n = 25, 51%) used coping strategies in their response to the Novel

Question that would be characterized as *coping behaviors* prior to being taught any strategies.

Thirteen children (26.5%) reported that they would use a strategy similar to the *relaxation*

category, and only one child reported using a *self-talk* strategy. Eight of the remaining children

provided answers that were not similar to any of the three categories adaptive coping strategies

taught during the study, and one child did not provide any answer.

No gender or age differences were found with regards to children's answers on the

Novel Question Time 1; data for Time 1 on gender and age was collapsed over the variables

listed above.

Novel Question (Time 2- Final Session). Pearson chi square tests for independence were

performed to look at the relationship between type of coping strategy taught to participants, and

whether they integrated these new strategies in their answer to the novel question. The

relationship between these variables was significant X^2 (2, $N = 48$) = 11.082 $p<.01$. Results

revealed that 35.4% of participants included a new coping strategy when responding to the novel

question on the final session. When looking at each independent coping method group, it was

found that children in the *coping behavior* group integrated a new strategy more frequently

(66.7%) than in the *relaxation* group (33.3%) and the *self-talk* group (11.1%) (see Figure 1).

No significant gender or age differences were found with regards to children's answers

on the Novel Question (Time 2) after having been taught new coping strategies; data for Novel

Question Time 2 on gender and age was collapsed over the variables listed above. Therefore the

hypothesis that gender or age differences would be found in the way children integrated the

coping strategies in their answer to the Novel Question Time 2 was not supported by the data.

Self Report Coping Scale (SRCS)

Mean scores for each of the five categories of coping techniques on the SRCS (*social

support, self-reliance, distancing, internalizing, externalizing*) according to gender and coping

group they were assigned to can be found in Table 1. A series of 2 (Time 1 vs. Time 2) X 3

(coping strategy condition) X 2 (gender) mixed design ANCOVAs with repeated measures on

the first factor, were conducted for each of the Self Report Coping Scale (SRCS) subcategories,

controlling for age.

Social Support. The 2 (Time 1 vs. Time 2) X 3 (coping strategy condition) X 2 (gender)

mixed design ANCOVA revealed significant differences in Social Support scores from Time 1 to

Time 2 when collapsed across all factors $F(1,41) = 4.869$, p $= .033$, $^2 = .106$ and these

differences were related to the child's gender $F(1, 41) = 4.161$, p $= 0.48$, $^2 = .092$. Scores at

Time 1 were higher than scores at Time 2. No significant main effect for coping group was

found for differences in scores from Time 1 to Time 2. To further investigate the effect of gender

a one-way ANCOVA was performed on the mean differences between Time 1 and Time 2 scores

based on gender. A significant main effect of gender was found $F(1, 41) = 4.16$, $p = .048$, $^2=$

.092. On average, males' scores on the Social Support category decreased by .24 (*SE* =.13)

points and females' scores increased by .13 (*SE* = .13) after they participated in the coping

training sessions.

Self-Reliance. The 2 (Time 1 vs. Time 2) X 3 (coping strategy condition) X 2 (gender)

mixed design ANCOVAs revealed differences in scores for Self-Reliance from Time 1 to Time 2

were significant when collapsed across all factors $F(1,41) = 4.245$, $p = .046$, $^2 = .094$ and

significantly affected by the child's gender $F(1, 41) = 4.0951$, $p = 0.50$. $=.091$) (see Figure

3). Scores at Time 1 were higher than scores at Time 2. The mean differences between Time 1

and Time 2 scores were calculated for Self-Reliance and a one-way ANCOVA was conducted,

controlling for age to look at the effect of gender. A marginally significant main effect of gender

was found $F(1, 41) = 4.10$, $p = .05$, $= .091$. On average, males' scores on the Self-Reliance

category decreased by .28 (*SE* = .13) points and females' scores increased by .13 (*SE* =.13) after

they participated in the coping training sessions.

Distancing.   The 2 (Time 1 vs. Time 2) X 3 (coping strategy condition) X 2 (gender) mixed design ANCOVAs revealed differences in scores for Distancing from Time 1 to Time 2 were not significant and there were no significant effects of gender or coping group on differences in scores.

Internalizing.   The 2 (Time 1 vs. Time 2) X 3 (coping strategy condition) X 2 (gender) mixed design ANCOVAs revealed differences in scores for Internalizing from Time 1 to Time 2 were not significant. Differences in scores from Time 1 to Time 2 were also not affected by gender or coping group.

Externalizing.   The 2 (Time 1 vs. Time 2) X 3 (coping strategy condition) X 2 (gender) mixed design ANCOVAs did not result in significant differences in scores for Internalizing from Time 1 to Time 2. There was a marginally significant interaction of gender X coping group X difference from Time 1 to Time 2, F (2,41) = 3.03, p = .059,   (see Figures 4, 5, 6, & 7). To further investigate the interaction, a 2 (gender) X 3 (coping group) ANCOVA was conducted, controlling for age. The mean differences between Time 1 and Time 2 scores were calculated for Externalizing and although no main effect of coping group was found, a marginally significant interaction was found for gender X coping type taught $F(2, 41)$ = 3.03, p = 0.059,   129. On average, males' scores on the Externalizing category decrease by .15 (*SE* = .18) points and females' increased by .15 (*SE* = .18) after the coping training sessions.

Parent Education and SRCS Performance. Scores on the Self Report Coping Scale Time 1 were significantly correlated to mothers' education on all five of the SRCS categories, Social Support (r = -.309, N = 46, p = .037), Self Reliance (r = -.327, N = 46, p = .027), Distancing (r = -.298, N = 46, p = .045), Internalizing (r = -.291, N = 46, p = .05), and Externalizing (r = -.294, N = 46, p = .048). No correlations were found between mother's

education and scores on the SRCS Time 2. Father's education was not correlated with any of the scores on the SRCS Time 1 or Time 2.

Participant Feedback

At the end of each session, children were asked to name their favorite strategy; their answers were recorded as *Participant Feedback.* Participant Feedback responses were not recorded for 12 participants during the first session and eight children during the second session due to a lack of consistency in the way participant feedback was recorded in the early stages of data collection. This participant feedback revealed that many children (over 26.5% out of $n = 37$) had difficulty recalling any of the strategies taught during the first session, even though they were asked immediately after the end of the game. By the second session, all but three (out of $n = 41$) were able to recall at least one strategy when asked to name their favorite. This remained consistent through the remaining sessions.

When collapsed into 20 coping types versus the original 30, some trends were found. Strategies that received the most popularity overall were those involving "writing or drawing the worry on a piece of paper" (see Figure 2). Taking into account answers during all four sessions, results indicated that the preferred strategy in the *relaxation* group was related to imagining a favorite place, or imagining being on a cloud. In the *self-talk* group, the preferred strategy was to say out loud "relax, relax, relax." One child specified that she enjoyed saying "relax" out loud "because it gives me energy and makes me smarter." In the *coping behavior* group, the majority of participants reported liking the strategies that involved writing or drawing their worries on a piece of paper. The hypothesis that age and gender differences would exist in the types of strategies children named as their favorite was not supported.

Discussion

Anxiety disorders consistently remain the most prevalent class of mental illnesses in the population (Center for Disease Control, 2011). Research has shown that many disorders start early in a person's life, as early as six-years-old in some cases (American Psychological Association, 2013). That being said, research has also shown that anxiety disorders are preventable and symptoms of anxiety can be decreased if the person engages in adaptive coping strategies (APA, 2013; Barlow, 2008; Folkman & Lazarus, 1988; Osbern, 2002). It is therefore important for a person to have healthy coping skills in their repertoire from the time they are children in order to reduce the negative consequences associated with anxiety and prevent further issues, such as depression, from developing (Hussong & Chassin, 2004; Kessler & Greenber, 2002; National Institute of Mental Health, 2005). Unfortunately, there are many gaps in the literature with regards to coping in children. The present research explored trends in school-aged children's coping abilities, in addition to investigating the ability for young children to learn and adopt new adoptive coping strategies.

Teaching Coping to Children. The overarching aim of this study was to teach adaptive coping strategies to school-aged children in order to explore factors that can facilitate this process. The focus was placed on teaching three specific types of coping methods that have been shown to help prevent or reduce anxiety: *relaxation, positive self-talk* and *coping behaviors* (Franklin Learning Systems, 2009).

The Novel Question provided insight into how many children would integrate one of the new coping strategies in their answers to the Novel Question, and what factors may affect whether or not they do adopt the new strategies. Results revealed that after only three to four sessions and two weeks-time, 35.4% of children did indeed adopt a new coping strategy when

describing how they could cope with having watched a scary movie. One of the factors affecting whether or not they adopted a new strategy was the type of strategy that was being taught.

Children who were in the group that was taught behavioral coping strategies were more likely to integrate a new strategy that they had newly learned when reporting how they would cope with a stressful situation than those who were in the relaxation or self-talk groups. In fact, 67% of children in the *coping behavior* group mentioned a new strategy learned through the study, whereas a third of the children in the *relaxation* group integrated a relaxation strategy into their answers, and only 11% of those in the *self-talk* group mentioned a self-talk strategy. Given that the present study included children as young as five years old to 10 year-olds, it was hypothesized that older children would be more likely to integrate new strategies in their responses to the novel question than the younger children, however, no age differences were found. This may have been due to the overall small sample size. It also may be possible that age did not have as great an impact in this population as a whole, based on the fact that all children may be more likely to understand and enjoy coping strategies that involve movement and action (such as putting on lively music and dancing until you're exhausted) than more abstract or internal strategies such as telling yourself "Relax, Relax, Relax" (see Appendix E). However, no research to date has been conducted on exploring this notion; future research could further investigate this theory. A possible explanation for the low rates of integration of self-talk strategies into answers on the Novel Question Time 2 may be related to fact that it may take longer for this particular coping strategy to become integrated into child's coping repertoire. Lee (2011) found that seven to eight year olds did eventually internalize positive self-talk and saw positive differences in children's ability to cope with cognitive and socio-emotional stressors, but only after continued efforts to engage them in various forms of self-talk. Further research is

needed to look deeper at whether there are age differences in the frequency and type of strategy that school-aged children will adopt into their coping repertoire.

Interestingly, trends were also found in terms of types of coping strategies children used prior to learning any new ones. When children were asked the Novel Question at the beginning of the study, over half of their answers (51%) included a coping strategy that contained similar elements to the *behavioral coping* strategies. The fact that this is the type of coping that children already do engage in may have contributed to their ability to combine these new behavioral coping techniques with their pre-existing strategies. This factor may also facilitate implementation since children were already familiar with this particular coping style; therapists, teachers or parents may have more success teaching young children to literally draw out their emotions, or engage a in physical activity (like dancing or running) when they are anxious rather than concentrating on positive self talk or relaxation techniques. More research is needed to further explore the type of coping strategies that have most impact and success with young children.

Overall, the findings provided by participants' answers to the Novel Question before and after they received training on new adaptive coping strategies has highlighted the fact that it may not take a great deal of time or effort to teach children how to cope with their stress in a healthy and adaptive way. After only three or four sessions, many children were already beginning to apply what they had learned. Further research may look at returning to ask the participants how they would cope with an imagined novel situation a few weeks or months after the study, in order to explore how many children retain what they have learned, and for how long.

Self Report Coping Scale. The SRCS is a survey tool that assesses coping styles in school-aged children based on five discrete categories: *social support seeking, self-reliance,*

distancing, internalizing, and *externalizing* (Causey & Dubow, 1992). Differences in scores

between the SRCS that was completed prior to the training sessions (Time 1) and after the

coping training sessions (Time 2) were not due to the type of coping strategy group children

were assigned to, except on one category, but instead were due to how males and females

responded to the training. Males reported seeking less social support and using less self-reliance

the second time they completed the SRCS than the first time, whereas girls reported seeking

social support more frequently and more self-reliance the second time they completed the SRCS.

Finally, a similar pattern was found for the questions relating to externalizing behavior, however,

this was dependent on the type of coping strategy they had been taught. Males in the *relaxation*

and *self-talk* groups scored lower on externalizing between the first and second time they

completed the SRCS, whereas males in the *coping behavior* group scored higher on the

externalizing category. Opposite patterns were seen for females, scores for those in the

relaxation and *self-talk* groups increased for externalizing, and scores for those in the *coping*

behavior group decreased.

Increases on the externalizing behavior scores for males in the *coping behavior* group in

particular may be attributable to the fact that the strategies taught through the study all involved

external behaviors, such as exercising, or throwing a piece of paper in the garbage, which may

have especially appealed to the male population and therefore increased their reporting of

externalizing behaviors on the SRCS. Whereas males in the *relaxation* and *self-talk* group were

taught less active coping strategies, and this may have influenced the decrease in their reporting

externalizing behaviors. As for females in the *coping behavior* group, perhaps externalizing

behaviors appealed less to them than the males, and that those in the *social support* and *self-*

reliance groups were more affected by the fact that those particular strategies promote

verbalizing or externalizing emotions (such as giving yourself positive things out loud), which lead them to report higher use of externalizing behaviors in those two groups. Further research is needed to explore this unique interaction between gender and type of coping strategy taught.

With regards to distancing and internalizing, neither category had significant changes in scores between the first and second completion of the SRCS. The fact that all three coping strategy types taught through the game *Bridge Over Worried Waters* involved some type of covert or external action may explain why changes in internalizing coping were not found. The game also focuses on team work and collaboration, which is opposite to distancing type of coping; this may therefore be responsible for the lack of change on the distancing category as well. Finally, increases in scores on the social support and self-reliance for females may simply be attributable to the fact that they were more attuned to the study's coping strategies that emphasized these two categories, whereas perhaps males felt as though the newly learned strategies reduced their likeliness to engage in social support seeking or self-reliance. In any case, these results do provide support for the fact that the training that children received through the study did have an impact on the way they report they would cope with stressful situations. Furthermore, the results indicated that the level of impact that the training has on the children is dependent on that child's gender and for externalizing behaviors, the type of coping strategy that he or she is being taught.

The hypotheses that females would score higher on the *social support* category than males, or than on any of the other four coping style categories, and that males would score higher on the *externalizing* category than females, or than on any other category were not supported due to the fact that no gender differences were found for overall scores in SRCS. Additional research is needed to further explore gender differences in children's self-reported coping styles.

Parent Education. An interesting finding, that was not hypothesized, is that there was an association between children's coping-styles and their mother's education level. The greater the number of years of education the mother completed, the higher the scores were for her child on the SRCS, but only for Time 1. Mother's education was not related with children's scores after they had been taught new coping strategies through the study. Father's education was not related with any of the children's scores on the SRCS before, or after the study took place. This may be a reflection on the fact that younger children typically spend more time with their mothers than their fathers in the early years, and therefore that the mother's coping style has a higher influence on the child's coping style.

This suggests that what they had learned during the training sessions may indeed have influenced the way they reported coping with stressors. Perhaps this lies in the fact that the current study involved systematic training on concrete coping methods, repeated over a short period of time, which was not likely being countered by any other systematic exposure to coping techniques, and therefore may have made an impact on their general awareness of coping during this time. Additional research may be conducted to further explore this trend and the impact that the mother's level of education may have on whether or not the child develops healthy ways of coping.

Participant Feedback. At the end of each session, children were asked to name their favorite strategy out of the ten that were taught during that session. Their feedback was used to explore how long it would take the participants to start remembering any of the strategies, and also to determine which of the strategies received most popularity overall. Results revealed that on average, most children had difficulty remembering a strategy after the first time they learned them. By the second session however, the majority of children were able to name their favorite

strategy by memory, without having to refer to the pile of cards containing the strategies; no age

differences were found in the number of sessions it took for children to begin recalling strategies.

The hypothesis that older children would be able to recall coping strategies sooner than younger

children was therefore not supported. However, the results do suggest that although repetition is

needed, these particular strategies were simple enough for children as young as five years of age

to be able to name at least one strategy after the second session.

Within each of the three categories, one specific coping strategy was selected more

frequently than any of the other strategies within that group. In the *relaxation* group, the

strategies that instructed the child to "imagine a favorite place" were reported most frequently as

favorite strategy. In the *self-talk* group, saying to oneself "relax, relax, relax" was named the

most, and in the *coping behavior* group, the majority of participants reported that strategies

involving writing or drawing the stressful situation were their favorite coping strategies. It is

possible that children favored imagining their favorite place more than the other relaxation

strategies given that this particular method was more engaging and entertaining than other

relaxation methods, like doing finger exercises or squeezing a stress ball. As for self talk,

children seemed to enjoy saying "relax"; frequently, this particular strategy made participants

laugh. Finally, the fact that the favored coping behavior strategies involved drawing may be a

reflection of the fact that school-aged children often do engage in arts and crafts (in school, at

birthday parties or in during festivals) and may therefore associate this strategy with happy

occasions. Additional research would be needed to systematically address and investigate the

reasoning behind the participants' feedback. Further research is also needed to observe

variations in age and gender differences in the type of coping strategies favored as this may

further contribute to our understanding of strategies that will be readily adopted by children at different cognitive levels.

        Executive Functioning. Executive function (EF) was included in the present study to explore whether EF was also related to children's coping abilities. Although the Knock-Tap Tsk has been designed and tested for the same age population as the children in the present study, a ceiling effect was noticed through the analyses. All children, regardless of age or gender, received high scores on all four series of the Knock-Tap Task conducted during this study. As a result, no relationship was found between children's EF and their coping abilities. Given that the population for this study was relatively homogenous (children came from similar SES, educational and cultural backgrounds to one another), future research should include a larger sample, as well as a more diverse population. More sophisticated tools to assess children's responses on the Knock-Tap Task, such as using a device to time their responses may also help to reveal greater differences in their EF abilities.

Limitations and Future Directions

        Sample Size. The sample size in the present study was a limiting factor.   Specifically, no significant differences were found for age, grade, or schools perhaps due to the small number of participants in each of these discrete categories. One of the aspects contributing to this small sample was access to the students.   Three schools who had originally agreed to participate in the study failed to follow through on their commitment, such as ceasing communication with the research team when the time came to deliver letters to parents, or losing consent forms that were returned. The fact that fewer schools participated also limited the diversity of the sample in terms of socioeconomic status, cultural backgrounds, and age. Furthermore, the fact that the study was conducted near the end of the school year minimized the length of opportunity for data

collection. Future studies should begin earlier in the school year in order to have more time and

flexibility to work around the busy elementary school curriculum.

Conditions Affecting Data-Collection. A larger research team for this study would have

enabled more data collection so that a larger number of participants could complete the

individual portions of the data collection (i.e. Novel Question, Knock-Tap Task, SRCS) at the

same time, rather than one at a time. In addition to this, the fact that the majority of the data

collection took place in the school hallways increased the number of distractions, such as having

other classes, teachers, and staff pass by and interact with the participants during the study. In the

future, this study should be conducted in a quiet reserved classroom in order to reduce the

amount of noise and distractions, and increase the consistency between sessions, or in a research

lab to provide a more controlled environment.

Self-Report Coping Scale. Another limiting factor in this field of study is the lack of

tools to assess coping skills in young children. The Self Report Coping Scale (Causey and

Dubow, 1992) is one of the few existing assessment tools for examining coping strategies in

young populations, but it is limited in the types of population it can reach. The wording on some

items as well as the concepts being presented were occasionally too complex for some children

in the current study, such as " I usually refuse to think about it" or "I would think of one way to

deal with the problem and I would do it." Therefore, this particular scale may not necessarily be

as valid or reliable with younger populations, or populations with lower literacy levels.

Furthermore even though the version in the study had been modified to reduce its length, it still

proved to be too lengthy for some participants, and could lead to higher rates of attrition. Given

that onset of anxiety disorder can be as early as six years old (APA, 2013), further research is

needed to develop a survey tool that can accurately and appropriately measure coping skills in

infants in order to identify unhealthy coping and intervene before the onset of a disorder.

Teaching Coping Strategies to Young Children. There are currently very few games

that address coping skills in young children. The game *Bridge Over Worried Waters* was

selected for this study because of its focus on scientifically sound adaptive coping strategies,

such as relaxation, positive self-talk, and behavioral coping methods (Franklin Learning

Systems, 2009). However, this game was developed for use in therapeutic settings, with children

who already are experiencing an anxiety disorder (Franklin Learning System, 2009).   Therefore,

future studies should focus on creating fun and interactive games, such as board games, video

games, or smartphone applications that address stressors common to the general public, and

teach simple coping strategies that can be used by anyone, any time. Furthermore, many of the

cards contained complex wording such as "apprehensive" or "frightened" that many children did

not understand. Wording on this type of teaching tool should be simple and basic enough so that

children, who are less educated or are younger, can comprehend what is being taught.

Implications

The results of this study have important implications for anyone teaching children how to

cope with daily stressors in a healthy or adaptive manner. In particular, child psychologists, as

well as parents and teachers may benefit from the results in the present study.

Classroom Management.   The integration of teaching healthy coping strategies to

children while they are in school would benefit teachers. Specifically, if children engage in

planful-coping (Hussong & Chassin, 2004), or problem-focused coping behaviors (Lazarus &

Folkman, 1988) rather than cognitive-avoidant (Hussong & Chassin, 2004) or emotion-focused

coping (Lazarus & Folkman, 1988), teacher should experience less disruption in their

classrooms. For example, if a child is taught to draw his worry on a piece of paper to cope when he/she has had an argument with a friend (i.e coping behavior/planful-coping), this may reduce the possibility of engaging in emotional outbursts and potentially disruptive behavior (i.e. externalizing coping style/emotion-focused). Another example may be that instead of distancing himself/herself and not paying attention to the teacher's instructions when feeling anxiety during math class (i.e. cognitive-avoidant), a student may learn to ask the teacher or another adult that he/she trusts for help (i.e. coping behavior). A recent study looking at the benefits of school-based Cognitive Behavior Therapy for children with anxious and depressive symptoms revealed that school-based cognitive-behavior therapy interventions helped children with anxiety issues in to improve their academic success as well as their classroom behaviors (Manassis, 2010). As such, if all children were taught how to handle their stress in healthy ways, this may reduce the frequency of disruptions and facilitate classroom management.

Parents. The findings in this study are important for child caregivers. Given that onset of anxiety disorders is very early, the process of teaching individuals how to handle daily stressors should essentially start in infancy. Results revealing the influence of parent education on children's answers of the Self Report Coping Scale highlight the influence that parents, especially mothers, have an impact on the way their children cope with typical potentially stressful situations. Fortunately, the results of this study also indicate that it may not take much effort or time to teach a child a new way of dealing with their stressful feelings. In a very short training period, children were able to remember and name their favorite coping strategy and integrate the coping strategies in their answers to a hypothetical stressful situation. Furthermore, the study did in fact change the way children reported coping with stressful situations after only two weeks of training. Finally, based on the findings in this study, parents should focus on

teaching their children coping strategies that involve actions or overt behaviors such as dancing, exercising, drawing out their feelings. Given that previous studies have shown the positive outcomes of educating parents about effective coping strategies for their young children (Fox, et al., 2012), the results of the current study could be applied to other research in the development of prevention efforts for parents and their children.

Child Counseling in Schools and Private Practice. Although the focus of the study was to explore ways of integrating adaptive coping strategies into everyday life, the results can also be beneficial for counselors or psychologists who are working with young children. The fact the there was an interaction between the child's gender and the is an important factor to consider when treating children. This highlights the fact that a child's gender may indeed have an influence on how successfully they adopt a new coping strategy.

Conclusion

Given that anxiety disorders are still the most prevalent class of mental illnesses in the general population, it is important to focus our efforts on preventing future generations from also following this trend, and on reducing the rates and costs associated with it. Unfortunately, little research has been conducted on ways to teach children how to handle everyday stressors. There are also many gaps in the way we assess and address anxiety in these younger populations. The present study has provided support for the fact that it is possible to teach adaptive coping strategies to school-aged children in a short amount of time. Focus should therefore be placed on determining ways in which to integrate healthy coping techniques into the lives of young children at home and at school. Future research is needed to further investigate the factors that influence the process of coping with daily stressors in these young populations, and developing

fun and interactive ways of getting children to integrate scientifically supported coping

techniques into their daily repertoire.

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Appendix A

<u>PARENT SURVEY</u>

Instructions: Please fill out this short survey and return it to the school with the signed consent forms. If you have any questions, feel free to contact the Principal Investigator

1. Child's parent(s) highest level of education completed? (please circle one)

Mother:
- Some high school
- High school graduate
- Some college
- Trade/technical/vocational training
- College Graduate
- Some postgraduate work
- Post Graduate Degree
- Other _____

Father:
- Some high school
- High school graduate
- Some college
- Trade/technical/vocational training
- College Graduate
- Some postgraduate work
- Post Graduate Degree
- Other _____

2. Child birth date _____

3. Zip code _____

4. What are the ages of other children in your home (under the age of 18)?_____

5. How many times has the child moved in the past 5 years? _____

6. What language is primarily spoken in your house? _____

7. On average how many hours per week does your child spend outside of your home (not including school or the afterschool program)_____

8. Does your child participate in any activities outside of school? YES   NO

   If yes, what type of activities? _____

Thank you!

Appendix B

Executive Function Task – Knock-Tap Test

Put a ☑ next to each action that **was** done correctly. Put a ☒ next to each action that **was not** done correctly.

SERIES 1:

	Evaluator Action	Participant Action	✓ or ✗
1	knock	Tap	
2	knock	Tap	
3	tap	Knock	
4	tap	Knock	
5	knock	Tap	
6	tap	Knock	
7	knock	Tap	
8	knock	Tap	
9	tap	Knock	
10	tap	Knock	
11	tap	Knock	
12	knock	Tap	
13	tap	Knock	
14	tap	Knock	
15	knock	Tap	

SERIES 2:

	Evaluator Action	Participant Action	✓ or ✗
1	knock	Tap	
2	knock	Tap	
3	**pound**	**No action**	
4	tap	Knock	
5	tap	Knock	
6	knock	Tap	
7	**pound**	**No action**	
8	knock	Tap	
9	tap	Knock	
10	**pound**	**No action**	
11	**pound**	**No action**	
12	tap	Knock	
13	**Pound**	**No action**	
14	knock	Tap	
15	tap	Knock	

Appendix C

Self-Report Coping Scale

Situation B:
"When I have an argument or a fight with a friend, I usually…"

---

1. **Tell a friend or family member what happened**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

2. **Try to think of different ways to solve it**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

3. **Make believe nothing happened**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

4. **Take it out on others because I feel sad or angry**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

5. **Talk to somebody about how it made me feel**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

6. **Change something so things will work out**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

7. **Go off by myself**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

8. **Become so upset that I can't talk to anyone.**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

9. **Get help from a friend**

   None of the time   A little of the time   Some of the time   A lot of the time   All of the time

10. **Decide on one way to deal with the problem and I do it**

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

11. **Forget the whole thing**

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

12. **Worry too much about it**

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

13. **Ask a friend for advice**

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

14. Do something to make up for it

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

15. Tell myself it doesn't matter

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

16. Cry about it

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

17. Ask a family member for advice

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

18. Know there are things I can do to make it better

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

19. Just feel sorry for myself

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

20. Refuse to think about it

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

21. Yell to let off steam

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

22. Ask someone who has had this problem what he or she would do

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

23. Go over in my mind what to do or say

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

24. Do something to take my mind off of it

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

25. Worry that others will think badly of me

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

26. Curse out loud

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

27. Try to understand why this happened to me

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

28. Say " I don't care"

    None of the time   A little of the time   Some of the time   A lot of the time   All of the time

29. Ignore it when people say something about it

     None of the time   A little of the time   Some of the time   A lot of the time   All of the time

30. Get mad and throw or hit something

     None of the time   A little of the time   Some of the time   A lot of the time   All of the time

31. Get help from a family member

     None of the time   A little of the time   Some of the time   A lot of the time   All of the time

32. Get mad at myself for doing something that I shouldn't have done

     None of the time   A little of the time   Some of the time   A lot of the time   All of the time

33. Try extra hard to keep this from happening again

     None of the time   A little of the time   Some of the time   A lot of the time   All of the time

34. Talk to the teacher about it

     None of the time   A little of the time   Some of the time   A lot of the time   All of the time

Appendix D

Bridge Over Worried Waters – (Problem Cards)

Relaxation Category:

- You won an award and in a few minutes you will have to go on stage in front of the school to receive it. You feel nervous. What can you do about your feelings?
- Your best friend moved away and you are nervous about sitting alone at lunch. What can you do about your feelings?
- You passed out invitations to your birthday party but are nervous that no one will show up. What can you do about your feelings?
- You have a lot of homework that is due tomorrow and you haven't even started. You feel a lot of anxiety. What can you do about your feelings?
- Good grades are really important to you. Every morning you are afraid that you will forget to take your homework back to school. You end up running late because you check you backpack over and over again. What can you do about your feelings?
- You don't like big groups of people. During gym class, two other classes joined your class for some special games. You feel apprehensive. What can you do about your feelings?
- Your best friend got hurt on the playground and had to go to the hospital. You are concerned that she is hurt very badly. What can you do about your feelings?
- You have been called out of your class to the principal's office. You don't know what it is about and are very worried. What can you do about your feelings?
- Your teacher does not like students to be late. Your little brother dawdles getting ready and now you feel anxious that you are going to be late. What can you do about your feelings?
- It's time for bed and your room is very dark. You feel frightened. What can you do about your feelings?

Self-Talk Category:

- There is someone at school that you would really like to invite over to your house. You are worries that she will say no. What can you do about your feelings?
- You have trouble in math. It seems like the more you try to understand, the more you don't understand. Each day when your class gets ready for math, you feel anxious. What can you do about your feelings?
- Your teacher has just read a paragraph in class. She asks a question and calls on you. You thin you know the right answer buy you feel a lot of anxiety about answering her out loud. What can you do about your feelings?
- You are about to begin an important test at school. You feel very anxious. What can you do about your feelings?
- You did not do very well in school this semester and you are apprehensive about the report card coming in the mail and your parents seeing how poorly you did. What can you do about your feelings?

- You have gotten your mother a present for her birthday and you are nervous that she won't like it. What can you do about your feelings?
- All of your school work is really stressing you out. What can you do about your feelings?
- Your teacher asks you to come to the front of the class and work a math problem. You feel nervous. What can you do about your feelings?
- You got a bad grade on a test and are afraid to show it to your parents. What can you do about your feelings?
- Tomorrow is your first day at a new school and you don't know any of the kids. You feel scared. What can you do about your feelings?

Coping Behavior Category:

- You are helping a friend and his dad put up Christmas lights. They ask you to climb the ladder but you are frightened of heights. What can you do about your feelings?
- There is a very popular video game that just cam out and you want to go buy it. Your mother said that she will take you later. You feel worried that it will be sold out by the time you get to the store. What can you do about your feelings?
- You are playing and accidentally broke on of your mom's favorite dishes. You are scared that she will be very angry. What can you do about your feelings?
- Someone brings a snake to class for show-and-tell. Everyone is getting the chance to pet the snake. You are terrified of snakes. What can you do about your feelings?
- Your best friend wants you to have a sleepover but you feel very anxious about spending the night away from home. What can you do about your feelings?
- You have forgotten what the homework assignment is and need to call a friends to found out. You feel really tense about having to talk on the phone. What can you do about your feelings?
- Some kids are talking about a scary movie that they all saw. You fell scared just listening to them. What can you do about your feelings?
- You have two good friends who have been fighting with each other. They are trying to pull you into the argument and it is really stressing you out. What can you do about your feelings?
- You have been invited to a class-mate's party. You are excited about being invited but at the same time you are nervous about going. What can you do about your feelings?
- You just woke up in the middle of the night because of a terrible nightmare. You feel terrified. What can you do about your feelings?

Appendix E

Bridge Over Worried Waters – Coping Strategies (Solution Cards)

Relaxation Methods:

- Close your eyes and imagine that you are floating on a cloud
- Close your eyes and concentrate on your breathing – in and out, in and out
- Close your eyes and imagine being at your favorite place. Think about the sights, sounds, sell, and feel of that place
- Close your eyes and imagine being at your favorite place. Imagine yourself content, peaceful, and relaxed.
- Stand up and put your arms out in front of you. Focus on them as you move them in circles very slowly
- Hum a relaxing song.
- Use a stress ball or stuffed animal to squeeze out your anxious feelings.
- Tighten your hands into fists and squeeze for ten seconds, ten relax. Repeat three times.
- Do finger exercises. Lift each finger and your thumb ten times each. Start with your thumb and count to yourself.
- Take five deep breaths, in through your nose and out through your mouth. Imagine blowing out stressful feelings

Self-Talk Method:

- Tell myself "I don't have to be perfect. I just have to try"
- Tell myself "this will be over soon. I can do anything for a short time."
- Tell myself "The more I do this, the easier it will get."
- Tell myself "I think I can; I think I can."
- Tell myself "It's going to be OK."
- Tell myself "All I can do is try my best. That's all anyone can really do."
- Tell myself "If you don't succeed, try, try again."
- Tell myself "I can do this!"
- Tell myself "Relax, relax, relax."
- Tell myself "The things I worry about rarely happen."

Coping Behavior Method:

- Write down your worry on a piece of paper and the throw it away.
- Get some exercise: do jumping jacks, do push-ups, or run in place.
- Put on some lively music and dance until you are exhausted.
- Shake off your worry like a dog shakes off water.
- Draw a picture of the problem. Turn it upside down and see if it now looks like something different. Complete the new picture by adding more details.
- Name three (3) possible solutions for the situation
- Get some advice from someone you trust

- Think about something funny that has happened to you in the past
- Talk to someone who makes you feel happy
- Write down your worry on a piece of paper. Then place it on the floor and stomp on it. Say out loud, "you are now under my feet!"

Table 1

Mean Scores on the Self Report Coping Scale Categories According to Gender for all Three

Coping Strategy Groups (with Standard Deviations in Parentheses)

	Males			Females		
SRCS Categories	Relaxation	Self Talk	Coping Behavior	Relaxation	Self Talk	Coping Behavior
Social Support Time 1	2.56(.67)*	3.12(.55)	2.83(.59)	2.8(.29)	2.34(.46)	3.13(.55)*
Social Support Time 2	1.84(1.31)*	3.01(.57)	2.91(.62)	2.86(.83)	2.33(.49)	3.47(1.09)*
Self Reliance Time 1	2.54(.62)*	3.14(.56)	2.77(.58)	2.78(.27)	2.32(.46)	3.08(.57)*
Self Reliance Time 2	1.81(1.27)*	3.06(.61)	2.89(.64)	2.88(.83)	2.30(.51)	3.40(1.04)*
Distancing Time 1	2.6(.62)*	3.04(.56)	2.68(.55)	2.71(.34)	2.27(.46)	3.01(.56)*
Distancing Time 2	1.80(1.25)*	3.06(.62)	2.82(.69)	2.83(.86)	2.27(.54)	3.30(.98)*
Internalizing Time 1	2.41(.63)*	3.05(.62)	2.7(.55)	2.73(.32)	2.30(.47)	3.02(.61)*
Internalizing Time 2	1.80(1.24)*	3.01(.61)	2.71(.75)	2.88(.86)	2.25(.56)	3.22(.91)*
Externalizing Time 1	2.46(.59)*	2.98(.60)	2.62(.59)	2.70(.34)	2.25(.45)	3.01(.59)
Externalizing Time 2	1.80(1.26)*	3.01(.62)	2.82(.711)	2.81(.8)	2.27(.57)	2.9(.922)

Note. Scores were based on a 5-point Likert Scale, 1 = none of the time, 5 = all of the time.

Table 2

Total Number of Participant Feedback Responses When Asked to Provide their Favorite Coping

Strategy Taught

| Coping type	Specific Strategies	Participant Feedback (Sessions 1 to 4) Total Times Chosen
Relaxation	1 = Imagine favorite place	19
	2 = Breathing exercises	3
	3 = Movements (arm circles & finger exercises)	7
	4 = Hum a relaxing song	1
	5 = Stress ball or tighten fists and release	2
Self-talk	6 = I don't have to be perfect. I just have to try	3
	7 = This will be over soon. I can do anything for a short time	8
	8 = The more I do this, the easier it will get	2
	9 = I think I can, I think I can	8
	10 = It's going to be ok	3
	11 = All I can do is try my best, that's all anyone can do	5
	12 = If you don't succeed, try, try again	3
	13 = I can do this!	3
	14 = Relax, Relax, Relax	19
	15 = The things I worry about rarely happen	1
Coping Behavior	16 = Write/draw your worry	27
	17 = Get some exercise or dance or shake off worries	8
	18 = Name 3 possible solutions for the situation	1
	19 = Get advice/talk to someone you trust	1
	20 = Think about something funny	4
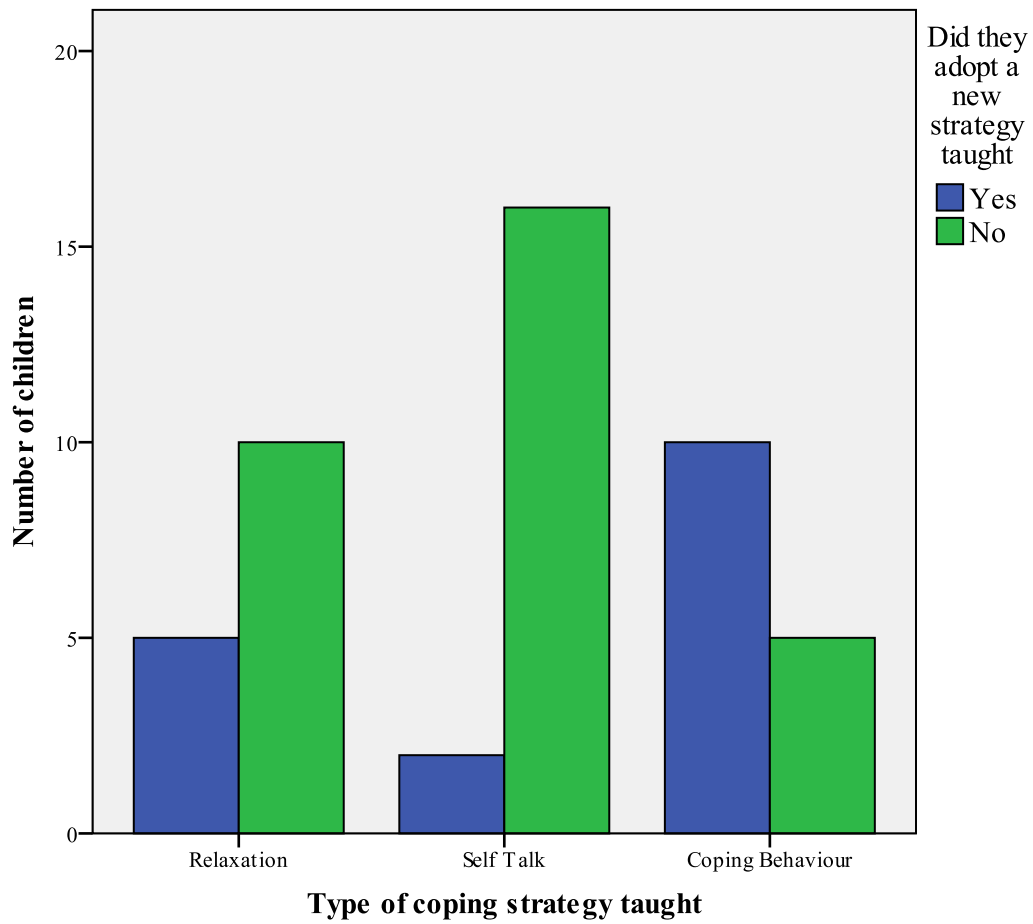
Figure 1: Number of children who integrated a new coping strategy taught during the study in their answer to the Novel Question (Time 2).
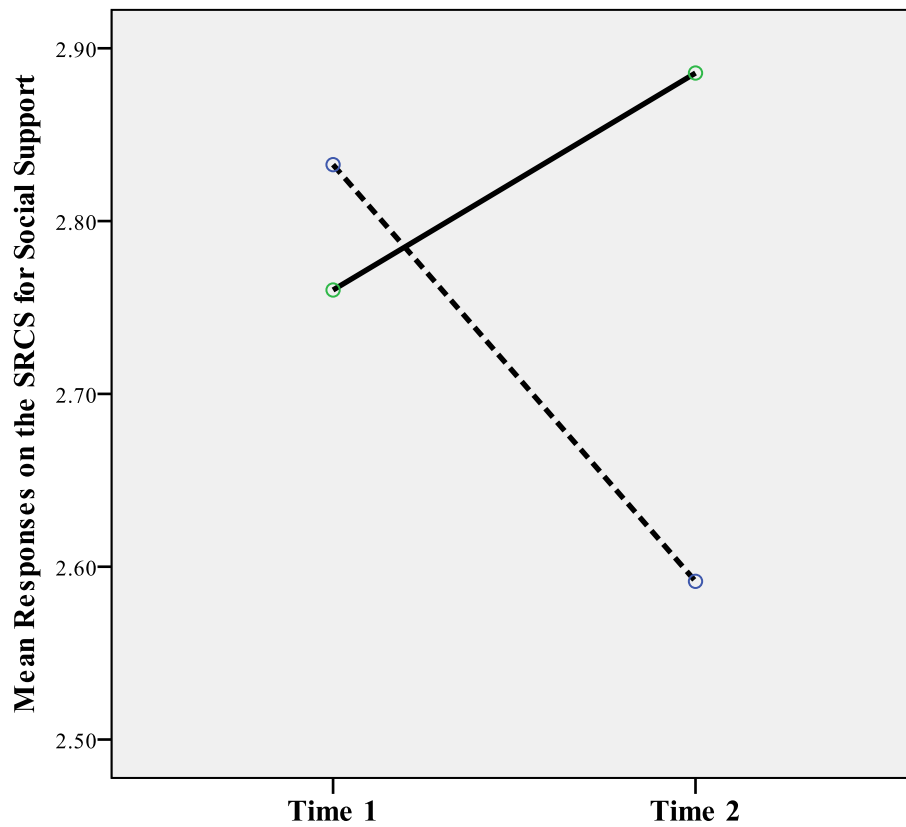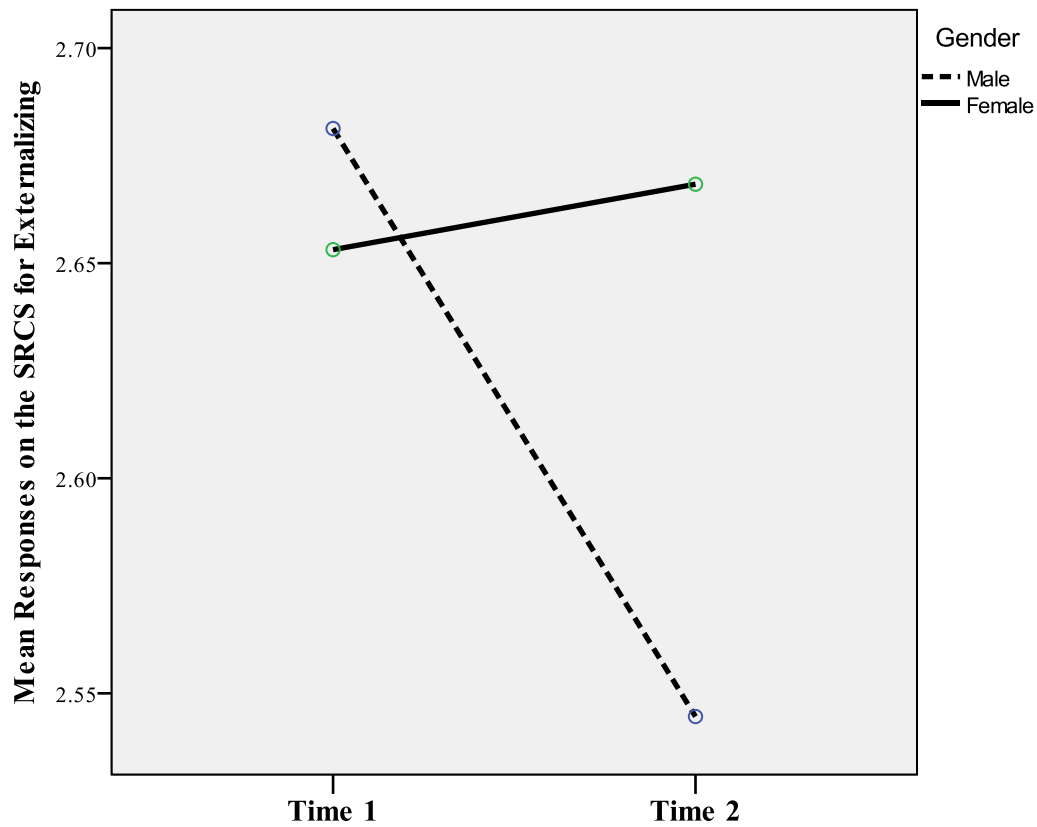
Covariates appearing in the model are evaluated at the following values: Age in Years = 7.67

Figure 2: Interaction between participant gender and scores on the SRCS for Social Support at

Time 1 and Time 2. Male scores are represented through the dotted line; female scores are
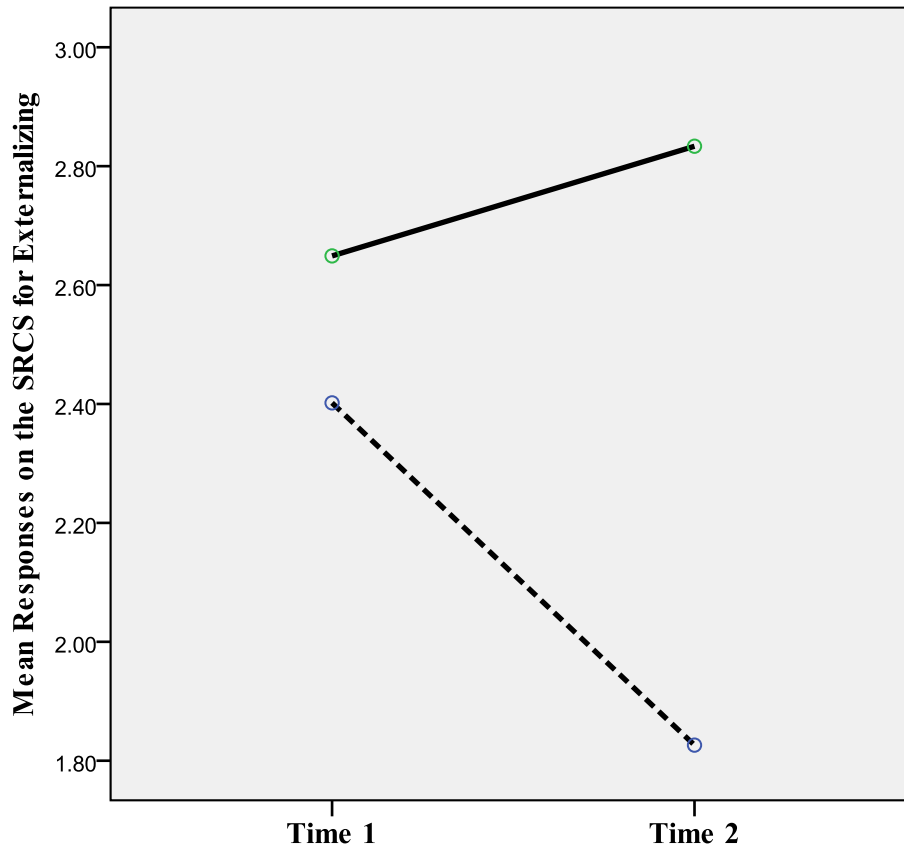
represented through the solid line.
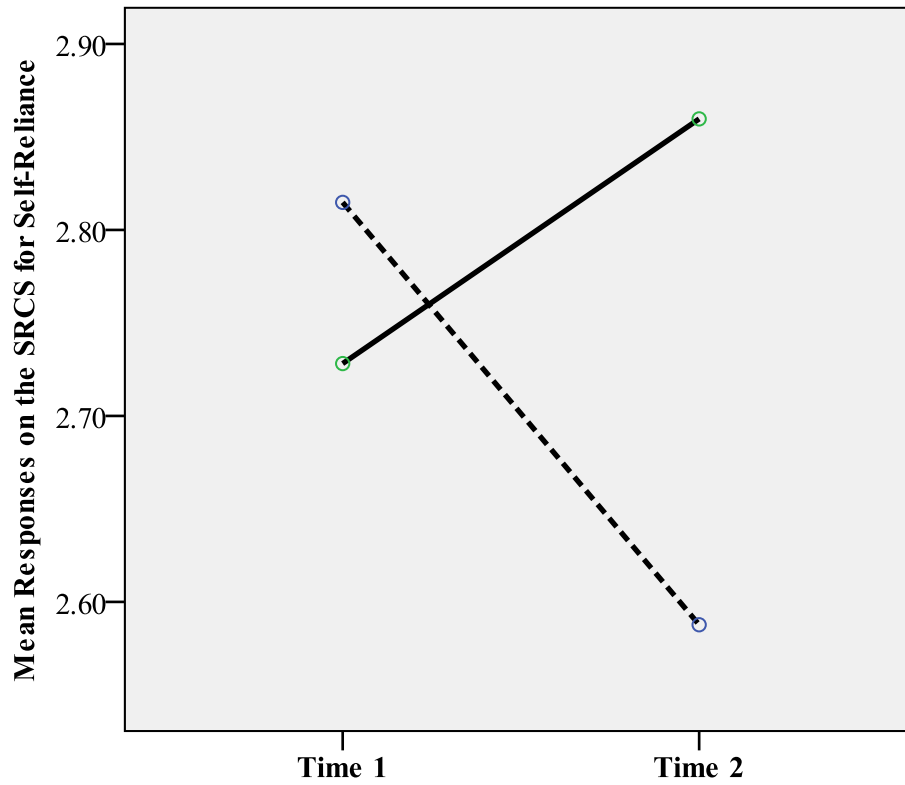
Covariates appearing in the model are evaluated at the following values: Age in Years = 7.67

Figure 3: Interaction between participant gender and scores on the SRCS for Self Reliance at Time 1 and Time 2. Male scores are represented through the dotted line; female scores are represented through the solid line.
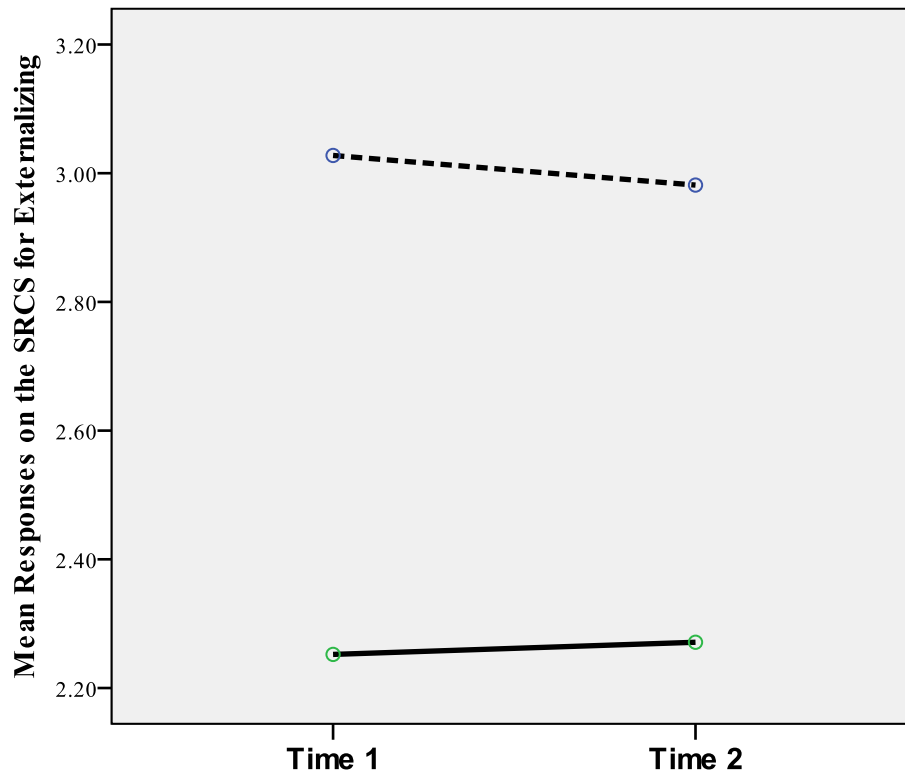
Covariates appearing in the model are evaluated at the following values: Age in Years = 7.67

Figure 4: Interaction between participant gender and scores on the SRCS for Externalizing at Time 1 and Time 2. Male scores are represented through the dotted line; female scores are represented through the solid line.
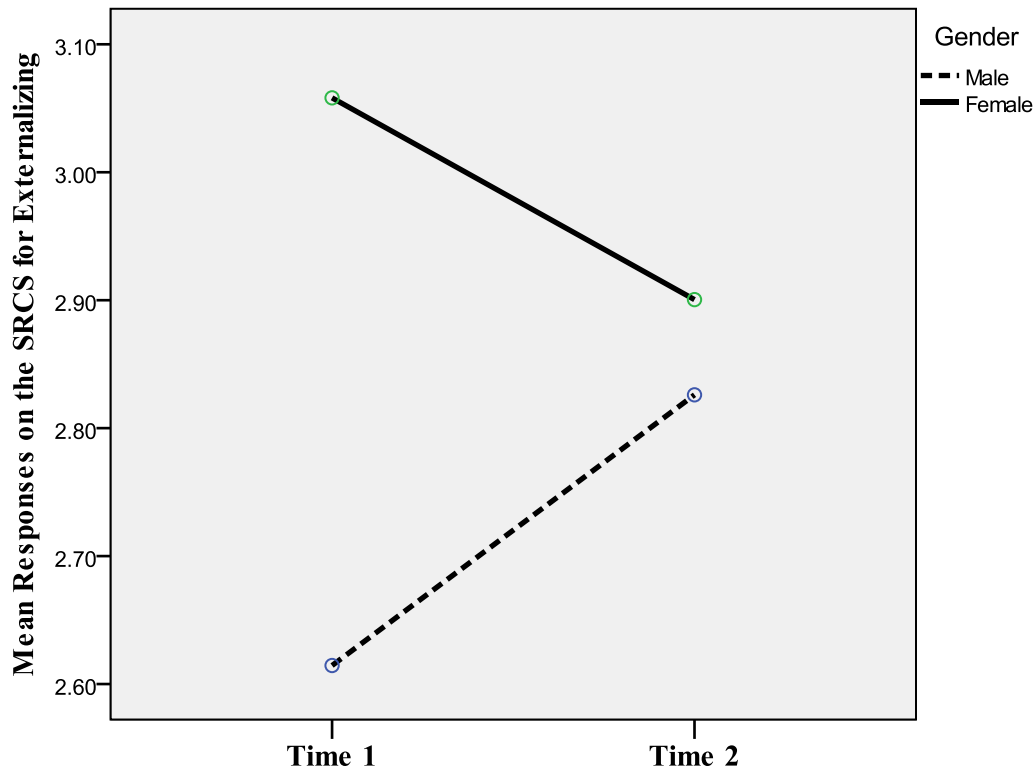
Covariates appearing in the model are evaluated at the following values: Age in Years = 7.67

Figure 5: Interaction between participant gender, type of coping strategy taught, and scores on the SRCS for Externalizing at Time 1 and Time 2 for participants in the *Relaxation* group. Male scores are represented through the dotted line; female scores are represented through the solid line.

Covariates appearing in the model are evaluated at the following values: Age in Years = 7.67

Figure 6: Interaction between participant gender, type of coping strategy taught, and scores on the SRCS for Externalizing at Time 1 and Time 2 for participants in the *Self-Talk* group. Male scores are represented through the dotted line; female scores are represented through the solid line.

Covariates appearing in the model are evaluated at the following values: Age in Years = 7.67

Figure 7: Interaction between participant gender, type of coping strategy taught, and scores on the SRCS for Externalizing at Time 1 and Time 2 for participants in the *Coping Behavior* group. Male scores are represented through the dotted line; female scores are represented through the solid line.