SCHOOL-BASED APPLICATION OF THE BRIEF COPING CAT PROGRAM FOR
CHILDREN WITH AUTISM SPECTRUM DISORDER AND CO-OCCURRING
ANXIETY

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ABSTRACT

SCHOOL-BASED APPLICATION OF THE BRIEF COPING CAT PROGRAM FOR CHILDREN WITH AUTISM SPECTRUM DISORDER AND CO-OCCURRING ANXIETY

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Anxiety is a common co-occurring symptom in children with Autism Spectrum Disorder (ASD) and contributes to the difficulties they experience at school. Unfortunately, few school-based interventions are considered well established and lack strong empirical data for successfully treating anxiety in children with ASD. The present study examined the effectiveness of a modified cognitive behavioral therapy (CBT) intervention, Brief Coping Cat, when implemented with (n = 3) students with co-occurring ASD and anxiety. Students participated in an eight-week intervention designed to teach children to recognize signs of anxious arousal and use learned strategies to manage the symptoms. Intervention outcomes were measured with weekly self-reported ratings of anxiety. The
students’ teacher was also interviewed before and after the intervention regarding each student’s anxiety and progress with the intervention. Results indicated that the intervention demonstrates effectiveness and flexibility in a school-based setting, and with the unique population of participants, but requires further research to support the generalizability of the study’s findings.
To my parents, sister, grandparents, aunt and uncles, fiancé, friends, and colleagues, thank you for supporting me throughout my collegiate years; spiritually, emotionally, and financially. Without the support from each one of you, my accomplishments would not have been possible.
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CHAPTER I
INTRODUCTION

There is an increase in diagnoses of Autism Spectrum Disorder (ASD) throughout the United States, contributing to an “Autism Spectrum Disorder epidemic” era (Soloman & Chung, 2012). A number of students with ASD have co-occurring disorders, such as anxiety, that can exacerbate difficulties. According to Van Steensel, Bogels, and Perrin (2011), forty percent of children with ASD meet the criteria for an anxiety disorder. Furthermore, White, Oswald, Ollendick, and Seahill (2009) found that approximately 84% of children with autism have sub-clinical (not reaching the level to warrant a diagnosis) anxiety symptoms that cause impairments in their daily functioning, specifically, life, social, academic, and behavioral skills.

As the number of ASD diagnoses increases, research has revealed more about the disorder. One important finding is that anxiety is a common co-occurring symptom of ASD, largely because many of the behaviors expressed by individuals with ASD are exhibited in order to cope with an anxiety-provoking trigger (Rieske et al., 2013). Unfortunately, few interventions are considered well established and lack strong empirical data for successfully treating anxiety in children with ASD (Shaker-Naeeni, Govender, & Chowdhury, 2014).
The scarcity of well-researched interventions for children with co-occurring ASD and anxiety is detrimental for academic achievement and overall functioning in a school setting, pointing to a need for additional research involving effective interventions. According to Jarrett, Black, Rapport, Grills-Taquechel, and Ollendick (2015), if children with ASD do not receive sufficient school-based interventions for their comorbid anxiety symptoms, additional academic and behavioral problems may occur, such as difficulties concentrating in class, establishing and maintaining peer relationships, following the school schedule, and exhibiting sadness or anger.

The purpose of the present study was to examine the effectiveness of a modified Cognitive Behavioral Therapy (CBT) intervention, called the Brief Coping Cat (Kendall, Crawley, Benjamin, & Mauro, 2013), when implemented in a school setting for children with ASD and co-occurring anxiety. One study conducted by McNally-Keehn, Lincoln, Brown, and Chavira (2013), found that the full length (16-week) version of the Coping Cat may be a feasible and effective intervention for reducing levels of anxiety in children with ASD.

The present study is important because few known interventions have been effectively modified for children with ASD, particularly within a school setting. Due to the limited number of school-based interventions, children with co-occurring ASD and anxiety are not adequately assisted, which may contribute to significant challenges that impact student functioning in school.
CHAPTER II
LITERATURE REVIEW

This literature review examines the effects of the Brief Coping Cat program as a school-based intervention to reduce anxiety in children with autism spectrum disorder (ASD). ASD is a developmental disability that consists of impairments in social interaction; both verbal and nonverbal, difficulty transitioning from one task to another, exhibiting overwhelmed feelings from sensory stimuli, and exhibiting restricted and repetitive behaviors and interests (Auger, 2013). The literature review begins with a discussion of prevalence, incident rates, and demographics of ASD. The sections that follow include the definition, symptoms, and common co-occurring diagnoses of ASD. Additionally, available school-based interventions for children with ASD and for children with anxiety are reviewed and examined for effectiveness. Finally, one specific intervention program, the Brief Coping Cat, and program modifications that can be made to it to meet the needs of children with ASD is discussed.

Prevalence

According to Zylstra, Prater, Walthour and Aponte (2014), from 1987 to 1998, the prevalence of ASD diagnoses has risen from 7 in 10,000 to 30 in 10,000, to one in sixty eight. As the rise in diagnoses continues, more implications for children with ASD within a school setting are being revealed. Some of the worsened implications include higher
levels of anxiety, stress, and panic, which can lead to increased difficulties with paying attention in class, interacting with peers and staff, participating in classroom activities, and exhibiting more incidents of problem behavior (Hoffman, 2013). Although research about ASD is growing in attempt to keep up with the increased diagnoses, the reason for the rise in diagnoses has not yet been determined; however, some clinicians have examined a few possibilities.

**Increasing incidence rates.** One common belief is that definitions and diagnostic criteria of ASD have evolved over time into one single diagnosis (Zylstra et al., 2014). In the 2\textsuperscript{nd} edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association, 1968), autism and pervasive development disorder (PDD) were newly identified and defined as individuals who exhibited a persistent lack of awareness of others. The diagnoses were associated with the diagnosis of schizophrenia (Zylstra et al., 2014). In 1986, the 3\textsuperscript{rd} edition of the DSM (American Psychiatric Association, 1980) revised the diagnosis of ASD and PDD by adding the following symptoms: qualitative impairment in social interaction, qualitative impairment in communication and imaginative activity, and restricted activities and interests (Zylstra et al., 2014). In the 4\textsuperscript{th} edition of the DSM (American Psychiatric Association, 2000) an additional change was made. Specifically, detailed criteria were outlined for the diagnoses of Asperger syndrome, Rett syndrome, and childhood disintegrative disorder, which were then separated from the diagnosis of schizophrenia (Zylstra et al., 2014). Finally, the most recent edition of the DSM, DSM-5 (American Psychiatric Association, 2013), combined these different disorders into the joint diagnosis of ASD. Asperger’s
syndrome was removed and is now diagnosed as High Functioning Autism Spectrum Disorder (HFASD; Zylstra et al., 2014).

Over time, the classification of the ASD diagnosis has steadily changed, as more research has surfaced. It is likely that rates of ASD have risen due to a combination of factors, including increased awareness, more treatment options, and reclassification of the diagnosis (McGuinness & Lewis, 2010). Additionally, new brain research is emerging, specifically connecting certain anterior and posterior regions of the brain with ASD. Through functional magnetic resonance imaging (fMRI), Saunders et al. (2016) revealed that individuals with ASD show weaker connectivity between anterior and posterior regions. More specifically, Saunders et al. (2016) found a correlation between the severity of ASD symptoms and the amount of deviation in connectivity patterns.

**Demographics.** ASD is more prevalent in males than females. According to Auger (2013), 1 in 54 boys have ASD, compared to 1 in every 252 girls. In regards to race and ethnicity, 12 in 1,000 White/Non-Hispanic children have ASD, 10 in 1,000 Black/Non-Hispanic children have ASD, and 7.9 in 1,000 Hispanic children have ASD (Auger, 2013).

According to the U.S. Department of Education, National Center for Education Services (2012), the number of students (3-21 years old) who receive special education services for ASD diagnoses has risen from 2009 to 2012. In the year of 2009-2010, there were 378,000 students receiving special education services for ASD diagnoses, compared to the year of 2010-2011, which consisted of 417,000 students, and the year of 2011-2012, which consisted of 455,000 students (U.S. Department of Education, National Center for Education Services, 2012).
Autism Spectrum Disorder

Symptoms. ASD diagnoses fall on a spectrum in terms of the types and severities of characteristics, ranging from low functioning to high functioning. According to Auger (2013), low functioning ASD characteristics may include: impaired language capabilities or no language at all (non-verbal), disconnectedness from their internal world, aggression, lack of emotional connections, and intellectual disabilities. Characteristics of high functioning ASD may include: adequate to strong academic abilities, expertise in specific areas of interest, appropriate social skills with subtle deficits, and smooth transitions to new stimuli.

Therefore, each child with ASD requires different types and intensities of support (Auger, 2013). These varied characteristics that are prominent in children with ASD are characteristics that are also classified as distinct disorders.

Co-occurring Diagnoses

ASD is complex due to the co-occurring symptoms that appear in individuals diagnosed with the disorder. Co-occurring diagnoses are a combination of disorders that consist of homogeneous behaviors and intellectual conditions (Chorpita, Taylor, Francis, Moffitt, & Austin, 2004). As the literature has shown, there is comorbidity between ASD and other disorders, which makes the disorder complex. The complexity of the disorder is evident as each individual exhibits a range of abilities and challenges, similar to the criteria for other disorders (Trammel, Wilczynki, Dale, & McIntosh, 2013). Depending on where children fall on the spectrum, they will experience different co-occurring diagnoses. Some common co-occurring diagnoses with ASD include: Attention Deficit
Hyperactivity disorder, Obsessive Compulsive disorder, Oppositional Defiant disorder, Sleep Disturbances, and Anxiety.

**Attention deficit hyperactivity disorder.** According to American Psychiatric Association (2013), attention deficit hyperactivity disorder (ADHD) is defined as a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development. According to Witwer and Lecavalier (2010), 28% of children with ASD also meet the diagnostic criteria for ADHD.

**Obsessive compulsive disorder.** According to American Psychiatric Association (2013), obsessive compulsive disorder (OCD) is defined as a presence of obsessions (recurrent and persistent thoughts, urges, or images that are experienced, at some time during the disturbance, as intrusive and unwanted, and that in most individuals cause marked anxiety or distress), compulsions (repetitive behaviors or mental acts that the individual feels driven to perform in response to an obsession or according to rules that must be applied rigidly), or both. One common symptom of ASD is exhibiting repeated behaviors and having fixated interests, which is aligned with characteristics of OCD. According to Russell (2013), 30% of children with ASD have a comorbid diagnosis of OCD.

**Oppositional defiant disorder.** According to American Psychiatric Association (2013), oppositional defiant disorder (ODD) is defined as a pattern of angry/irritable mood, argumentative/defiant behavior, or vindictiveness lasting at least six months as evidenced by at least four symptoms from any of the specified categories (angry/irritable mood, argumentative/defiant behavior, or vindictiveness), and exhibited during interaction with at least one individual who is not a sibling. Similarly, children with ASD
also have a difficult time transitioning to new settings and events and may become aggressive depending on environmental stimuli. According to Mandy, Roughan, and Skuse (2014), about 28% of children with ASD have ODD as a comorbid diagnosis.

**Insomnia disorder.** According to American Psychiatric Association (2013), insomnia disorder is defined as a predominant complaint of dissatisfaction with sleep quantity or quality, associated with one or more of the following symptoms: difficulty initiating sleep, difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings, and early-morning awakening with inability to return to sleep. A study conducted by Liu, Hubbard, Fabes, and Adam (2006) found that on average, 87% of children with ASD have at least one sleep disturbance.

**Anxiety.** According to American Psychiatric Association (2013), Anxiety is defined as excessive anxiety and worry, occurring more days than not for at least six months, about a number of events or activities such as, work or school performance. Developmentally Approximately 40% of children with ASD meet the criteria for an anxiety disorder (van Steensel, Bogels, & Perrin, 2011) and approximately 84% of youth with ASD have sub-clinical anxiety symptoms that cause impairment to their daily functioning (White, Oswald, Ollendick, & Scahill, 2009). Sub-clinical symptoms are those that may occur without a formal diagnosis, but still have a detrimental impact on the individual. ASD is believed to trigger heightened anxiety symptoms due to difficulties regulating emotions and stimulation (Kerns & Kendall, 2012). Due to the high percentage of children with ASD who also have a co-occurring diagnosis of anxiety, it is important for schools to implement intervention programs that target students’ anxiety symptoms. This can improve their ability to function in a school setting.
School Based Interventions for Autism Spectrum Disorder

Due to their direct access to students each day, schools are an ideal location for the implementation of interventions for children with ASD (Chiu et al., 2013). Characteristics of school-based interventions for children with ASD should include direct instruction, role-playing, modeling, and performance feedback (Lopata et al., 2012). Another source recommends that intervention programs include visual schedules and directions, structured settings and schedules, low stimulus environments, video modeling, social stories, and sensory breaks (Hoffman, 2013). Many of these general intervention strategies that are effective for reducing the severity of ASD symptoms are also folded into interventions that target other symptoms, like anxiety.

School Based Interventions for Anxiety

According to Miller et al. (2011), there is a strong relationship between mental health outcomes and educational achievement, which makes school settings an optimal environment to deliver both educational and mental health services to students. In order for school-based interventions to be effective in assisting with a specific mental health disorder, however, interventions should have value, transportability, distribution, and system evaluation. A few reasons for why school-based interventions may be ineffective are: inaccessibility to trained staff, lack of time, poor program organization, and difficult implementation of the program (Miller et al., 2011).

School-based anxiety interventions most commonly involve cognitive-behavioral components such as: exposure strategies, relaxation training, cognitive restructuring and modeling (Shaker-Naeeni et al., 2014). The overall goal of a school-based anxiety intervention is to reduce anxiety risk factors through improving the child’s self-awareness
and recognition of symptoms. Effective anxiety interventions help students to develop social and emotional resilience, thereby decreasing anxiety (Gallegos, Beretvas, Benavides, & Linan-Thompson, 2012).

**FRIENDS.** FRIENDS is one school-based intervention that has been shown to be effective in preventing and reducing anxiety in children (Pahl & Barrett, 2007). The friends acronym stands for: F-feeling worried; R-relax; I-inner thoughts; E-explore plans; N-nice work; D-don’t forget to practice; S-stay calm (Pahl & Barrett, 2007). This CBT program teaches coping skills to children with anxiety and depression, emotional resilience, problem solving abilities, and self-confidence (Kaseysters et al., 2012). The program is implemented through role-playing, group discussions, and peer coaching (Maggin & Johnson, 2014). One study that sampled 70 preschool aged participants who received all 10 weekly sessions, lasting about 10-15 minutes, demonstrated significant reductions in anxiety overall.

**Taming worry dragons.** Taming Worry Dragons is a CBT program that targets anxiety in children (Miller, Short, Garland, & Clark, 2010). Taming Worry Dragons was created specifically for implementation in a school setting. The program teaches children how to manage their anxiety, and focuses on the following skills: thought-stopping, distraction, physical exercise, changing self-talk, and exposure. The programs utilizes children’s imaginative thinking by having them picture “worried dragons” in anxiety provoking situations and then create ways for the dragon to tame but not escape from the triggered stimuli. The results from one study of 116 elementary students showed a slight reduction in anxiety levels on the Multidimensional Anxiety Scale for Children 2nd
Edition (MASC-2; March, 2013) for students in the experimental group following the intervention (Miller et al., 2010).

**Building confidence.** Building confidence is another CBT program for children with anxiety (Chiu et al., 2013). The program includes modules for children, caregivers, teachers, and school nurses. The goal of the Building Confidence program is to teach children a variety of coping skills to use when feeling anxious which are taught through recognizing emotions, thoughts, practicing self-talk, and exposure tasks. In a study by Chiu et al (2013), 40 children with anxiety, ranging in ages 5-12, were randomly assigned to one of two groups: CBT group (n=22) and the waitlist group (n=18). The CBT group received 18 sessions of the Building Confidence program and showed a 95% anxiety level reduction post intervention, through administration of the MASC-2 (Chiu et al., 2013).

**School Based Interventions for ASD and Co-Occurring Anxiety**

According to Shaker-Naeeni et al. (2014), anxiety symptoms cause the most presenting problems for children with ASD in a school setting. Thus, interventions that specifically target anxiety symptoms may result in fewer school-based challenges for children with ASD. Currently, however, according to Tait (2013), the lack of assessments and tools to measure and treat anxiety for children with ASD is well documented and more notable in recent research. Treating anxiety symptoms in children with ASD can be complex, as difficulties can arise in implementation feasibility, transportability from school to home, and a lack of support from systems within the school (Tait, 2013).

**Modified cognitive behavior therapy.** CBT is a skill-building approach that involves psychoeducation, recognizing somatic symptoms caused by anxiety, cognitive
restructuring, and goal setting (Tait, 2013). According to Hoffman (2013), modified principles of CBT have strong effects on children with ASD due to its incorporation of environmental, visual, contextual, and social strategies. Unfortunately, there are multiple barriers in school-based implementation of CBT for children with ASD, such as lack of time, poorly trained personnel, and few available resources.

**Coping Cat**

Coping Cat, an evidence-based manualized CBT program, is one option for children with co-occurring ASD and anxiety. Coping Cat allows for flexibility in its treatment setting and for the individual receiving the intervention (Beidas, Benjamin, Puleo, Edmunds, and Kendall, 2010), which leads McNally-Keehn et al (2013, p. 57) to believe “coping Cat may be a feasible and effective program for reducing levels of anxiety in children with high-functioning ASD. According to Beidas et al. (2010), Coping Cat is a manualized intervention program for children ages 7 to 13 who meet criteria for an anxiety disorder such as Generalized Anxiety Disorder (GAD), social phobia (SP) and/or separation anxiety disorder (SAD). The program materials consist of one therapist manual and one workbook for each child, to guide the lessons for each session. The goal of Coping Cat is to teach children to recognize signs of anxious arousal and to let the signs be cues for them to utilize the strategies learned (McNally-Keehn, Lincoln, Brown, & Chavira, 2013). Coping Cat uses an acronym, F.E.A.R., to guide children through the intervention program so that the objectives of the intervention are met with integrity. F.E.A.R. stands for: F- Feeling Frightened; prompts children to focus on the somatic reactions related to the current situation, E- Expecting Bad Things to Happen; prompts children to identify anxious cognitions, A- Attitudes and Actions that
Can Help; prompts children to activate learned coping skills such as problem solving, relaxation, and deep breathing. R- Results and Rewards; prompts children to rate their performance and effort and then receive praise or an award for facing different fears (Beidas et al., 2010). Children are taught the F.E.A.R. acronym and then begin applying it to exposure tasks. The participants are encouraged to reflect on their competency with using the F.E.A.R. acronym. The goal is for participants to become automatic with utilizing the acronym in anxious situations.

The most critical component of the program is exposure tasks, introduced in sessions four through eight (Kendall et al., 2013). The situations presented to each participant are individually designed based on particular fears and worries that are determined through conversations with the clinician and activities during early sessions (1-4). Feelings are recorded on a Fear Ladder (not too high, getting higher, and you’re up there) and on situation cards (easy, medium, and challenging). According to Kendall et al. (2013), the first practice sessions (4-5) involve in-session exposure tasks, associated with low levels of anxiety, such as being late for class or answering a question incorrectly (Kendall et al., 2013). Later sessions (6-8) involve repeating this process through in vivo situations that are identified as being anxiety provoking for the participant, such as speaking in front of a group of people or taking a test. These exposure tasks help participants to master their skills by exposing them to different anxiety-provoking situations. Throughout the program, participants are prompted to utilize the F.E.A.R. plan to help guide them through each anxiety-provoking exposure situation they encounter.

In addition to in-session exposure tasks, participants also practice exposure tasks for homework, called Show That I Can (STIC) tasks (Kendall et al., 2013). These
homework assignments ask participants to actively practice the strategies they learn from the clinician and their workbook in a variety of anxiety-provoking situations at home or in other social settings. At the start of each session, participants share the outcomes of their STIC task(s) with the clinician, including, (a) their thoughts, (b) their feelings, (c) and their Subject Units of Distress Scale (SUDS) ratings of the amount of anxiety that they experienced. This process helps the participants recognize their somatic feelings, become aware of how they reacted to the stimuli, and learn better ways to control their reactions.

After discussing each STIC task, participants are rewarded for any attempt or success at overcoming the situation or stimuli. The rewards provided to participants are dependent upon the number of stickers (points) that each participant earns throughout the intervention. Each child fills out a menu (Kendall et al., 2013) during the first session with the clinician to determine a reasonable number of stickers that results in rewards. Rewards start small, such as earning a small toy and then progress to things such as getting ice cream with the clinician. If a participant forgets to complete their assigned STIC homework tasks, the clinician begins the session by asking the participant to briefly reflect on their week and share; (a) their thoughts, (b) their feelings, (c) and their reactions about an anxiety provoking situation (Kendall et al., 2013). The psychoeducation involved in Coping Cat allows the child to receive direct instruction about anxiety and the exposure tasks allow for practice opportunities. There are two versions of the Coping Cat program, a 16 week and 8 week version.

The 16 week Coping Cat program is divided into two parts. Sessions one through eight include education, awareness of physical symptoms associated with anxiety,
cognitive restructuring, developing a coping plan, evaluating performance and administering self-reinforcement, while sessions 8 through 16 include behavioral content through exposure tasks in a hierarchical sequence of anxiety provoking situations ( McNally-Keehn et al., 2013 ).

The Brief 8 week Coping Cat program contains the same content as the 16 week edition; however, exposure tasks are introduced earlier ( Kendall et al., 2013 ). Beginning with the session four, exposure tasks are included into the session’s lesson, starting with anxiety-provoking situations that cause low levels of anxiety. Then, starting with session five, participants participate in exposure tasks that provoke higher levels of anxiety, where they generalize the content learned in the intervention and apply it to situations that are increasingly difficult to cope with each week. The exposure tasks are more directly effective at reducing anxiety symptoms than the psychoeducation components, so participants, who receive the Brief Coping Cat, are not deprived of content ( Kendall et al., 2013 ).

**Coping Cat Modifications for Children with Autism Spectrum Disorder**

According to McNally-Keehn et al. (2013), Coping Cat may be an effective intervention for children with ASD across a range of clinical settings due to its feasibility and flexibility. For example, the Brief Coping Cat allows for “flex call outs,” which provide suggestions for how sessions can be modified ( Kendall et al., 2013 ). According to Kendall et al. (2013), Coping Cat is sensitive to participants with (a) co-occurring conditions, (b) developmental delays, (c) family and environmental stressors, (d) low socio economic status, and (e) home and school functioning impairments ( Kendall et al., 2013 ). Common modifications to the Coping Cat for children with ASD include
involvement of caregivers, shorter session periods, scheduled breaks, role-playing, visual schedules or directions, inclusion of the child’s special interests, and making adjustments based on the child’s developmental level (Shaker-Naeeni et al., 2014).

In a study conducted by McNally-Keehn et al. (2013) the 16 week Coping Cat program was implemented with a sample of (n = 22) children ages 7 through 13 years old with comorbid ASD and anxiety. Twelve children were in the intervention group and ten children were in the wait-list group; the children in the intervention group attended sixteen weeks of intervention with sessions lasting 60-90 minutes, once a week (McNally-Keehn et al., 2013). Modifications to the Coping Cat program were made for participants in this study, including: parent involvement at the end of each session (10-15 minutes) to help with participants’ compliance in completing homework, inclusion of visual materials to accommodate participants’ unique learning style, and integration of participants’ specific interests and preoccupations, Furthermore, concrete language was used to accommodate participants’ rigid language and thought patterns, and the intervention involved incorporation of sensory breaks and enhanced reinforcement strategies to promote on-task behavior during sessions. Results showed that post intervention, 58% of children in the intervention group no longer met the criteria for an anxiety disorder and 36% of those children maintained their absence of anxiety symptoms at a two month follow-up (McNally-Keehn et al., 2013). The results from this study showed that the Coping Cat program was effective in reducing anxiety in children with ASD. However, thus far, no known studies have examined whether the Brief Coping Cat program can reduce anxiety in children with ASD.
The Present Study

There are interventions for children with ASD and interventions for children with anxiety, but there are limited interventions available for children with co-occurring ASD and anxiety, specifically those that are feasible to implement in a school setting. The present study addresses the need for an intervention that can be modified to address anxiety symptoms in children with ASD. Due to the positive outcomes demonstrated with the Brief Coping Cat, and studies that demonstrate the ability for modifying the 16-week Coping Cat to meet the needs of children with ASD, the present study set out to investigate the transportability of the Brief Coping Cat program, when implemented in a school setting for children with co-occurring ASD and anxiety.
Research Question and Prediction

The following research question was examined in the present study:

**Research question.** *What is the effectiveness of the modified Brief Coping Cat program in reducing anxiety for children with ASD when implemented in a school setting?*

**Prediction.** It was predicted that, when modified, the Brief Coping Cat program would be effective in reducing anxiety for children with ASD when implemented in a school setting. Currently, there are no known studies that have implemented the Brief Coping Cat program for children with ASD, thus, predictions are derived from the results of the 16 week Coping Cat. For example, due to a successful study conducted by McNally-Keethn et al. (2013), these clinicians found that Coping Cat may be an effective intervention for reducing levels of anxiety in children with ASD in a variety of clinical settings due to its flexibility and feasibility. Reaven, Blakeley-Smith, Culhane-Shelburne, and Hepburn (2011) note that positive outcomes from studies examining CBT interventions for children with ASD, have contributed to a growing body of research, which aims to identify additional effective interventions for this population.
**Research Design**

A single-case multiple baseline across participants research design was used to evaluate the outcomes of the intervention (Rhoda et al., 2011). This methodology was chosen because it allows for: (a) systematic manipulation of intervention effects for a small sample size, (b) collection of data within a clearly defined setting, and individual time restraints, (c) calculation of an initial effect size of an intervention early on in the intervention phase through collection of baseline data, and (d) creation of an ideal condition for intervention implementation over a staggered time frame (Christ, 2007).

This study used a repeated measure to assess weekly anxiety levels throughout the baseline and intervention phases. The independent variable was the modified Brief Coping Cat program and the dependent variable was the reduction in anxiety levels measured weekly by a Subject Unit of Distress Scale (SUDS) rating scale. Initially the Multidimensional Anxiety Scale for Children-2-Self Report (MASC-2-SR; March, 2013) was proposed as an additional measure to demonstrate changes in anxiety levels from pre and post, but due to the complexity of assessment questions and the difficulty that the participants experienced when selecting answers that matched their anxiety experiences, the researcher decided that the MASC-2-SR was not a valid measurement. Each participant, however, met the eligibility cutoff score of 60 or higher on the total subscale. To replace the MASC-2-SR as a pre/post measure, the students’ special education teacher was interviewed regarding each participant’s anxiety in order to further demonstrate reductions in anxiety levels from pre to post. The data collected from the interviews were analyzed and examined for changes that occurred over the course of the intervention.
Participants

Participants in the present study included (n = 3) students from an Ohio elementary school, between 7 and 11 years old, who have a diagnosis of ASD and co-occurring anxiety symptoms that interfere with daily functioning. The diagnosis of ASD for each student was verified through the school’s documentation, via the students’ Individualized Education Plan (IEP). Convenience sampling was used to recruit participants for the study through access to a high functioning autism unit at an Ohio elementary school. Students in the ASD unit automatically met the first qualifier for the present study (educational identification of autism). After meeting the first qualifier, students whose parents provided informed consent were screened for anxiety using the MASC-2-SR (March, 2013). The students were asked to complete the Self Report (SR) of the MASC-2-SR, and students who received a T-score of 60 or higher on the total subscale met the second qualifier for eligibility for the study. Participants were excluded from participating in the study if they: (a) did not meet the qualifying T-score on the MASC-2-SR, (b) took medication to control for anxiety-related symptoms, (c) did not recently start an intervention directly targeting anxiety, or (d) did not speak proficient English. Each participant earned a score of a 60 or higher, which made them eligible for participation in the study. However, the MASC-2-SR was not re-administered after the intervention phase because of invalid scores due to the complexity of assessment questions and the difficulty that the participants experienced when selecting answers that matched their anxiety experiences. Therefore, the MASC-2-SR pre-test score was not further analyzed, and was instead, replaced with pre and post interview questions, answered by the participants’ special education teacher.
Ben. Ben is a ten-year-old boy with ASD and co-occurring anxiety. Additionally, he exhibits symptoms of OCD and ADHD. Ben was identified for special education services in kindergarten. According to Ben’s special education teacher, he is high functioning on the ASD spectrum and exhibits the following ASD characteristics: perseveration, rigidity (school schedule and his after school schedule), lack of social awareness and social skills (verbal and physical aggression towards peers and no eye contact), lack of fine and gross motor skills, repetitive behaviors (jumping), and fixated interests (videogames). In regard to anxiety symptoms reported by the special educator teacher through observations, Ben experiences anxiety when the school schedule changes, when there is a substitute teacher, when he does not know how to do his work, and when there are thunderstorms. Therefore, within the school setting, Ben requires visual schedules, support from his teachers when completing challenging work, previewing any changes for the next school day, and scheduled calming breaks.

Kasey. Kasey is a ten-year-old boy with ASD and co-occurring anxiety. Additionally, he exhibits symptoms of OCD and ADHD. Kasey was identified for special education services in preschool. According to Kasey’s special education teacher, he is high functioning on the ASD spectrum and exhibits the following ASD characteristics: rigidity (school schedule, class work), repetitive behaviors (flapping), lack of fine and gross motor skills, delayed receptive and expressive communication skills, fixated interests (superheroes and Mario kart), and lacks social skills (verbal aggression towards peers). In regard to anxiety symptoms reported by the special educator teacher through observations, Kasey experiences anxiety when there are fire and tornado drills, when he is late to class, when he doesn’t finish an assignment, when he feels sick, and when he
isn’t winning while playing a game (computer game or iPad game). Therefore, within the school setting, Kasey requires visual timers to while completing his work, support from his teachers when he is losing a game or when he is sick, and preparation for when there is a fire or tornado drill.

**Destiny.** Destiny is a seven-year-old girl with ASD and co-occurring anxiety. Additionally, she exhibits symptoms of OCD and ODD. Destiny was identified for special education services at the beginning of first grade. According to Destiny’s special education teacher, she is high functioning on the ASD spectrum and exhibits the following ASD characteristics: rigidity (school schedule), lack of social awareness and social skills (verbal and physical aggression towards peers and staff), significant OCD and ODD behaviors. In regard to anxiety symptoms reported by the special educator teacher through observations, Destiny experiences anxiety when she is late for class, when she is given too many directions/ demands at once, when she is told ‘no’, when someone is standing too close to her, and when she is unsure about how to do an assignment. Therefore, within the school setting, Destiny requires visual schedules with only a few tasks listed at once, first/then schedules, scheduled breaks, space from peers and teachers, and frequent check-ins from her teacher.

**Materials**

**Measures.** Two primary measures were used in the present study to demonstrate change in the dependent variable (levels of anxiety). The first measure was used as a pre/post indicator of reduction in anxiety levels. The second measure was to establish baseline prior to implementation of the intervention and as a repeated measure to demonstrate weekly changes in anxiety levels.
**Interview questions.** The researcher interviewed the special education teacher for each participant separately. The researcher and special education teacher collaboratively wrote the four interview questions, which included: 1) On average, how often does (participant’s) anxiety result in behavioral outbursts 2) On average, how many minutes does it take for (participant) to calm? 3) On average, how many minutes are in-between anxious occurrences? 4) On a scale from 1 (calm) to 8 (loss of control), what number best associates with (participant) when he/she is anxious? The data obtained from the special education teacher’s pre and post interview responses for each participant were estimated based on general self-report from the special education teacher’s observations of each participant in the classroom. This pre and post measure was used as an additional indicator of reduction in anxiety levels.

**Subject units of distress scale (SUDS)** Due to the internalizing nature of anxiety, it is difficult for external observers to accurately detect and measure it. Therefore, the subject units of distress scale (SUDS) served as a behavioral representation, measuring participants’ anxiety-related symptoms in response to encountered exposure tasks each week. The SUDS used in the present study was acquired from the Brief Coping Cat manual.

Each participant rated their anxiety levels associated with Show That I Can (STIC) tasks on the SUDS from 1 to 8; 1 indicating that the STIC task caused them to feel slightly anxious, to 8 indicating that the STIC task caused them to feel very anxious. Each week, SUDS ratings were recorded to provide a behavioral representation of the child’s anxiety levels over time. Eight black and white faces that ranging from excited to very worried facial expressions replaced the numbers 1 through 8 on the SUDS anxiety
rating scale, which allowed participants to more easily identify their level of anxiety by viewing facial expressions instead of numbers (see Appendix A). This data was graphed and used as the primary dependent measure representing change in the multiple baseline design.

**Intervention materials.** Participants completed all eight sessions of the Brief Coping Cat manualized program (Kendall et al., 2013). The sessions in the Brief Coping Cat manual include: 1) building rapport, treatment orientation, and the first parent meeting, 2) identifying anxious feelings, self-talk, and learning to challenge thoughts, 3) introducing problem-solving, self-evaluation, and self-reward, 4) reviewing skills already learned, practicing in low anxiety-provoking situations, and the second parent meeting, 5) practicing in moderately anxiety-provoking situations, 6) practicing in high anxiety-provoking situations, 7) practice in high anxiety-provoking situations, and 8) practicing in high anxiety situations and celebrating success. Appendix B provides the objectives for each session.

**Accommodations and modifications.** Accommodations and modifications were made to the intervention to meet individual cognitive and emotional needs. Accommodations and modifications included: increased parent involvement, shortened intervention sessions, the number of and setting of STIC task completion, utilization of visual materials, scheduled sensory breaks, utilization of first/then language, incorporation of participants’ interests, and frequent positive reinforcement, each described in detail to follow. The researcher emailed the participants’ parents after each intervention session with the content their child learned, as well as examples of home-strategies to implement in order to strengthen the newly learned skills. The 45 minute
sessions were shortened to 25 minutes, by reducing the number of activities for each session to ones that were easily understood, simple, and included pictures to help with their understanding. The STIC tasks were completed at school instead of home with the guidance from their special education teacher, during times when they experienced anxiety. If, however, the STIC task was not completed during school, then the researcher started the next intervention session with asking the participant to reflect on their feelings associated with the previous anxious experience. Kendall et al. (2013) stated in the Brief Coping Cat manual that this is an acceptable modification. Additionally, the researcher modified the number of STIC tasks that each participant completed due to time restraints within the school setting.

The inclusion of visual aids was an essential accommodation in the intervention for the participants. Specifically, the F.E.A.R. acronym was created as a visual with enlarged F.E.A.R. steps, and explicit questions were added to each letter of the acronym (Appendix C). For example, for the letter F, ‘feeling frightened’, the researcher added: check your body, are your identified parts (belly, hands, head) feeling strange? These explicit questions cued participants to check their identified body parts, answer the question if they felt strange, and move to the next letter of the acronym. Additionally, the researcher modified the SUDS ratings by replaced the rating scale’s numbers, 1 through 8 with black and white faces, ranging from excited to worried. Additionally, another visual utilized by the researcher utilized a sticker chart, which served as visual reinforcement. The researcher offered sensory breaks (squeezing a stress ball, bouncing on a bounce chair, listening to music) to participants, as needed. The researcher utilized first (non-preferred activity) then (preferred activity) reminders to increase compliance.
from participants. The researcher incorporated examples that included topics of specific interest into each intervention activity to help participants better relate to and understand the activity’s content such as, an example that involved the characters, Mario and Luigi. Additionally, stickers and candy of their choice were offered as their end-of-session reward. Finally, the researcher modified the manual’s reward system (earning tokens for cash-in at the end of the 8-week intervention) by having participants earn one sticker after each activity and earn candy at the end of the intervention session if they earned all their stickers.

The researcher implemented the intervention, but the special education teacher was also present to increase compliance from participants and improve generalization of the intervention to the classroom setting. After each session, the researcher emailed each participant’s parents with the following: the topics covered during the session of intervention, strengths exhibited by their child throughout the session, progress on the intervention objectives, and new skills that their child was taught during the session so they can reinforce and help their child practice the skills at home.

Due to the school schedule and limited number of days to implement the intervention, the participants had staggered intervention dates, but with only one or two days in between each intervention. Additionally, due to the school’s schedule and limited number of days, the intervention start dates were not based on the previous participant’s response to the intervention indicating that this study was a fixed interval. At week five of the intervention, the order of two participants (Kasey and Destiny) also changed because Destiny exhibited greater compliance at the beginning of the week than the end of the week. All participants were recruited at the same time, but the order in which each
participant started the intervention was determined by the order in which their consent
forms were returned.

**Procedures**

**Phase 1: IRB approval.** The University of Dayton Institutional Review Board (IRB) approved this study prior to data collection.

**Phase II: Recruitment, consent, and screening.** Prior to recruitment, the elementary school principal was asked to provide consent (see Appendix D), participants’ parents provided consent (see Appendix D), and participants provided assent (see Appendix D). The researcher and special education teacher collaboratively recruited participants for the study based on the eligibility criteria: identification of ASD and co-occurring anxiety symptoms. Once the sample of students with ASD and co-occurring anxiety were identified, parent consent and student assent were obtained and each participant was screened to determine his or her current anxiety level ($t$-score = 60 or higher on total subtests) using the MASC-2 SR. The special education teacher also answered a set of interview questions regarding each participant’s anxiety, which served as a baseline measure of anxiety levels. In all written documents, including this thesis, participants were identified by a pseudo name to maintain confidentiality. Additionally, data were kept in a secure filing cabinet and on a password protected computer.

**Phase III: Baseline.** Baseline data were collected for one week using the SUDS measure. Prior to implementation of the modified Brief Coping Cat, participants used their SUDS to rate their levels of anxiety regarding three different situations or stimuli that they experienced during one week. The three ratings of anxiety were averaged to
establish a baseline for the participant’s average anxiety levels per week. The baseline average was then compared to their SUDS ratings during the intervention phase.

**Phase IV: Intervention.** The Brief Coping Cat manualized program consists of eight sessions that help teach children to recognize signs of unwanted anxious arousal and to let the signs serve as cues for the use of anxiety management strategies (Kendall et al., 2013). All participants completed all eight sessions of the manual, regardless of their anxiety level. However, session 8 was blended into session 7 due to time constraints with the school schedule. Each session involved multiple strategies such as role-playing, coping modeling, education, self-awareness, relaxation training, and practice (Kendall et al., 2013). The last four sessions were devoted to application and practice, which specifically, focused on incorporation of the F.E.A.R. acronym (Kendall et al., 2013). Before every session, if participants did not complete their STIC tasks and rate their anxiety level on their SUDS, they did so with the help from the researcher and special education teacher.

Aligned with a multiple baseline research design, participants were given staggered intervention start points. Because the baseline data was collected for each participant during the same week, the participants’ start points (first, second, third) were determined by the order of which parental consent was received by the researcher. According to Rhoda et al. (2011), the intervention start points should be long enough in between for the intervention to be in full effect. However, even though the participants’ start points were staggered, the space in between start dates was only one or two days due to the limitedness of the school schedule.
Phase V: Post intervention and data collection. Following the intervention period, the special education teacher answered the same set of interview questions from the pre-intervention interview regarding each participant’s anxiety. The responses for the interview questions served as an additional post-measure of anxiety reductions.
CHAPTER IV
RESULTS

Following are the results of the modified Brief Coping Cat cognitive behavioral intervention for students with ASD and co-occurring anxiety, including an analysis of the pre/post and weekly repeated data for each participant.

Data Analyses

To answer the research question: What is the effectiveness of the Brief Coping Cat in reducing anxiety for children with ASD when implemented in a school setting? The repeated measure data (SUDS) for all participants were graphed and analyzed using a visual analysis for each participant’s outcome, specifically examining: 1) level, 2) trend, 3) variability, 4) immediacy of the effect, 5) overlap of data in different phases, and 6) consistency of data across similar phases. In addition, calculation of an effect size for each participant was completed using Cohen’s $d$ ($d$-index); a $d$-index that is +/-0.80 is considered a large effect (Kratochwill et al., 2010). This approach is used when there are at least three baseline data points and variability exists among the data (Hunley & McNamera, 2010). Pre/post interview data were analyzed using descriptive statistics.

Prior to conducting the study, the researcher planned to administer the MASC-2-SR to each participant both before and after the intervention phase. However, due to the complexity of assessment questions, the researcher decided that the MASC-2-SR was not
a valid measurement of students’ anxiety levels. It was only used, therefore, to establish eligibility for the study, and was not re-administered after the conclusion of the intervention. To replace the MASC-2-SR, interview questions were given to the special education teacher to answer regarding to each participant’s anxiety. The data from this measurement were analyzed through content analysis by interpreting the responses given for each question, and was examined for changes that occurred over the course of the intervention.

Research Question

*What is the effectiveness of the modified Brief Coping Cat program in reducing anxiety for children with ASD when implemented in a school setting?*

In order to determine the effectiveness of the modified Brief Coping Cat program on reducing anxiety for children with ASD when implemented in a school setting, each participant completed weekly SUDS, which measured reductions in anxiety levels. Additionally, the special education teacher responded to four questions regarding each participant’s anxiety, prior to and after implementation of the intervention. The following sections describe the results for each of the three participants, Ben, Kasey, and Destiny (pseudonyms), in the modified Brief Coping Cat intervention.

**Ben**

**Observations.** During intervention sessions, Ben occasionally had difficulty with sustaining his attention during sessions, putting forth effort, and reflecting on anxiety occurrences that he rated about on his SUDS. Ben, however, was easily re-directed though the following accommodations: reminders of the incentive, utilizing first/then language, simple and direct communication, and allowing for sensory breaks. Strengths
of Ben’s were that he was a quick learner and had a great memory; he memorized the F.E.A.R. steps by session three of intervention. During the first session, Ben listed the following triggers for his anxiety: having a sub, doing challenging schoolwork, thunderstorms, and bugs. These triggers were addressed throughout the intervention sessions and used as situations for his exposure tasks. Throughout the intervention sessions, Ben enjoyed earning stickers, completing a superhero activity as part of an intervention session, and participating in exposure tasks.

**SUDS anxiety ratings.** Ben completed the 8-item SUDS anxiety rating scale during each session of baseline and intervention. Rating his SUDS each week was sometimes difficult for Ben because of obsessive and indecisiveness behaviors that he exhibited, aligning with his diagnosis of OCD. During these times, Ben benefited from the researcher talking through the situation he was rating, narrowing down the rating options, and counting to five for him to make a choice. Ben’s SUDS data demonstrated a decrease in anxiety from baseline to the end of the intervention. Figure 1 depicts Ben’s SUDS data during each session of the baseline and intervention phases. Ratings were collected weekly at the beginning of each intervention session and three times, in one week, during the baseline phase.
Figure 1. Ben’s SUDS anxiety ratings

Visual analysis of Ben’s graphed data includes a description of level, trend, variability, immediacy of the effect, and overlap (Kratochwill et al., 2010). During baseline, the average anxiety ratings reported by Ben was 6 compared to an average of 3.3 during intervention. This indicates that Ben experienced a reduction in anxiety levels by the end of the intervention. When visually interpreted, however, it is also apparent that a downward trend occurred in the baseline phase. The researcher and special education teacher believed this may be contributed to Ben experiencing more anxiety at the beginning of the week (returning to school from the weekend) when his first baseline point was obtained, compared to the middle and end of the week, when his second and third baseline points were obtained. Visual analysis further indicates a downward trend line in the baseline and intervention data. Starting with week five, an effect from the intervention was shown to be present. Across the remaining intervention data points,
however, the variability that is present is likely contributed to the difficulty that Ben experienced when he rated his level of anxiety after reflecting on anxious situation.

Magnitude of change statistics were calculated; specifically a $d$-index was calculated to yield an effect size (Kratochwill et al., 2010). The $d$-index for Ben was -1.45 (Intervention mean: 3.3 - Baseline mean: 6/Standard deviation of all data: 1.86 = -1.45), thus the Brief Coping Cat implemented in this study with Ben, was an effective intervention in reducing anxiety. Additionally, the percentage of non-overlapping data (PND) points was 83%, indicating a moderately effective intervention.

**Pre and post interviews.** The MASC-2-SR was administered to Ben prior to the intervention and earned a t-score of 71, which is considered Slightly Elevated. Table 1 depicts the responses given by the special education teacher for the pre and post interview questions regarding Ben’s anxiety symptoms. As Table 1 shows, based on the special education teacher’s responses, Ben’s anxiety improved from pre and post of the intervention. The biggest improvement was reported in question two. Prior to the intervention, it took Ben approximately 30 minutes to calm down during an anxious episode compared to approximately five minutes after the intervention. The smallest improvement was reported in question five. Prior to the intervention, Ben’s intensity of anxiety was rated at a 5 compared to a 4 after the intervention. Overall, based on the pre and post data gathered from interview questions, Ben’s anxiety improved.
Table 1

**Ben’s Pre and Post Interviews**

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-Interview</th>
<th>Post-Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>On average, how many times per day does Ben need to be de-escalated due to feeling anxious?</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>On average, how many minutes does it take for Ben to calm?</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>On average, how many minutes are in-between anxious occurrences?</td>
<td>40</td>
<td>150</td>
</tr>
<tr>
<td>On a scale from 1 (calm) through 8 (loss of control), what number best associates with Ben when he is anxious?</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

**Kasey**

**Observations.** During intervention sessions, Kasey had difficulty transitioning to new activities and focusing on the task at hand. Therefore, the researcher frequently prompted and re-directed Kasey, while also utilizing first-then language, and frequent reinforcement. Throughout the intervention sessions, Kasey struggled with memorizing the F.E.A.R. steps and rating his level of anxiety associated with STIC tasks because for Kasey, all anxiety occurrences caused him extreme anxiety. During the first session, Kasey listed his anxiety triggers, which consisted of: fire drills, losing a game, having a substitute teacher and changes in routine. These triggers were addressed throughout the sessions and used as situations for his exposure tasks. Throughout the intervention
sessions, Kasey enjoyed earning stickers after each activity and participating in exposure tasks.

**SUDS anxiety ratings.** Kasey completed the 8-item SUDS anxiety rating scale during each baseline and intervention session. Completing the anxiety rating scale each week was difficult for Kasey due to difficulty rating the level of anxiety that he experienced. To accommodate Kasey’s difficulty with rating his SUDS, the researcher asked him questions to better narrow his choices of ratings. For example, the researcher asked: 1.) “Did you feel scared or excited? (to guide him in the right direction on the scale) 2.) Have you ever felt this scared before? 3.) How long did it take until you felt better?” Kasey’s rating scale revealed a decrease in anxiety from the start to the end of the intervention. Figure 2 depicts Kasey’s SUDS data during each session of the baseline and intervention phases. Ratings were collected weekly at the beginning of each intervention session and three times, in one week, during the baseline phase.
Visual analysis of Kasey’s graphed data includes a description of level, trend, variability, immediacy of the effect, and overlap (Kratochwill et al., 2010). There was a significant change in level from the baseline phase to the intervention phase. During baseline, the average anxiety ratings reported by Kasey was 6.3 compared to an average of 3 during intervention. This indicates that Kasey experienced a reduction in anxiety levels by the end of the intervention. It is apparent from the data that, although small, a decreasing trend occurred in the baseline phase from session one to session two. Visual analysis further indicates a downward trend line in the baseline and intervention data. Starting with week four, an effect from the intervention was demonstrated and then across the remaining intervention data points, there was slight variability. Specifically, the data point for session six was rated in regard to a test he had taken, which was a trigger that he identified as causing him anxiety.

Figure 2. Kasey’s SUDS anxiety ratings
Magnitude of change statistics were calculated; specifically, a $d$-index was calculated to yield an effect size (Kratochwill et al., 2010). The $d$-index for Kasey was $-1.87$ (Intervention mean: 3- Baseline mean: 6.3/Standard deviation of all data: 1.83 = -1.87), thus the Brief Coping Cat implemented in this study with Kasey was an effective intervention in reducing anxiety. Additionally, the percentage of non-overlapping data (PND) points was 100%, indicating a highly effective intervention.

**Pre and post interviews.** The MASC-2-SR was administered to Kasey prior to the intervention and earned a score of 70, which is considered Very Elevated. Table 2 depicts the responses given by the special education teacher for the pre and post interview questions regarding Kasey’s anxiety symptoms. As Table 2 shows, based on the special education teacher’s responses, Kasey’s anxiety improved from pre and post of the intervention. The biggest improvement was reported in question three. Prior to the intervention, it took Kasey approximately 180 minutes to calm down during an anxious episode compared to approximately 210 minutes after the intervention. Kasey’s responses for questions one and two remained consistent, because according to the special education teacher, Kasey has very infrequent anxiety occurrences that last for short amount of time. Overall, based on the pre and post data gathered from interview questions, Kasey’s anxiety symptoms remained fairly consistent, with slight improvement.
Table 2

*Kasey’s Pre and Post Interviews*

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-Interview</th>
<th>Post-Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>On average, how many times per day does Kasey need to be de-escalated due to feeling anxious?</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>On average, how many minutes does it take for Kasey to calm?</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>On average, how many minutes are in-between anxious occurrences?</td>
<td>180</td>
<td>210</td>
</tr>
<tr>
<td>On a scale from 1 (calm) through 8 (loss of control), what number best associates with Kasey when he is anxious?</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**Destiny**

**Observations.** During intervention sessions she had difficulty transitioning to new activities and became upset when she did not understand an activity. At these times, Destiny cried, yelled, exhibited verbal aggression, and was destructive to materials in front of her, such as her workbook. During this time, the researcher gave her space and limited communication until she was calm. According to the special education teacher, these anxious outbursts were typical for Destiny. She explained that a small anxious trigger typically results in a big emotional reaction. Therefore, the F.E.A.R. steps were beneficial for her because they helped to slow down her thought process, think clearly, and seek the help that she needed during these times. During the first session, Destiny listed her anxiety triggers, which consisted of: making choices, disposing of garbage, and
transitions. These triggers were addressed throughout the sessions and used as situations for her exposure tasks. Destiny enjoyed the exposure tasks, completing activities that involved pictures of animals, earning stickers, and updating the researcher about new coping strategies she tried.

**SUDS anxiety ratings.** Destiny completed the SUDS 8-item anxiety rating scale during each session of baseline and intervention. Completing SUDS ratings was occasionally a difficult task for her due to the difficulty she faced when she assessed the severity of her anxiety levels. For example, one time a cafeteria worker told her to throw away wrappers she had stuffed in her jean pocket and another time, she got separated from her class while at the zoo for a class field trip. She rated both of these situations as causing her significant levels of anxiety. With more practice of rating her anxiety levels associated with anxious situations, she improved on assessing the ‘size of the problem.’ Destiny’s ratings on the SUDS demonstrated a decrease in anxiety from baseline to the end of the intervention. Figure 3 depicts Destiny’s SUDS data during each session of the baseline and intervention phases. Ratings were collected weekly at the beginning of each intervention session and three times, in one week, during the baseline phase.
Destiny’s SUDS Anxiety Ratings

<table>
<thead>
<tr>
<th>Session</th>
<th>Anxity Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.0</td>
</tr>
<tr>
<td>2</td>
<td>5.5</td>
</tr>
<tr>
<td>3</td>
<td>Baseline</td>
</tr>
<tr>
<td>4</td>
<td>Intervention</td>
</tr>
<tr>
<td>5</td>
<td>3.0</td>
</tr>
<tr>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>7</td>
<td>1.5</td>
</tr>
<tr>
<td>8</td>
<td>3.0</td>
</tr>
<tr>
<td>9</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Figure 3. Destiny’s SUDS anxiety ratings

Visual analysis of Destiny’s graphed data includes a description of level, trend, variability, immediacy of the effect, and overlap (Kratochwill et al., 2010). There was a slight change in level from the baseline phase to the intervention phase. During baseline, the average anxiety ratings reported by Destiny was 5.3 compared to an average of 3.6 during intervention. This indicates that Destiny experienced a reduction in anxiety levels by the end of the intervention. Despite moderate variability, visual analysis further indicates a downward trend line in the baseline and intervention data. At week six, Destiny’s rating was seen as outlier compared to her other ratings, which was due to her having a difficult day that day, behaviorally. Destiny exhibited agitation, opposition, and anxiousness during the session and had difficulty complying with the SUDS ratings.

Magnitude of change statistics were calculated; specifically a d-index was calculated to yield an effect size (Kratochwill et al., 2010). The d-index for Destiny was -
1.14 (Intervention mean: 3.6 - Baseline mean: 5.3 / Standard deviation of all data: 1.48 = -1.14), thus the Brief Coping Cat implemented in this study with Destiny, was an effective intervention in reducing anxiety. Additionally, the percentage of non-overlapping data (PND) points was 16%, indicating the intervention was not effective. The low PND for Destiny may be attributed to challenges related to her OCD and ODD diagnoses.

**Pre and post interviews.** The MASC-2-SR was administered to Destiny prior to the intervention and earned a score of 61, which is considered Slightly Elevated. Table 3 depicts the responses given by the special education teacher for the pre and post interview questions regarding Destiny’s anxiety symptoms. As Table 3 shows, based on the special education teacher’s responses, Destiny’s anxiety improved from pre and post of the intervention. The biggest improvement was seen in question three. Prior to intervention, there were about 15 minutes were in-between each anxiety occurrence compared to about 150 minutes in-between each anxiety occurrence post intervention. Overall, based on the pre and post data gathered from interview questions, Destiny’s anxiety symptoms showed improvement.
Table 3

Destiny’s Pre and Post Interviews

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-Interview</th>
<th>Post-Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>On average, how many times per day does Destiny need to be de-escalated due to feeling anxious?</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>On average, how many minutes does it take for Destiny to calm?</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>On average, how many minutes are in-between anxious occurrences?</td>
<td>15</td>
<td>150</td>
</tr>
<tr>
<td>On a scale from 1 (calm) through 8 (loss of control), what number best associates with Destiny when she is anxious?</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

Overall Group Effectiveness

An average effect size ($d$-index = -1.48) was calculated for the entire group to determine an overall intervention effect based on the weekly SUDS anxiety ratings.

When examined holistically, the modified Brief Coping Cat demonstrated a large effect. A $d$-index of +/-0.80 and higher is considered to be a large effect (Kratochwill et al., 2010).

Additionally, the averages of pre and post teacher interview responses were calculated to determine the overall group changes prior to and after implementation of intervention, as shown in Table 4. The average pre and post interview responses for question three showed the largest change, indicating that participants were successful at extending the amount of time in-between anxious occurrences. This may be due to the coping skills
acquired in the intervention focused on maintaining a calm state. The average pre and post interview responses for question four showed the smallest change, indicating that the severity of participants’ anxiety remained fairly consistent.

Table 4

*Pre and Post Interview Response Averages*

<table>
<thead>
<tr>
<th>Question</th>
<th>Average Pre-Interview Responses</th>
<th>Average Post-Interview Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1 (number of incidents)</td>
<td>12.3</td>
<td>4</td>
</tr>
<tr>
<td>Question 2 (minutes to calm)</td>
<td>16.6</td>
<td>6.6</td>
</tr>
<tr>
<td>Question 3 (minutes in-between)</td>
<td>78.3</td>
<td>170</td>
</tr>
<tr>
<td>Question 4 (anxiety severity)</td>
<td>5.3</td>
<td>4.3</td>
</tr>
</tbody>
</table>
CHAPTER V
DISCUSSION

Review of Purpose and Major Findings

ASD and anxiety are common co-occurring disorders, mainly because many the behaviors expressed by individuals with ASD are to cope with an anxiety-provoking trigger (Rieske et al., 2013). Despite the awareness of the comorbidity of disorders, few interventions are considered well established and lack strong empirical data for successfully treating anxiety in children with ASD (Shaker-Naeeni, Govender, & Chowdhury; 2014). As a result, children with co-occurring ASD and anxiety experience challenges with academic achievement, behavior, and social-emotional functioning in a school setting, pointing to a need for additional research involving effective interventions for children with ASD.

According to Jarrett, Black, Rapport, Grills-Taquechel and Ollendick (2015), if children with ASD do not receive sufficient school-based interventions for their co-occurring anxiety symptoms, generalizing academic and behavioral problems may occur such as, difficulty with concentrating in class, difficulty establishing and maintaining peer relationships, difficulty following the school schedule, and exhibiting sadness or anger. Due to the limited number of available school-based interventions, children with
co-occurring ASD and anxiety are not adequately assisted, contributing to significant challenges that impact student functioning in a school setting.

The purpose of the present study was to examine the effectiveness of a modified Cognitive Behavioral Therapy (CBT) intervention, called the Brief Coping Cat (Kendall, Crawley, Benjamin, & Mauro, 2013), when implemented in a school setting for children with ASD and co-occurring anxiety. Results from the present study indicated that the modified Brief Coping Cat intervention demonstrated a positive effect for decreasing student and teacher perceived levels of anxiety for students with ASD and co-occurring anxiety.

**Interpretation of Findings Relative to the Hypothesis**

**SUDS anxiety ratings.** All participants demonstrated reductions in SUDS anxiety ratings by the last week of the intervention. In a combined visual analysis of all participants’ data, a downward-linear trend in each participant’s intervention data was observed, indicating that perceived levels of anxiety decreased. It is likely that the intervention was the primary factor that led to reductions because of the immediate change in level from the baseline phase to the intervention phase and fairly consistent data in each phase. Additionally, all participants’ effect sizes were greater than +/-0.80, which is considered a large effect (Kratochwill et al., 2010). The overall decrease in anxiety levels at the end of the intervention given the outcomes observed shows that it is likely the intervention was effective. Among the three participants, the smallest effect size was observed for Destiny ($d$-index = -1.14). It should also be noted that she had the lowest average baseline ratings, thus reporting the lowest level of perceived anxiety at the time of recruitment, with less room to make gains as a result of the intervention.
Each participants’ reduction in anxiety levels after implementation of the Brief Coping Cat is significant due to prevalent comorbidity of anxiety symptoms that children with ASD experience (Kerns & Kendall, 2012).

The current study’s findings support the use of a modified brief cognitive behavioral intervention to target anxiety symptoms for children with ASD, and also helps close the gap in the literature by contributing to examples of school-based interventions for children with ASD and co-occurring anxiety.

**Pre and post interviews.** All three participants demonstrated a decrease in elevated pre-interview questions after completion of the intervention, which reflects a perceived improvement in anxiety symptoms, as reported by the special education teacher. Based on the special education teacher’s post-interview responses, Ben demonstrated the largest reduction on all four-interview questions. Specifically, according to the post-interview questions regarding his anxiety, the duration of his anxious occurrences decreased significantly (30-minutes during baseline and 5-minutes during intervention) as well as the duration between anxiety episodes (40 minutes during baseline and 150 minutes during intervention). These results show that he shortened the amount of time he displayed anxious behavior and increased the amount of time between anxious occurrences. The participant who experienced the next largest reduction in anxiety symptoms, according to the special education teacher’s post-interview responses was Destiny. Specifically, according to the post-interview questions regarding her anxiety, she showed the largest reduction in the number of anxiety incidents per day (24 during baseline and 5 during intervention) and the largest increase in-between anxiety episodes (15-minutes during baseline and 150-minutes during intervention). These results
indicate that Destiny learned to cope with anxiety-provoking situations more throughout the day, which resulted in fewer and shorter anxiety occurrences. Kasey demonstrated the smallest reduction in anxiety based on the special education teacher’s post-interview responses. According to the special education teacher’s interview responses, he showed the largest improvement in the duration between anxiety episodes (180-minutes during baseline and 210-minutes during intervention) and in the scaled number rating of the intensity of his anxiety (4 during baseline and 3 during intervention). The special education teacher’s pre and post responses for the other two interview questions, however, remained the same, which resulted in Kasey showing the least amount of improvement from pre to post. The special education teacher reported consistent responses from pre to post for Kasey in the number of anxiety incidents per day (2 during baseline and 2 during intervention) and the duration of the anxiety incidents (5 minutes during baseline and 5 minutes during intervention). Overall, all participants either showed improvement in or maintenance of anxiety levels from baseline to post-intervention; no participants demonstrated an adverse effect to the intervention.

**Limitations**

There are several limitations to this research study. First, the study was conducted in one school setting, limiting the ability to generalize findings to other settings where contextual and environmental factors may vary. Second, the methodology of the study was not implemented with full fidelity due to time restraints of the school schedule. Specifically, baseline data were collected in one week, on three consecutive days instead of three consecutive weeks. Additionally, the SUDS ratings were often completed by participants at the beginning of the next session, rather than immediately after an anxiety-
provoking event. Third, a stable baseline across participants within the multiple baseline design did not occur prior to the start of subsequent participants’ intervention start due to time restraints. These threats to internal validity make it challenging to interpret the visual analysis and effect size, particularly when attributing the change in the participant’s anxiety levels solely to the intervention. When implementation of a study is weakened due to extraneous factors, maturation may occur. Maturation is a change that occurs overtime due developmental maturity, and may be a related cause for change that is recorded for each participant, rather than the effects from an intervention (Mertens, 2015).

**Implications for Practice**

As the incidence rate of ASD diagnoses increases, research has revealed more about the disorder. One important finding is that anxiety is a common co-occurring symptom of ASD largely because many of the behaviors expressed by individuals with ASD are exhibited in order to cope with an anxiety-provoking trigger (Rieske et al., 2013). According to (Shaker-Naeeni, Govender, & Chowdhury; 2014), children with co-occurring ASD and anxiety are at-risk for experiencing academic, behavioral, and social-emotional challenges within the school setting, due to a lack of well-established and effective interventions.

Due to the complexity of this population of students, school psychologists can play an essential role in serving students with co-occurring ASD and anxiety. School psychologists can educate about the disorder, assist with the identification process, and create and model different accommodations to be implemented during the school day. Additionally, school psychologists can serve as a representative to partake in professional
development and stay updated on research, to ensure that children with ASD and anxiety are being adequately served within the school setting.

**Future Research**

To generalize the findings of this research, the study could be expanded to larger populations of participants, differentiated based on participant’s needs, and implemented in various school settings. If this study is duplicated, the study should follow the multiple baseline methodology by ensuring randomization of participant start points, implementation of the intervention beginning after a stable baseline is established, and not starting the intervention with the next participant until the previous participant enters the intervention phase (Rhoda et al., 2011). Additionally, all SUDS ratings should be completed immediately after anxious situations to improve the validity of ratings. These factors would significantly improve the internal and external validity of the study.

**Conclusion**

The present study investigated if, when modified, the Brief Coping Cat program was effective at reducing anxiety for children with ASD when implemented in a school setting. The findings indicate that the intervention demonstrates effectiveness and flexibility in a school-based setting, and with the unique population of participants. However, further research is required to help support the generalizability of the study’s findings. Further studies are needed to help close the gap that exists in the current literature that addresses school-based intervention availability for students who have co-occurring ASD and anxiety. In conclusion, based on the results from this present study, the modified Brief Coping Cat program is an effective school-based intervention to help reduce anxiety symptoms of children with ASD.
REFERENCES


Retrieved from What Works Clearinghouse website:


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APPENDIX A

SUDS ANXIETY RATING SCALES
APPENDIX B

BRIEF COPING CAT SESSION OBJECTIVES

<table>
<thead>
<tr>
<th>Session</th>
<th>Objective</th>
</tr>
</thead>
</table>
| 1       | • Get to know one another  
          • Explain basic information about the program  
          • Gather information about situations that make the child anxious and learn about the child’s reactions  
          • Help the child identify feelings and distinguish anxious/worried feelings from other types of feelings  
          • Encourage parental cooperation in the treatment program and answer their questions |
| 2       | • Normalize feelings of anxiety  
          • Have the child begin to identify his own specific somatic responses to anxiety  
          • Introduce the “F” step  
          • Introduce the role of personal thoughts and their impact on response on anxiety-provoking situations  
          • Help the child begin to recognize self-talk (expectations, automatic questions) in anxious situations  
          • Help the child begin to develop and use coping self-talk |
| 3       | • Introduce the role of personal thoughts and their impact on response in anxiety-provoking situations  
          • Help the child begin to recognize self-talk (expectations, automatic questions) in anxious situations  
          • Help the child begin to develop and use coping self-talk  
          • Introduce problem-solving concepts and develop problem-solving strategies to better manage anxiety  
          • Introduce the concept of evaluation or rating performance and rewarding yourself for effort |
| 4       | • Finalize hierarchy of anxious symptoms  
          • Review and apply the 4-step F.E.A.R. plan  
          • Begin practicing and applying skills for coping with anxiety in situations that produce low anxiety  
          • Encourage continued parental cooperation in the treatment program  
          • Answer parents’ questions and address parental concerns |
|   | 5 | Begin practicing and applying the skills for coping with anxiety in situations that produce moderate levels of anxiety for the child |
|   | 6 | Practice applying the skills for coping with anxiety in imaginable and in-vivo situations that produce high levels of anxiety in the child |
|   | 7 | Practice applying skills for coping with anxiety in in-vivo situations that produce high anxiety |
|   | 8 | Final practice with applying the skills in an in-vivo exposure that produces high anxiety  
   |   | Review and summarize the training program  
   |   | Make plans with the parents to help the child maintain and generalize newly acquainted skills  
   |   | Bring closure to the therapeutic relationship |
### APPENDIX C

#### MODIFIED F.E.A.R. ACRONYM CHART

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| **F: Feeling Frightened?** | • Check my body  
• Does my body (head, hands, belly) feel strange? |
| **E: Expecting Bad Things To Happen?** | • Am I having worried thoughts?  
• What is my brain thinking right now? |
| **A: Attitudes and Actions That Can Help** | • What can I do to change my worried thoughts?  
• Take a break? Talk to an adult? Take 10 deep breaths? |
| **R: Results and Rewards** | • Did I use a strategy to stop my worried thoughts?  
• Reward time! (say “good job”, etc.) |
APPENDIX D

IRB MATERIALS AND CONSENT/ASSENT LETTERS

UNIVERSITY OF DAYTON - CONSENT TO PARTICIPATE IN RESEARCH

TITLE OF STUDY:
THE BRIEF COPING CAT PROGRAM FOR CHILDREN WITH CO-OCCURRING AUTISM AND ANXIETY: IMPLEMENTATION IN A SCHOOL SETTING

Dear Karrie Gallo,

My name is Caitlin Ferris and I am a graduate student in the School Psychology program at the University of Dayton. I am currently in the second year of my program and am working on earning an Educational Specialist Degree, which entails completion of a thesis project. I am writing to invite you to participate in a research project examining the Brief Coping Cat program as a feasible school-based intervention for reducing anxiety in children with Autism Spectrum disorder (ASD).

PURPOSE OF THE STUDY

The purpose of the present study is to examine if a cognitive-behavioral anxiety intervention called the Brief Coping Cat can be modified for children with ASD and made feasible for school implementation.

WHAT WILL BE DONE IN THIS STUDY?

This project involves using the Multidimensional Anxiety Scale for Children 2nd ed.-Self-Report (MASC 2-SR; March, 2013) in order to determine a student’s current level of anxiety. The MASC-2 will be used before (to establish eligibility) and at the conclusion of (to demonstrate improvements) the intervention. The MASC-2-SR consists of 50 Likert scale questions ranked from 0 to 3 (0 = Never, 1 = Rarely, 2 = Sometimes, and 3 = Often). This assessment will be administered individually and will take approximately 15-20 minutes, including reading the assent form to each child, reading the instructions, and completing the questionnaire. Each child will complete this assessment with the researcher/school psychology student, Caitlin Ferris. In addition, if a child is accepted into the intervention, parents will be contacted by the researcher to discuss each child’s school and anxiety history and to seek consent.
Another measure that will be used throughout the study is called the Subject Units of Distress Scale (SUDS), retrieved from the Brief Coping Cat program. This rating scale will first serve as a tool to establish baseline, and then will become a repeated measure to examine weekly changes in anxiety levels. The SUDS will be used to rate anxiety levels in response to Show That I Can (STIC) tasks, which are situations that they encounter each week that cause them to feel anxious.

Students who have identified moderate to significant anxiety levels on the MASC 2-SR will be eligible to participate in the present study. Students who qualify for the study will meet with the researcher/school psychology student each week for 35-45 minutes to complete the intervention sessions. The entire intervention will be implemented by the researcher/school psychology student and is estimated to take approximately 8-10 weeks. The intervention is called the Brief Coping Cat which is a modularized eight week program that utilizes the following strategies during each session: role playing, coping modeling, education, self-awareness, relaxation training, and practice. This program is based on a cognitive-behavioral treatment, which has demonstrated excellent outcomes for youth with anxiety. The goal of the program is to help teach children to recognize signs of unwanted anxious arousal and to let the signs serve as cues for the use of anxiety management strategies.

Due to the sample population consisting of children with ASD, accommodations will be made in order to meet the participants’ individual needs and levels of functioning. The initial accommodations that will be made to the intervention include: incorporating interests of the participants’, incorporating parent involvement, and scheduling two sensory breaks during each session. As the intervention sessions progress, the researcher/school psychology student may add additional accommodations for one or all of the participants, if necessary.

**POTENTIAL RISKS AND DISCOMFORTS**

There are some possible risks with participation in my research project. *First*, children may experience increased stress if scores on the MASC-2 indicate high levels of anxiety and potentially require further evaluation and/or intervention. *Second*, students may become hyper-sensitive to somatic feelings after learning more in depth about anxiety and recognizing their anxious triggers. *Third*, there is a potential that families may face a financial expense if they decide to further pursue additional treatment based on their child’s elevated scores on the MASC-2. *Fourth*, students may miss about 35-45 minutes of class instruction once a week.

**Steps Taken to Minimize Risk:** Students and parents will be notified prior to screening of the potential risk. The researcher/school psychology student will offer suggestions for additional support if students don’t qualify for the intervention. In addition, the researcher/school psychology student will offer support and additional resources for participants at the end of the intervention.

**ANTICIPATED BENEFITS TO PARTICIPANTS**
There are a number of Benefits associated with participation in my project. Benefits may include: (a) early identification of anxiety through the screener (MASC-2); research indicates that early identification leads to better treatment outcomes (Esbjørn, Bender, Reinholdt-Dunne, Munck, & Ollendick, 2012), (b) early intervention provided to each child to help reduce his/her anxiety; s/he will learn helpful coping skills to manage his/her anxiety at school and at home, and (c) participation will help us to learn more about how to improve school-based practices for working with students with ASD and comorbid anxiety.

CONFIDENTIALITY

All information collected in the present study will be kept confidential and under lock and key in a file cabinet at Fairfield Central Elementary and/or on a password protected computer. The assessment and intervention materials will only be available to my advisor (Dr. Elana R. Bernstein) and me. Students’ names will be coded using their first and last initials and will not appear in any data sets or publications.

PARTICIPATION AND WITHDRAWAL

Participation in the project is completely voluntary. If a child and family agree to participate, they are free to stop participating at any time, without penalty. Each child is also free to choose not to answer any questions that he/she is not comfortable with, without penalty. If you choose, you can view the questionnaire and treatment materials before the study begins. If participants experience any kind of discomfort as a result of your participation in this study, they may contact the primary investigator, Caitlin A. Ferris at (513) 519-2992 and the project’s advisory committee chair Dr. Elana Bernstein at (937)-229-3644.

IDENTIFICATION OF INVESTIGATORS

If you have any questions about this research project, please contact one of the investigators listed below:

Caitlin A. Ferris Principal Investigator, University of Dayton, School Psychology Graduate Student, (513) 519-2992, Ferrisc2@udayton.edu. Elana R. Bernstein, PhD, Clinical Faculty, Advisory Committee Chair, University of Dayton, Department of Counselor Education School & Human Services, School Psychology Program, (937) 229-3624, ebernstein1@udayton.edu.

RIGHTS OF RESEARCH PARTICIPANTS

If you have questions about your rights as a research participant you may also contact the chair of University of Dayton’s Institutional Review Board, Candise Powell, J.D., at (937) 229-3515, IRB@udayton.edu.

Thank you for considering allowing me to complete my study in your school. Please return the attached consent form to Caitlin Ferris. Please feel free to contact me with any questions or concerns by phone at (513) 519-2992 or by email at Ferrisc2@udayton.edu.
SIGNATURE OF RESEARCH PARTICIPANT

I have read the information provided above. I have been given an opportunity to ask questions and all of my questions have been answered to my satisfaction. I have been given a copy of this form.

Signature ________________________________
Date __________
TITLE OF STUDY: THE BRIEF COPING CAT PROGRAM FOR CHILDREN WITH CO-OCCURRING ASD AND ANXIETY: IMPLEMENTATION IN A SCHOOL SETTING

Who is doing this research?

Caitlin Ferris, Principal Investigator, University of Dayton, School Psychology Graduate Student, (513) 519-2992, ferrisc2@udayton.edu

My name is Caitlin Ferris and I am a student in college at the University of Dayton. For one of my classes, I have to do a project and I want to know if you want to be part of my project.

Elana R. Bernstein, Advisory Committee Chair, University of Dayton, Department of Counselor Education & Human Services, School Psychology Program, (937) 229-3644, ebernstein1@udayton.edu

Why should I do this?

I am studying an intervention that helps students who sometimes have a hard time handling their anxiety in certain places, like at school and home. If you want to try the intervention and be part of the project, we can see if the intervention will help you with your anxiety and help you feel calmer during different situations at home and school.

How long will it last?

You will meet with me once a week for 35-45 minutes to complete the intervention sessions; I will try to schedule the intervention during a time that won’t cause you to miss core class periods. You and I will go through the program together for 8-10 weeks, and then the program will be finished.

What will happen?

You will be asked 50 questions about how you think and feel which will take about 15-20 minutes. You will answer these questions twice, once at the beginning of the project and once at the end of the project. You will also be asked to rate how much anxiety you feel during different situations on the Subject Units of Distress Scale (SUDS), which is a rating scale.
When you meet with me we will learn about things that make you feel nervous, play games, act out different situations that cause you to nervous, review homework assignments that you complete for the study, and do activities and worksheets to help you worry less. During each session, Mrs. Jones (your intervention specialist) will sit with us so that you feel more comfortable when you are doing different activities and playing games. We will meet once a week for 35-45 minutes in an empty classroom or office for 8-10 weeks.

**How will you feel?**
You may feel nervous or anxious when sharing your feelings with me or when practicing your coping skills during different situations. After we meet a few times for the study, we hope that you start to feel less anxious at school and at home.

**Will anyone know I’m doing this?**
Everything that we talk about will be kept confidential. This means that I will not tell anyone what we talk about. Although Mrs. Jones is not going to participate in the study, she will hear what we talk about, but will also not tell anyone. However, if you tell me that you are going to hurt yourself, someone else, or someone is hurting you, then I will need to talk about it with your parents or another safe adult so that we can keep you safe. I will choose a time for us to meet for the study each week that will not cause you to miss a lot of class time. We will meet in an empty classroom or office where other people cannot see or hear us.

**What if I have questions or am worried about something?**
If you have questions or start to feel worried, you may talk to me. If you start to feel nervous and don’t want to come to anymore sessions, and then you can tell me, your parents, or Mrs. Jones that you don’t want to be a part of the study anymore. This study is only supposed to help you feel better and less anxious; it’s not to make you feel sad or worried.

**Consent to Participate**
I agree to work with Ms. Ferris and her team on this project. I understand what I will be doing for the study and promise to try my best. Ms. Ferris answered all my questions. I understand I may stop participating in the study at any time.

Participant’s Name__________________________ Date __________
Participant’s Signature________________________ Researcher’s Name___________