# THE BRIEF COPING CAT FOR STUDENTS WHO ARE GIFTED AND EXPERIENCE ANXIETY

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THE BRIEF COPING CAT FOR STUDENTS WHO ARE GIFTED

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ABSTRACT

THE BRIEF COPING CAT FOR STUDENTS WHO ARE GIFTED AND EXPERIENCE ANXIETY

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Anxiety is a normal and appropriate response to a variety of situations. However, long-term effects of anxiety can impede daily life activities and disrupt an individual's overall well-being; this can be amplified when the child is also academically or intellectually gifted. The present study examined the effectiveness of the Brief Coping Cat, implemented in a school setting with three students who were identified gifted and demonstrated elevated levels of anxiety. Students participated in an eight-week intervention designed to increase their understanding of anxiety and teach effective coping skills through cognitive strategies and exposure tasks. Each student completed the Multidimensional Anxiety Scale for Children 2nd Edition Self Report before and after the intervention period and completed a Subject Units of Distress Scale (SUDS) during each session, to measure the efficacy of the intervention. Results indicated that the brief intervention was effective in reducing anxiety for students who were academically and intellectually gifted. Implications for school-based supports for students who are gifted and experience anxiety are discussed.

To my parents, fiancé, sister, brother-in-law, nephew, family, friends, internship supervisor, professors, and colleagues - thank you for your endless support and encouragement throughout my educational career. Without the love and support of each one of you, my accomplishments would not have been possible.

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# CHAPTER I

# INTRODUCTION

Anxiety is a normal and appropriate response to a variety of different situations; however, continuous and long-term effects of anxiety can impede daily life activities and disrupt an individual's overall well-being (Langley, Bergman, McCracken, & Piacentini, 2004). In children and adolescents, anxiety disorders are the most common mental health disorders. Specifically, around 16% of children in the United States could meet the diagnostic criteria for an anxiety disorder (Bitsko et al., 2018). However, prevalence rates may be underestimates, as many internalizing disorders, such as anxiety, often go undiagnosed due to a lack of observable behaviors. Mental health diagnoses, such as anxiety, can have severe adverse effects on an individual's life if left untreated (Grigaite, Misiuniene, & Dženkauskiene, 2009; Kerig, Ludlow, & Wenar, 2012); this does not change for children and adolescents who are identified as gifted.

Characteristics frequently associated with gifted identification include perfectionism, emotional intelligence, overexcitability, and asynchronous development (Dirkes, 1983; Lamont, 2012). Associations between these characteristics and anxiety exist. Moreover, research has shown that students who are gifted may be at an increased risk for developing anxiety compared to typically developing peers (Dansinger, 1998; Robertson, Pfeiffer, & Taylor, 2011; Lamont, 2012; Pfeiffer, 2013). The directionality between giftedness and anxiety is not well-understood, but likely is bidirectional in nature (i.e., traits of giftedness may result in anxiety and traits of anxiety may result in characteristics of giftedness such as perfectionism). There is limited research on effective

interventions for the gifted population, particularly in the school setting. School-based professionals need resources and strategies to best support students who are gifted and also experience anxiety.

The present study evaluated the use of a brief cognitive behavioral therapy (CBT) program, The Brief Coping Cat, with school-aged students who are gifted and experience subclinical levels of anxiety. Using brief versions of interventions is well-suited for a school setting due to the easy accessibility to children. Mental health services embedded in schools allow for a continuum of comprehensive care for students that will help improve educational attainment and mental health (Fazel, Hoagwood, Stephan, & Ford, 2014). A well-established negative correlation exists between mental health outcomes and educational achievement (Miller et al., 2011; Woodward, Lu, Morris, & Healey, 2017). However, mental health-based interventions, such as Coping Cat, are not often used in the school setting with students who are gifted. This is a result of an educational system that focuses on academic success, which in turn often causes school personnel to overlook gifted students' mental health needs. Thus, the present study evaluated the effectiveness of a brief CBT program for gifted students who experience anxiety within the school setting.

# CHAPTER II

# LITERATURE REVIEW

This literature review examines the effectiveness of The Brief Coping Cat program as a school-based intervention to reduce anxiety in children who are identified as gifted when implemented in a school setting. This review begins with a description of anxiety, its symptoms, and the impact it has on the daily life of youth. The section to follow discusses the definition of giftedness and characteristics associated with students who are gifted. Next, interventions that are typically used in school settings to target anxiety are discussed. Finally, the Coping Cat program is discussed at length, including how it might help students who are identified as gifted and also experience anxiety.

## Characteristics of Anxiety

Anxiety is more than a temporary feeling of worrying or fear. Individuals with anxiety display excessive worry about various aspects of, or events occurring, in their life. This includes worries about their health, work, school, social situations, or every day mundane tasks. Anxiety is an internalizing disorder, which often makes it difficult to diagnose unless the individual self-reports his or her feelings (Masia-Warner & Fox, 2012). Furthermore, research has shown that anxiety disorders are not something people will outgrow during their lifetime, rather, if left untreated, anxiety disorders typically persist over time and often become worse and more debilitating in an individual's daily life (Kovas & Devlin, 1998; Kerig et al., 2012).

Among mental health disorders, anxiety disorders are the most commonly diagnosed among children and adolescents, with a prevalence rate of 31% when we

include children who are diagnosed and who experience subclinical levels (Kerig et al., 2012; SAMHSA, 2012). The Centers for Disease Control and Prevention reported in April of 2019 that approximately 7.1% of children ages 3-17 have a diagnosed anxiety disorder in the United States; this accounts for about 4.4 million children (CDC, 2019). Despite the high prevalence rates reported, it is commonly known that these statistics are an underrepresentation due to the nature of the internalizing disorder. Often, anxiety is not exhibited through externalizing behaviors, which makes it difficult to diagnose without the individual's self-disclosure (Masia Warner & Fox, 2012).

**Anxiety at school.** When looking at anxiety in the school setting, research has shown that it can cause serious and detrimental long-term effects on students (Chiu et al., 2013; Crawley et al, 2013; Peterson, 2006; Seligman & Ollendick, 2011). Chiu et al (2013) found that, when anxiety is left untreated in students, they demonstrate increased rates of refusal of school, poor performance in the classroom, and social impairments resulting in fewer positive interactions compared to their peers. Specifically, when examining the impact of anxiety on schoolwork performance, students who have anxiety show a decrease in their working memory skills, lower and shorter levels of concentration, fewer positive interactions with teachers, and limited decision-making skills (Muris & Meesters, 2002).

Schools are highly social environments and are considered one of the most critical places when it comes to children learning the societal norms of behavior (Bracken & Fischel, 2007). Anxiety can interfere with a student's ability to perform to their full potential in the classroom, however, it can also affect a child's ability to have a healthy social life and can often inhibit the development of their social skills (Scaini, Belotti,

Battaglia, & Ogliari, 2017). Some children who experience anxiety will become withdrawn and stray away from social interactions all together; this can be detrimental to their ability to become functioning, social members of society.

Anxiety can manifest in many different ways within the school environment (Spence, 1997). Some students may be restless and inattentive when they are in the classroom setting. When thinking of inattention, typically Attention-Deficit/Hyperactivity Disorder (ADHD) is usually the first diagnosis to be considered, however, anxiety can cause a student to become inattentive due to their worried thoughts overtaking their mind. Disruptive and aggressive behavior may be another way a child displays anxiety (Scharfstein & Beidel, 2015). A student may throw a tantrum or become aggressive when a schedule is changed or when something unexpected occurs; when a child feels threatens and hasn't learned proper coping skills they often act out to express their emotions. Students may also make frequent trips to the nurse when they are feeling especially anxious. If a student is having unexplained headaches, feeling nauseous, having a racing heart, sweating, or feeling out of breath on a regular basis, they could be exhibiting signs and symptoms of anxiety (Carpenter et. al, 2019). These all result in students potentially missing out on a full and comprehensive educational experience, and because untreated anxiety can persist and worsen over time, early intervention in the schools is critical.

**Giftedness**

The current study is limited to one population of students – those who are gifted. One of the most challenging aspects of gifted education is that there is no unified definition of what giftedness is and what it looks like. The field has moved from an intelligence-grounded definition, where a score of 130 on a standardized intelligence test

that was nationally normed was an arbitrary cut-off mark, to a multidimensional, more holistic, concept that views the whole child. Some argue that a uniform definition may not be needed, as it would be a step back towards the behavioristic era of the 1950s (Smedsrud, 2020).

Although there is no one uniform definition on a global scale, in the United States, the 1972 Marland Report to Congress was the first document to originally develop a definition of giftedness. It was modified several times since then. The current federal definition that is located in the Elementary and Secondary Education Act (ESSA), which states:

> "Students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and activities not ordinarily provided by the school in order to fully develop those capabilities."

Furthermore, the National Association of Gifted Children (NAGC, 2016) states that children are identified as gifted when their ability in a certain area is significantly above the norm for their age.

The state of Ohio defines a student who is gifted within the Ohio Revised Code 3324.01 as one who, "performs or shows potential for performing at remarkably high levels of accomplishments when compared to others their age, experience, or environment" (ODE, 2019). Public school districts in Ohio are required to identify students in grades K-12 for gifted education in one of the following areas: (1) superior cognitive ability, (2) specific academic ability – including mathematics, reading/writing, science, and social studies, (3) creative thinking ability, or (4) visual or performing arts

ability – including dance, drama, music, or visual arts (ODE, 2019). For the purpose of the present study this definition of "gifted" was used.

**The relationship between giftedness and anxiety.** Research on anxiety and the mental well-being of gifted students is limited and there is an extensive debate in the literature in regard to gifted students and their likeliness of developing anxiety. Grigaite et al (2009) examined the relationship between general intelligence and anxiety in a sample of gifted students; they found that gifted students do not experience higher levels of anxiety when compared to their peers, which they suggested may be due to their ability to problem-solve and rationalize in stress-provoking situations. However, it is not consistently reported in the literature that gifted students have such strong protective factors. Some studies acknowledge that students who are identified as gifted in school, may be more likely to have anxiety related disorders due to their increased emotional perceptions or increased self-imposed academic expectations (Dansinger, 1998; Harrison & Van Haneghan, 2011; Lamont, 2012; Yadusky-Holahan & Holahan, 1983). It is noteworthy that the research suggests a multidirectional relationship between the variables. While research indicates that factors of giftedness could impact how anxiety is presented, it is not always the case that every gifted student will experience anxiety nor that every non-gifted student will not have anxious tendencies or experience the same level of anxiety.

The *No Child Left Behind (NCLB) Act* of 2002 focused on bringing all students up to academic proficiency by 2014. As a result of this, gifted students became the most underserved individuals in the American education system due to increased focus on students who are underperforming or those who are not meeting state standards. In 2009,

the National Association for Gifted Children released a report indicating that the NCLB was rated as one of the most negative factors impacting gifted students' education (Robertson et al., 2011). Dansinger (1998) also argued that because gifted students have high abilities, their mental health and challenges are often overlooked by school personnel. According to Dansinger (1998), students who are identified as gifted are at the same risk of developing a disability that impacts their education as their typical peers. In fact, several years of research has shown that gifted students could be at an increased risk of developing an anxiety disorder when compared to their peers due to characteristics often associated with a giftedness, including: perfectionism, emotional intelligence, and asynchronous development (Dirkes, 1983; Lamont, 2012; Robertson et al., 2011; Zeidner & Matthews, 2017).

***Perfectionism.*** English and English (1958) were among one of the first to describe perfectionism as, "the practice of demanding of oneself or others a higher quality of performance than is required by the situation" (pg. 94). When looking at perfectionistic tendencies in students who are gifted, Neumeister and Finch (2006) found that students who are gifted are at an increased risk for developing anxiety and that perfectionism was the characteristic associated within anxiety that made them significantly more anxious than their typical peers. They further noted that perfectionism further perpetuates a fear of failure that many students who are gifted experience. Many gifted students have academic perfectionistic tendencies, placing high standards on themselves, especially in the classroom (Margot & Rinn, 2016). When students who are already perfectionist in their daily lives come into the classroom, their fear of failure is

heightened due to the many assessments and standards in place in the school environment.

***Emotional intelligence and asynchronous development.*** Salovey and Mayer (1990) defined emotional intelligence as "the subset of social intelligence that involves the ability to monitor one's own and other's feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions" (pg. 189). There is limited research directly assessing the relationship between emotional intelligence and gifted students who have high intelligence. Zeidner (2018) noted that students who are gifted often have average emotional intelligence and have the abilities to cope with their emotions just as their peers if they are given the resources to do so. However, due to the combination of the internalizing nature of anxiety, gifted students' fear of failure, and the lack of attention from school personnel, gifted students aren't often explicitly taught or given the resources to cope with or manage their emotions in a healthy and effective way.

Gifted students often experience asynchronous development, which is described by Lamont (2012) as an imbalance between intellectual development and emotional development. Moreover, students who are gifted often have high levels of intelligence in many areas, but are relatively emotionally underdeveloped in others. This can lead to confusion and difficulties in emotionally-charged situations, which may increase their risk of developing anxiety (Lamont, 2012). Pfeiffer (2013) argues that gifted students do not always have the coping skills necessary, or the resiliency and social skills needed to reach their full academic potential, which in turn can lead to an increased risk of developing anxiety in children who are considered high ability students. When children

with high intelligence are perceived by adults, they are often, mistakenly, assumed to have a higher ability to cope with their emotions. This can lead to a lack of education in coping skills for those who are more intellectually inclined in the eyes of adults.

## School-Based Interventions for Anxiety

School settings are optimal environments to deliver mental health services due to the strong negative correlation between mental health outcomes and educational achievement (Miller et al., 2011; Woodward, Lu, Morris, & Healey, 2017). However, a systematic and strategic plan is needed to implement mental health interventions in school settings. In order for an intervention to be successful and effective in helping improve or prevent a specific mental health disorder, it must have value, transportability, distribution, and positive system evaluations (Miller et al., 2011; Zaboski, Schrack, Joyce-Beaulieu & MacInnes, 2017). Within school systems, many interventions that are applied are not effective due to factors such as untrained staff, lack of time, poor organization of the program, and limited feasibility for implementing the intervention (Zaboski et al., 2017).

Given the prevalence rates of childhood anxiety and the known effects is can have on a child's life, it's imperative for schools to intervene and implement school wide screenings and prevention programs (Neil & Christensen, 2009). Some schools have done this through the use of school wide social-emotional learning programs, while others implement direct intervention with a small group or individualistic approach.

**Cognitive behavioral therapy interventions.** Cognitive behavioral therapy (CBT) is the basis for many of the school-based interventions geared towards anxiety in students. CBT is a short-term, goal-oriented form of psychological treatment, frequently

used for anxiety and depression, that focuses on trying to change an individual's thinking patterns (Dobson & Dobson, 2018). A plethora of research supports the rationale that cognitive behavior therapy is an effective treatment option for childhood anxiety (Masia, Klein, Storch, & Corda, 2001; McLoone, Hudson, & Rapee, 2006; Lusk & Kozlowski, 2021). Many CBT interventions aim to use strategies that help individuals learn to: recognize distortions in thinking, gain a better understanding of the behavior of others, use problem-solving skills to cope with challenging situations, and develop more confidence in one's own abilities. Additionally, CBT programs involve having individuals face their own fears instead of avoiding them, use role playing to prepare for potential challenging and stress-provoking situations, and teach individuals strategies to calm their mind and body (Carpenter et al., 2018; Dobson & Dobson, 2018).

School-based anxiety interventions commonly incorporate components of CBT that include exposure strategies, relaxation strategies, and modeling appropriate coping (Shaker-Naeeni et al., 2014). Improving a student's self-awareness and helping them recognize and cope with symptoms is the main goal of school-based anxiety interventions.

**Coping Cat.** A well-known evidence-based CBT program, Coping Cat (Kendall, Crawley, Benjamin, & Mauro, 2013), is often used in schools to support students who have anxiety. Coping Cat is a 16-week manualized intervention program for children ages 7 to 13 who experience impactful levels of anxiety (Beidas, Benjamin, Puleo, Edmunds, & Kendall, 2010). The program combines both behavioral strategies (i.e., modeling, relaxation, exposure tasks, and contingency management) and cognitive strategies (i.e., problem-solving, assessing personal abilities, and understanding perceived

threats) in order to help children manage their stress and worries (Podell, Mychailyszyn, Edmunds, Puleo, & Kendall, 2010). The program consists of one therapist manual and one client workbook.

The goal of Coping Cat is to help children recognize signs and feelings of anxiety and to help them better cope during high-anxiety situations by using specific strategies taught (Kendall et al., 2013). Coping Cat is divided into two sections. The first eight weeks involve psychoeducational sessions that include identifying body arousal, relaxation techniques, recognizing anxious thoughts, and problem solving, and the final eight sessions rely heavily on exposure tasks by practicing skills learned in the first eight sessions (Podell et al., 2010).

In order to guide children through the intervention program while making sure the objectives of CBT are met, Coping Cat uses the F.E.A.R. acronym, which stands for: F – Feeling Frightened (the child focuses on the somatic reactions in a situation); E – Expecting Bad Things to Happen (the child recognizes their anxious thoughts and cognitions); A – Attitudes and Actions that Can Help (the child uses the coping and problem solving skills they learned); and R – Results and Rewards (the child rates their performance and receive praise or reward for facing their fears). The goal with the F.E.A.R acronym is for the child to become instinctive with utilizing it during anxiety-provoking situations once the Coping Cat program is over (Beidas et al., 2010).

In addition to learning the F.E.AR. acronym, another key component of Coping Cat is the use of exposure tasks in the second half of the program. In the first four sessions, through conversations and activities, the child and therapist identify specific fears and worries that the child experiences in order to ensure that situations for exposure

tasks are individually molded for the child. According to Kendall, Crawley, Benjamin, and Mauro (2013), in-session, low-anxiety exposure tasks are introduced in sessions 4-5 and then increase to *in-vivo* (live) exposure tasks in sessions 6-8. This involves putting the child into higher anxiety-provoking sessions with the goal of having them implement the F.E.A.R. acronym when exposed to a situation they rated as highly stressful.

Outside of in-session exposure tasks with the therapist present, children also receive homework that is intended to help them work through anxiety-provoking situations. These are called Show That I Can (STIC) tasks. These homework tasks ask the child to practice the strategies they learn throughout the sessions at home or in other types of settings without the therapist actively present. An example of one STIC was having the child use the F.E.A.R acronym aloud with another person in order to process their emotions and teach it to someone else. Each session will begin with a review of the previous STIC task; the child is asked to share with the therapist their thoughts and feelings about what they did. Additionally, the child completes a Subject Units of Distress Scale (SUDS) to rate the amount of anxiety they experienced when completing the STIC (Kendall et al., 2013). Contingency management strategies (via sticker rewards) are also employed to increase the child's completion of STIC tasks.

**Brief Coping Cat.** The Brief Coping Cat (Kendall, Crawley, Benjamin, & Mauro, 2013) contains the same content and material as the full program, however, it is condensed into eight weeks. The primary difference in the brief version is that the exposure tasks are introduced earlier in the treatment. In session four, the lesson involves exposure tasks that have low anxiety-provoking ratings from the child, and in session five, the child engages in exposure tasks that are more anxiety-provoking. Davis (2020)

suggests that exposure tasks are more directly effective at reducing anxiety symptoms than the psychoeducational components. Therefore, those who receive the 8-week Brief Coping Cat program are not deprived of content.

In a recent dissertation the impact of implementing an abbreviated version of the Coping Cat program with a fourth-grade, ten-year-old student was examined. In the study, eight sessions of the 16-week program were implemented in the school setting. Despite receiving only eight of the 16 sessions, it was found that the student's anxious tendencies decreased over time; this further supports the use of the brief version of the Coping Cat program (Bernhardt, 2019).

Crawley et al (2013) evaluated the use of the Brief Coping Cat program with 26 youth who were previously diagnosed with an anxiety disorder, in a clinical setting. Satisfaction with treatment was favorable, and recruitment, retention, and treatment fidelity ratings indicated that the program was reasonable to implement. They concluded that at post-treatment, 42% of youth were free of their initial anxiety diagnosis. A meta-analytic finding based on 48 CBT trials for child anxiety (Reynolds, Wilson, Austin, & Hooper, 2012) indicated that effect sizes for brief treatments (less than or equal to 8 sessions) were favorable, though smaller ($d$=.35), than effect sizes for lengthier (13-16 session) treatments ($d$=.75). Although Brief Cognitive Behavioral Therapy (BCBT) for childhood anxiety is acceptable to families and easier to implement, and outcomes are favorable, the success rates are not as high as those who experience the full-length CBT trials. However, the present study will be implemented in a school setting, it is more feasible to implement the BCBT rather than a 16-week full CBT program.

## Interventions for Gifted Students with Anxiety

There is research on the widespread use of psychoeducational and therapeutic interventions in the school setting; however, few studies are focused on the gifted population. Through the use of a meta-analysis research design, Jen (2017) found that there were only seventeen empirical studies published between 1984 and 2015 that focused on the gifted populations mental health needs. There were five major findings from the in-depth literature review on the use of interventions with high-ability students. First, they found that there was a need for more empirically based studies that analyzed the effectiveness of direct interventions with gifted population. Secondly, there was a need for more studies that have similar research interest, because virtually no two studies had the same exact research focus in the 31-year time span. Third, contents of the direct interventions used with gifted students needed to be more clearly defined so that similar interventions could be replicated. Fourth, boys and girls preferred their intervention leaders to be of the same gender. Finally, they found that amongst the seventeen studies analyzed, a variety of methods were used in assessing gifted interventions with anxious children (Jen, 2017). Thus, there is currently a gap in the literature addressing the effectiveness of anxiety interventions in the school setting for students who are gifted.

There is a small number of studies investigating what schools could do in order to help alleviate symptoms of anxiety within gifted students. There are more studies on perfectionism among students with anxiety than there are on gifted students with anxiety. Students who have characteristics associated with giftedness, such as perfectionism, are at an increased risk for developing anxiety. It has been found that perfectionism is the characteristic associated within anxiety that can make gifted students more anxious than

their typical peers who do not show the same traits (Neumeister & Finch, 2006). Nugent (2000) discussed previous literature on perfectionism and pulled out ways previous research suggests it can be addressed in classroom settings. It was found that creating a positive classroom culture was one of the paramount ways that gifted students could work on decreasing their perfectionism. By allowing students to learn in an environment where they can successfully fail and make mistakes, gifted students with perfectionism issues were more successful than their peers in cognitively restructuring their thinking and decreasing their fear of not being perfect. In addition, it was found that academic self-evaluations played a role in seeing perfectionistic tendencies decrease. By involving students in the evaluation of their assignments and classwork, some fear of failure was alleviated, as they were judging themselves. Lastly, Nugent (2000) found that bibliotherapy was a useful tool with students who are gifted and experience perfectionism. Bibliotherapy helps students address their emotional needs through the use of a story. Gifted students whose strengths lie in their ability to conceptualize and generalize often found success with bibliotherapy reading (Nugent, 2000).

Although perfectionism is often a characteristic associated with anxiety, it does not account for the full picture of what gifted students with anxiety experience. Furthermore, despite the insights of Nuget (2000), there is limited research on the implementation of CBT based interventions with gifted students who concurrently experience anxiety. One 2018 thesis examined the effect of the Brief Coping Cat with gifted elementary aged students who experienced anxiety. Case (2018) used a mixed method, quasi-experimental, pretest/posttest single case design to analyze the effectiveness of the Brief Coping Cat when implemented in a small group counseling

session. It was found that each of the four participants decreased their anxiety from the pretest to posttest measures.

## The Present Study

Students who are identified as gifted are just as likely, if not more, to develop a mental health disorder that interferes with their education when compared to their peers who are not gifted (Dansinger, 1998; Lamont, 2012; Pfeiffer, 2013; Robertson et al., 2011). However, many gifted students are often overlooked and underserved in schools (Robertson et al., 2011). The purpose of the present study was to add to the literature by evaluating the implementation of the Brief Coping Cat CBT program using a multiple baseline, single case design with gifted students who have anxiety. An examination of this intervention in a school setting with gifted students has not yet been conducted.

# CHAPTER III

# METHOD

## Research Question and Prediction

The current study examined the following research question: *What is the impact of The Brief Coping Cat cognitive-behavioral therapy program on gifted students with anxiety, when implemented in a school setting?*

Previous literature demonstrates that CBT programs can improve anxiety symptomology for students within the school setting (Chiu et al., 2013; Crawley et al, 2013; Peterson, 2006; Seligman & Ollendick, 2011), and a thesis project demonstrated positive impacts from the use of the Brief Coping Cat program with gifted students in a small group setting (Case, 2018). Based on this literature, it was predicted that the Brief Coping Cat program would be effective in reducing anxiety for children who are identified as gifted in the school setting.

## Research Design

A single-case multiple baseline across participants design was used in this study. This methodology was selected as it is the preferred method when one behavior is observed and expected to change among a few individuals at a time (Kazdin, 2011). Furthermore, a control group was not feasible for this school-based evaluation of a relatively low prevalence behavior (giftedness and anxiety).

Subject Units of Distress Scale (SUDS) was used to rate the amount of anxiety the students experienced each week. The SUDS used in the present study was acquired from the Brief Coping Cat manual. Each participant was asked to rate their anxiety levels

associated with the 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. STIC tasks for this research study were primarily focused on academic performance tasks. The independent variable was the 8-week Brief Coping Cat intervention program, and the dependent variable was the observed reduction in anxiety as measured by weekly SUDS ratings.

**Participants**

Participants in this single-case design study included (n = 3) students in 3rd grade enrolled in an Ohio public school district. Students were recruited through the determined school district's gifted coordinator in collaboration with the school psychologist.

To be included in this study, students were: (a) identified as gifted (intellectual or academic) by their school district, as defined by the Ohio Revised Code 3324.01; (b) demonstrating general academic success as indicated via interviews and record reviews; (c) proficient in English; (d) enrolled in any grade level between third to seventh grade; and (e) demonstrating at least subclinical levels of anxiety, indicated by a *t*-score of 60 or higher on one or more of the subscale scores of the Multidimensional Anxiety Scale for Children- Self-Report 2nd Edition (MASC-2-SR; March 2013). Students were excluded if: (a) they were currently receiving a CBT intervention geared toward anxiety; (b) they did not meet the cut-off *t*-score of 60 on the MASC-2; (c) they were not identified as gifted by the school district or referred as potentially gifted by a teacher; (d) they started a new medication for anxiety within 6 months of the start date of the intervention; (e) participation in the study was refused; or (f) the student or the parent did not speak proficient English.

The participants in the study included Kacie, Jordan, and Payton (pseudonyms), each of whom is described in detail to follow with regard to their academic and social-emotional functioning as it pertains to their giftedness and anxiety.

**Kacie.** Kacie is an eight-year-old female student in the third grade. Kacie has attended the school district since she was in kindergarten. Kacie was identified as gifted in first grade through a request for gifted identification testing from her parents. She is in identified as gifted in the category of Specific Academic Ability in the areas of reading and writing. Kacie was referred for intervention by her classroom teacher, who indicated that Kacie often cries before tests and tells other students that she is "too stupid" to do well on assigned tasks. According to her teacher, Kacie often tries to leave the classroom somehow before a test or quiz by making up that she is sick or that she needs to go to the office for some reason. Kacie's parents reported that she often cries for several hours every day prior to school starting because she is nervous about going to school and not doing well. They noted that they have observed these behaviors since she started kindergarten. Progress reports from Kacie's teachers indicated that she has historically received all A's in her classes. Kacie's teacher reported that she is a social girl and gets along well with others, but that she demonstrates a lot of anxious behavior when schoolwork is assigned. Kacie was referred for anxiety counseling at the beginning of the school year by her teacher; however, her parents wanted to wait to see if she would adjust to the new school year. Kacie's parents reported no family history of anxiety diagnoses.

During an interview with Kacie, she revealed that she often gets scared that she will make mistakes at school when she knows she is "smart enough to not do that." Kacie explained that her heart races "really fast" when she is asked to complete an assignment

because she wants to do it all perfectly. Kacie indicated that she enjoys school, especially reading, but she feels that she cannot tell her teacher why she is nervous in class. She reported that the current school year has been particularly "bad" because they have online learning three days a week due to the COVID-19 pandemic. Kacie's initial MASC-2 SR rating scale resulted in Elevated *t*-scores in the Total MASC-2 scale, GAD index, and Panic scale. Kacie's Performance Fear was rated to be in the Very Elevated range.

**Jordan.** Jordan is a ten-year-old male student in the fourth grade. Jordan has attended the school district since he was in first grade, and he was identified as gifted when he was in third grade through group administered CogAT (Cognitive Abilities Test) within the district. He has a Specific Academic Ability in reading, writing, and math. Jordan was referred to intervention by his mother. In the previous school year Jordan met with the school counselor monthly due to experiencing severe anxiety in the classroom. Although the counseling helped during his third-grade year, Jordan's mother reported that he regressed during the summer months and particularly during the COVID-19 pandemic school closures in the Spring of 2020. His mother reported that Jordan had panic attacks on a regular basis, though he is not diagnosed with an anxiety disorder, despite consultation with their pediatrician. His mother reported that there is no family history of anxiety disorders. Further, it was reported that Jordan missed 15 days of school in the previous year due to his anxiety. Progress reports from Jordan's teacher indicate that he is a straight A student and performs above the class average in all subject areas. His teacher reported that Jordan is often withdrawn from the class and his peers. It was reported that Jordan does not engage in structured or unstructured play with his classmates, and he typically has to be prompted in order to participate in class discussion. Additionally,

Jordan's teacher reported that he will report feeling sick each time he is asked to participate in group activities with his classmates.

During the interview with Jordan, he reported that he does not like coming to school because he often feels sick everyday he has to do school work. He reported that he knows he is smart and can complete the work he is given; however, he does not like having to show other people the work because he is "afraid people will make fun of him." Jordan's initial MASC-2 SR rating scale resulted in Elevated *t*-scores in the areas of Physical Symptoms, Panic, Social Anxiety, and Humiliation/Rejection. Jordan's ratings were in the Very Elevated range on the Total MASC-2 scale, GAD index, and Performance Fear scale.

**Payton.** Payton is a nine-year-old female student in the fourth grade. Payton has attended the school district since she was in kindergarten. Payton was identified as intellectually gifted in the first grade through a request for gifted identification testing from her parents. Additionally, Payton was accelerated past second grade due to her gifted identification and her ability to complete work at the third-grade level when she was in first grade. Payton was referred for intervention by her teacher due to concerns with Payton's anxious tendencies in the classroom. Her teacher reported that she often observes Payton picking at her scalp, pulling her hair, and crying in class when she is overwhelmed. According to Payton's parents, she was diagnosed with General Anxiety Disorder in the Fall of 2019 by her pediatrician; however, they have not started medication or counseling services hoping that she would "grow out of it." Progress reports provided by her teacher indicated that Payton scores on assessments were well above the class average in every subject area and she has received all A's. Payton's

teacher reported that Payton has many friends and is social; however, during instructional times Payton appears anxious and overwhelmed as she tends to "shut down" and become upset when asked to do something in front of the class.

During an interview with Payton, she shared that she did not think she showed signs of anxiety, but that she does feel like her "body gets sweaty" whenever she is given classwork to complete. Payton explained that at home her parents explain to her that she is being "sensitive", and that anxiety is not something that should stop her from completing her work. Payton reported that she enjoys school this year but does not like that she has to do school from home three days each week. Payton's initial MASC-2 SR rating scale resulted in an Elevated Total MASC-2 scale and a Very Elevated Performance Fear index.

## Intervention Setting

Each session with Kacie, Jordan, and Payton took place in an empty classroom that was only available to the researcher during the designated weekly intervention time. Due to COVID-19 regulations, a plexiglass barrier was inserted between the researcher and each participant during the intervention sessions, and all participants wore a face mask during the entirety of each session.

## Materials

**Measures.** Participants completed the Multidimensional Anxiety Scale for Children 2nd Edition (MASC-2; March, 2013) Self-Report rating form in order to measure the change in anxiety levels before and after the entire Brief Coping Cat CBT intervention was implemented. The MASC-2 is a multi-rater assessment of anxiety dimensions in children and adolescents ages 8-19. The score ranges defined by the

MASC-2 include: the *Very Elevated* range (*t*-scores 70 and above) as meaning many more concerns than are typically reported; the *Elevated* range (*t*-scores ranging from 65-69) as more concerns than are typically reported; the *Slightly Elevated* range (*t*-scores from 60-64) indicating responses show slightly more concern than typically reported; *High Average* (t-scores ranging from 55-59) indicating borderline levels of concern; and *Average* and *Low* ranges (t-scores ranging from 40-54 and scores below 40) indicating average and fewer concerns than are typically reported. The MASC-2 is typically used for early identification and treatment, thus, for that purpose and in order to gain a larger sample size, *t*-scores of 60 (Slightly Elevated) or higher on any of the dimensions qualified students to be eligible for the study.

The MASC 2-SR has strong psychometric properties, as it has been found to be both a reliable and valid measure. The normative sample for the MASC 2-SR included 1,800 self-report ratings from children and adolescents aged 8 to 19 years old. The coefficient alpha reliability of the MASC 2-SR Total Score is .92 in the overall MASC 2-SR normative sample and the test-retest reliability ranged from .80 to .94, with $p < .001$. The internal consistency of the MASC 2-SR was found to be an overall .92 from the normative sample and a .79 median alpha value for the scales and subscales. This information indicates that users of the MASC 2-SR can be confident the scores from using this measure will be consistent and reliable (March, 2013). The validity measures for the MASC 2-SR found that the MASC 2-SR is acceptable in discerning between groups, correlating meaningfully with scores from other measures of anxiety, and generalizing across rater type and racial/ethnic groups.

Due to the internalizing nature of anxiety, it is difficult to measure symptoms through direct observation, thus, making it challenging to measure treatment outcomes accurately. Therefore, in this study the students completed a Subject Units of Distress Scale (SUDS) (Wolpe, 1969) to rate the amount of anxiety they experienced each week. The SUDS measure used in the present study was part of the Brief Coping Cat manual. Each participant was asked to rate 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. STIC tasks required the child to practice the strategies they learn throughout the sessions at home or in other types of settings without the therapist actively present. SUDS ratings were recorded at the beginning of each weekly session to provide a behavioral representation of the student's anxiety levels over time. These data were 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 included: 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. Parent involvement in the Brief

Coping Cat program is highly encouraged in order to address anxiety between multiple settings and environments. In the current study, the researcher engaged with parents on a consultative basis throughout the intervention period to provide educational information and seek feedback on their child's progress.

In *Session One* the objective was to establish rapport and explain the basics of the Brief Coping Cat program to the child. Furthermore, the researcher helped the child identify and distinguish anxiety from other types of feelings and emotions, as well as to promote parental involvement. *Session Two*'s goal was to normalize the anxious feelings and teach the student to begin understanding their own somatic responses to anxiety. In this session the "F.E.A.R" acronym was introduced, and the researcher helped the student to recognize anxious self-talk in certain situations, as well as promote positive self-talk as a coping strategy. In *Session Three,* problem-solving concepts and strategies to better manage anxiety were taught. Additionally, the role of personal thoughts and their impacts on one's response to anxiety-provoking situations.

In the latter half of the intervention application of previously learned strategies occurred via hypothetical situations and in-vivo situations. In *Session Four,* the "F.E.A.R" acronym was reviewed and applied to hypothetical situations and the student began practicing applying it to low anxiety provoking situations. Parent cooperation continued to be encouraged throughout this session. *Session Five* consisted of applying newly learned skills to situations that provoked a moderate amount of anxiety for the child. *Sessions Six and Seven* built off this and took it to the next level by practicing applying these skills in high-anxiety provoking situations. In the final session, *Session*

*Eight*, the student, researcher, and parent reviewed and summarized the intervention program, as well as celebrated the student's success.

## Procedures

**Phase I: IRB Approval.** This study was approved by the University of Dayton Institutional Review Board (IRB) on May 5, 2020, prior to recruitment and subsequent data collection.

**Phase II: Recruitment, consent, and screening.** Prior to recruitment, the participating school's principal consented to the school's participation in this project. Students were recruited via teacher referrals as well as through the use of consultation with the school psychologist and school counselor at the start of the 2020-2021 school year. Twelve students were referred to the researcher in the initial round of recruitment. Both parent consent and student assent were obtained prior to the screening process. Referred students were screened with the Multidimensional Anxiety Scale for Children 2nd Edition (MASC-2; March 2013) Self-Report rating form. Of the twelve students that were screened, five of them met the criteria of subclinical levels of anxiety based on the *t*-scores obtained on the MASC-2. However, two students did not meet the full criteria to be considered for the study. Both ineligible students were recently diagnosed with anxiety disorders, and had started a new medication for anxiety within 6 months of the start date of the intervention. School-based consultation was provided to the teachers and parents of the two non-eligible students based on their MASC-2 results.

The students selected for participation in the study demonstrated subclinical levels of anxiety as indicated by a *t*-score of 60 or higher on one or more of the measure's subscales. All participants were assigned a pseudonym to protect their identity and to

maintain confidentiality in all written documents, including this thesis project. Data were kept on a password-protected computer. After two years, all data files, paper and electronic, will be properly destroyed. When results of research from this study are published or discussed in conferences, no identifying information will be included. After participant criteria were met and the students were successfully screened with the MASC-2, a brief parent interview was completed to gather relevant information (i.e., educational and developmental history) related to the child's giftedness and anxiety. Following, a general student interview was conducted to both establish rapport with the child and to obtain relevant information, including anxiety and gifted characteristics. These interviews helped identify specific target areas for intervention.

**Phase III: Baseline.** Baseline data were collected for three weeks, in line with a multiple baseline design. The SUDS ratings served as the time series data collected to establish baseline, whereas the MASC-2 SR was used as an additional measure of reductions in anxiety from pre- to post-intervention. Baseline SUDS ratings were obtained following an introductory session on anxiety that was created from specific sections of Session 1 of the Brief Coping Cat. These sections included defining emotions, feelings, and responses to feelings. Each baseline week consisted of a 15-minute session based on these topics in which the participant would discuss feelings or emotions experienced over the prior week. During the three-week baseline phase, participants were asked to use the SUDS to rate how anxious they were feeling on the scale of 1 to 8 each week.

**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. Multiple strategies were employed in each session, including 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). Students were asked to rate their level of anxiety from their STIC tasks using the SUDS scale with which they were familiar from the baseline period. Additionally, when participants did not complete their STIC tasks at home, they did so with the help from the researcher during the intervention session and then rated their anxiety level on the SUDS rating scale.

Consistent with a multiple baseline research design, participants were given staggered intervention start points, assigned in the order in which the student was recruited and assent and consent were obtained. According to Rhoda et al (2011), the intervention start points should be spaced apart enough for the intervention to be in full effect. However, due to the limited nature of a school schedule and the challenges presented with COVID-19-related procedures, this was not feasible in the present study. Therefore, each participant started one week after the other.

**Phase V: Post intervention data collection.** Participating students were asked to complete the post MASC-2 SR form following the completion of the Brief Coping Cat intervention. This served as an additional measure of anxiety reduction to compare to their pre-baseline MASC-2 SR score.

# CHAPTER IV

# RESULTS

This chapter presents the results of the Brief Coping Cat intervention with gifted students who experience anxiety, including an analysis of the pre/post and weekly repeated data for each participant.

## Research Question

*What is the impact of The Brief Coping Cat cognitive-behavioral therapy program on gifted students with anxiety, when implemented in a school setting?*

In order to determine the effect of the Brief Coping Cat intervention on reducing anxiety in children who are gifted, each participant completed the MASC-2 SR before and after the intervention. Additionally, participants completed weekly Subject Units of Distress Scale (SUDS) ratings which served as a behavioral representation of their perceived anxiety session-to-session. The following sections describe the results for each of the three participants (Kacie, Jordan, and Payton) from the Brief Coping Cat intervention program.

## Data Analyses

Data analyses occurred via three primary methods: 1) visual analysis of weekly SUDS ratings data, 2) effect size calculation using Cohen's *d*, and 3) pre/post MASC-2 SR score comparisons using a reliability of change index method.

The Subject Units of Distress Scale (SUDS) ratings were analyzed visually via graphed data and specifically examined for patterns in level, trend, variability, immediacy of effect, overlap of data in different phases, and consistency (What Works

Clearinghouse, 2020). Additionally, an effect size for each participant was calculated 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 exist among the data (Hunley & McNamera, 2010).

The MASC-2 yielded ordinal and interval data that were analyzed using descriptive statistics and calculation of Reliability Change Indexes (RCI). Given the small number of participants in the study, there were statistical limitations for measuring the significance of the change in scores on the pre/post assessments. A reliability change index (RCI), originally proposed by Nunally and Kotsche (1983) is a method for determining if an intervention's effect is considered significant. The RCI is computed by dividing the difference between the pre-treatment and post-treatment scores by the standard error of measurement (*SEM*), and is interpreted based on a *z*-score distribution. If the *z*-score is greater than +1.96 (or less than -1.96 for change in the negative direction) the difference is considered to be reliable, since a change of this magnitude would not be expected given the reliability of the measure. Conversely, if the RCI score is less than +1.96 (or greater than -1.96 for change in the negative direction), the change is not considered to be reliable, as it could have occurred simply due to the unreliability of the measure. The RCI was calculated for students' pre- and post-scores on the MASC-2; RCI values greater than +1.96 were considered significant given that reductions in MASC-2 scores reflect improvements in anxiety symptoms.

**Kacie**

**SUDS anxiety ratings.** Kacie completed the 8-item SUDS anxiety rating scale during each session of the baseline and intervention phases. During baseline, Kacie was

asked to rate the amount of anxiety she felt during the week. In the intervention phase, she rated her anxiety levels based on her weekly *Show That I Can* (STIC) tasks. During the intervention phase the focus for Kacie was on her performance fears in front of others. Therefore, most of her STIC tasks were aligned with her attempting to complete tasks with others present. Kacie's SUDS data demonstrate a decrease in anxiety from baseline to the end of the intervention. Figure 1 depicts Kacie's baseline and intervention data based on her SUDS results. SUDS ratings were collected at the beginning of each session prior to completing any intervention activities.

Visual analysis of Kacie's graphed data includes a description of level, trend, variability, immediacy of the effect, and overlap (Kratochwill et al., 2010). During baseline, Kacie's average anxiety ratings was 6.7 compared to an average of 3.3 during intervention. This indicates that Kacie experienced a significant reduction in anxiety levels by the end of the intervention. When visually inspected, Kacie's baseline data were stable, neither increasing nor decreasing in level throughout the baseline period. However, when looking at the intervention trend line, it can be interpreted that the Brief Coping Cat intervention aided in decreasing the levels of anxiety Kacie was experiencing each week, starting with week five. The effect of the intervention was immediate, as there was a significant decrease in Kacie's SUDS ratings from week three to week four.

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 Kacie was -1.75 (Intervention mean: 3.3 - Baseline mean: 6.7/Standard deviation of all data: 1.94 = -1.75), thus the Brief Coping Cat implemented in this study with Kacie, was an effective

intervention in reducing anxiety. Additionally, the percentage of non-overlapping data (PND) points was 100%, indicating a strong effect.

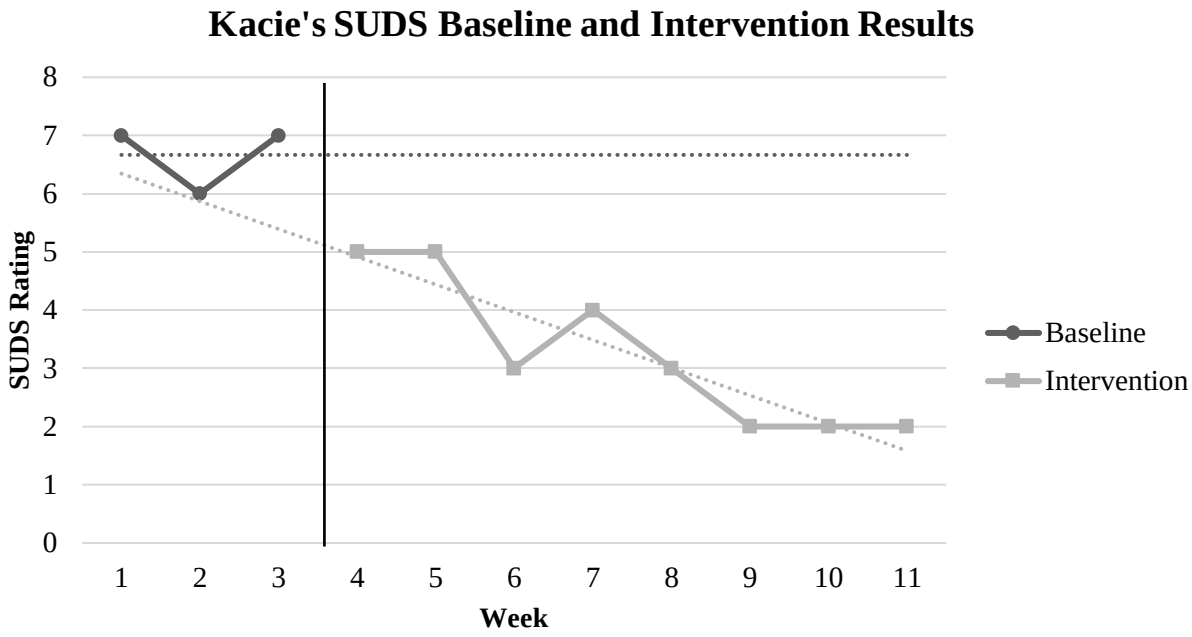


**Figure 1. Kacie's SUDS Results**

**MASC-2 Analysis.** The MASC-2 SR was administered to Kacie prior to the intervention. In the pre-intervention phase, Kacie's total MASC-2 *t*-score of 65 was in the *Elevated* range. Post-intervention, Kacie earned a *t*-score of 54, which falls in the *Average* range. All of Kacie's scores that were of concern prior to the intervention demonstrated significant reductions; at the conclusion of the intervention all the anxiety scales on the MASC-2 fell in the *Average* or *High Average* range. For both the pre- and post-measure, the consistency scales fell within the acceptable range, indicating that Kacie provided responses that were reliable and consistent across questions. Thus, both measures were likely reliable ratings of her true perception of her anxiety-related

behavior. Figure 2 displays Kacie's pre-intervention and post-intervention scores on the MASC-2 SR. Additionally, *Table 1* shows Kacie's scores in each domain pre- and post-implementation of the Brief Coping Cat.

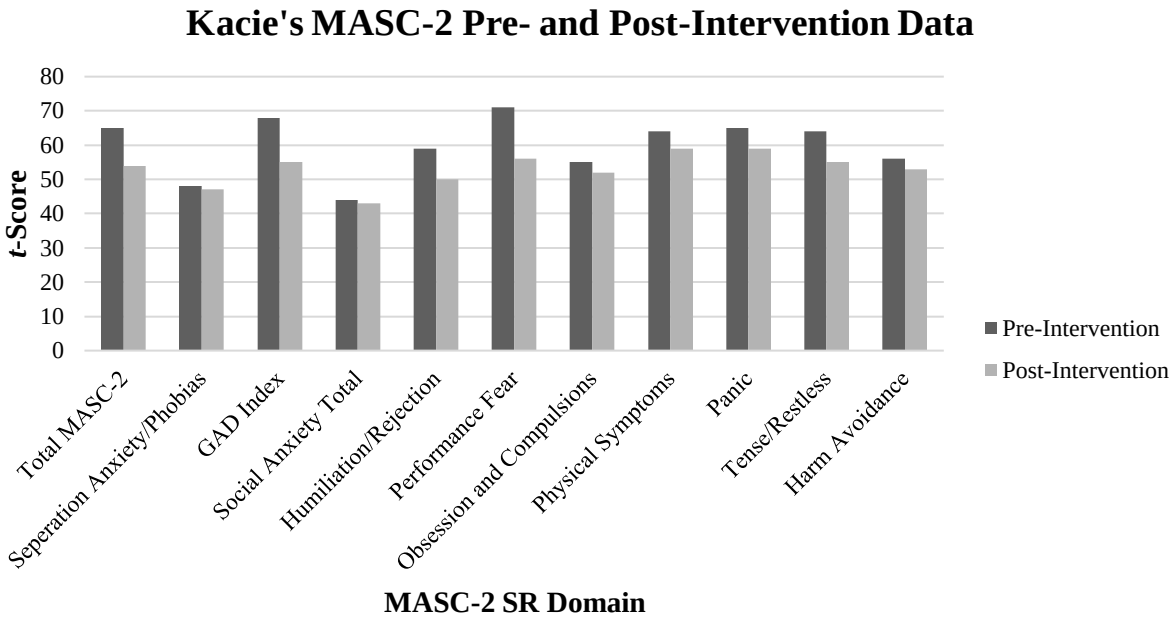


**Figure 2. Kacie's MASC-2 Data**

*Table 1. Kacie's MASC-2 Results*

| Domain | Pre-Intervention *t*-Scores | Post-Intervention *t*-Scores |
|---|---|---|
| Total MASC-2 | 65* | 54 |
| Separation Anxiety/Phobias | 48 | 47 |
| GAD Index | 68* | 55 |
| Social Anxiety Total | 44 | 43 |
| Humiliation/Rejection | 59 | 50 |
| Performance Fear | 71** | 56 |
| Obsessions and Compulsions | 55 | 52 |
| Physical Symptoms | 64 | 59 |

| | | |
|---|---|---|
| Panic | 65* | 59 |
| Tense/Restless | 64 | 55 |
| Harm Avoidance | 56 | 53 |

*Note: Mean = 50, Standard Deviation = 10; * Elevated, ** Very Elevated*

**Jordan**

**SUDS anxiety ratings.** Jordan completed the 8-item SUDS anxiety rating scale during each session of the baseline and intervention phases. During baseline, Jordan was asked to rate the amount of anxiety he felt from the week. During the intervention phase, his anxiety levels were rated based on the weekly Show That I Can (STIC) tasks. During the intervention phase the focus for Jordan was on his performance fears in front of others and his social anxiety. Therefore, most of his STIC tasks were aligned with him attempting to complete tasks with others present and socializing in groups of his peers. Jordan's SUDS data demonstrate a decrease in anxiety from baseline to the end of the intervention. Figure 3 depicts Jordan's baseline and intervention data based on his SUDS results. SUDS ratings were collected weekly at the beginning of each session.

Visual analysis of Jordan'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 Jordan was 7.7 compared to an average of 5.3 during intervention. This indicates that Jordan experienced a reduction in anxiety levels by the end of the intervention. When visually interpreted, it can be seen the Jordan's baseline data was trending upwards, indicating that he was experiencing increased levels of anxiety each week. However, when looking at the intervention trend line, it can be interpreted that the Brief Coping Cat intervention aided in decreasing the

levels of anxiety Jordan was experiencing each week. The effect of the intervention was immediate, however, there was a significant decrease in Jordan's SUDS ratings from week five to week seven.

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 Jordan was -1.41 (Intervention mean: 5.3 - Baseline mean: 7.7/Standard deviation of all data: 1.70 = -1.41), thus the Brief Coping Cat implemented in this study with Jordan, was an effective intervention in reducing his anxiety levels. Additionally, the percentage of non-overlapping data (PND) points was 73%, indicating a moderate effect for the intervention.

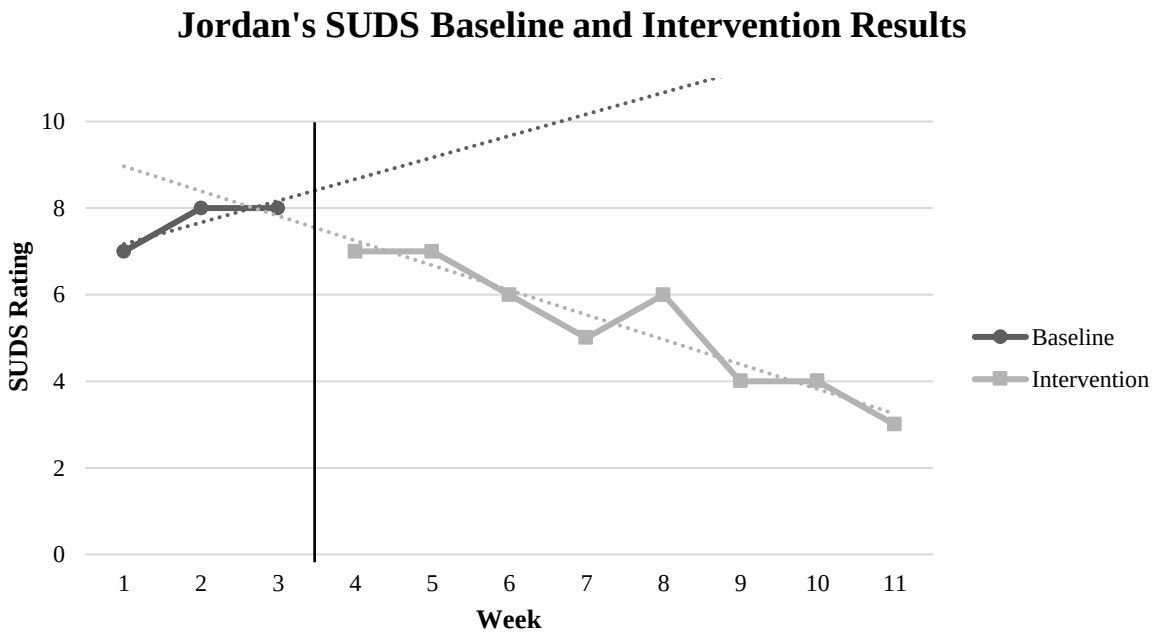


**Figure 3. Jordan's SUDS Data**

**MASC-2 Analysis.** The MASC-2 SR was administered to Jordan prior to the intervention. In the pre-intervention phase, Jordan earned a Total MASC-2 *t*-score of 70, which is considered in the *Very Elevated* range. Post-intervention, Jordan earned a Total

MASC-2 *t*-score of 59, which is in the *High Average* range. All of Jordan's scores that were of concern demonstrated significant reductions, and at the conclusion of intervention all of the anxiety scales on the MASC-2 fell within the *Average* to *Slightly Elevated* range. For both the pre- and post-measure, the consistency scales fell within the acceptable range, indicating that Jordan provided responses that were consistent across questions. Thus, both measures were likely reliable ratings of his true perception of his anxiety-related behavior. Figure 4 displays Jordan's pre-intervention and post-intervention scores on the MASC-2 SR. Additionally, *Table 2* shows Jordan's scores in each domain pre- and post-implementation of the Brief Coping Cat intervention.

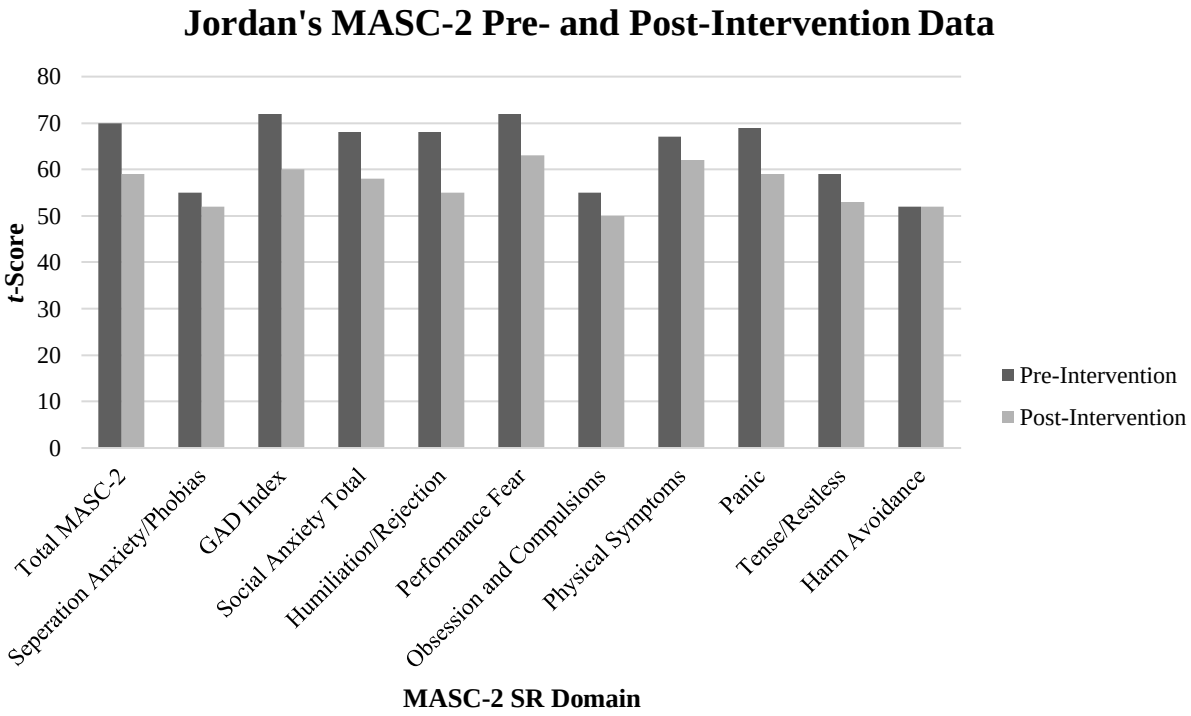


**Figure 4. Jordan's MASC-2 Data**

*Table 2. Jordan's MASC-2 Results*

| Domain | Pre-Intervention *t*-Scores | Post-Intervention *t*-Scores |
|---|---|---|
| Total MASC-2 | 70** | 59 |
| Separation Anxiety/Phobias | 55 | 52 |

| | | |
|---|---|---|
| GAD Index | 72** | 60 |
| Social Anxiety Total | 68* | 58 |
| Humiliation/Rejection | 68* | 55 |
| Performance Fear | 72** | 63 |
| Obsessions and Compulsions | 55 | 50 |
| Physical Symptoms | 67* | 62 |
| Panic | 69* | 59 |
| Tense/Restless | 59 | 53 |
| Harm Avoidance | 52 | 52 |

*Note: Mean = 50, Standard Deviation = 10; * Elevated, ** Very Elevated*

**Payton**

**SUDS anxiety ratings.** Payton completed the 8-item SUDS anxiety rating scale during each session of the baseline and intervention phases. During baseline, Payton was asked to rate the amount of anxiety she felt from the week. During the intervention phase, her anxiety levels were rated based on the weekly Show That I Can (STIC) tasks. During the intervention phase the focus for Payton was on her performance fears in front of others. Therefore, most of her STIC tasks were aligned with her attempting to complete tasks with others present. Payton's SUDS data demonstrated a decrease in anxiety from baseline to the end of the intervention. Figure 5 depicts Payton's baseline and intervention data based on her SUDS results. SUDS ratings were collected weekly at the beginning of each session.

Visual analysis of Payton'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 Payton was 6.3 compared to an average

of 4.5 during intervention. This indicates that Payton experienced a reduction in anxiety levels by the end of the intervention. When visually interpreted, it can be seen the Payton's baseline data was primarily stable, indicating she was not showing an increase or decrease in her anxiety levels throughout the weeks. However, when looking at the intervention trend line, it can be interpreted that the Brief Coping Cat intervention aided in decreasing the levels of anxiety Payton was experiencing each week.

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 Payton was -1.22 (Intervention mean: 4.5 - Baseline mean: 6.3/Standard deviation of all data: 1.48 = -1.22), thus the Brief Coping Cat implemented in this study with Payton, was an effective intervention in reducing her anxiety levels. Additionally, the percentage of non-overlapping data (PND) points was 73%, indicating a moderate effective intervention.

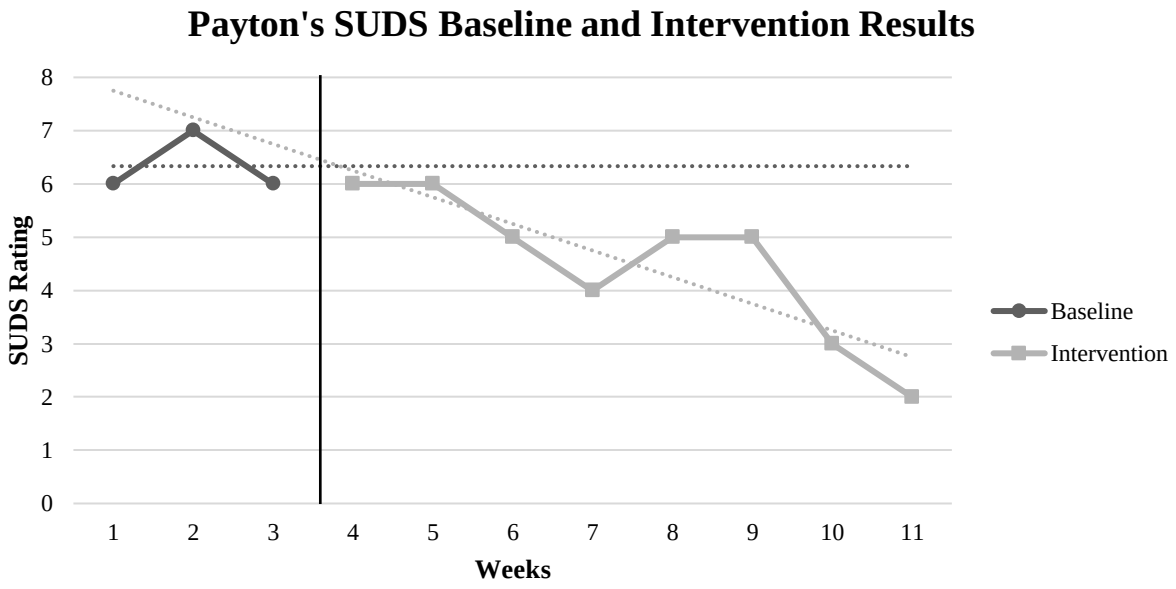


**Figure 5. Payton's SUDS data**

**MASC-2 Analysis.** The MASC-2 SR was administered to Payton prior to the intervention. In the pre-intervention phase, Payton earned a Total MASC-2 *t*-score of 67, which is considered in the *Elevated* range. Post-intervention, Payton earned a Total MASC-2 *t*-score of 54, which is in the *Average* range. All of Payton's scores that were of concern demonstrated reductions, and at the conclusion of intervention all of the anxiety scales on the MASC-2 fell within the *Average* to *High Average* range. For both the pre- and post-measure, the consistency scales fell within the acceptable range, indicating that Payton provided responses that were consistent across questions. Thus, both measures were likely reliable ratings of her true perception of her anxiety-related behavior. Figure 6 displays Payton's pre-intervention and post-intervention scores on the MASC-2 SR. Additionally, *Table 3* shows Payton's scores in each domain pre- and post-implementation of the Brief Coping Cat intervention.

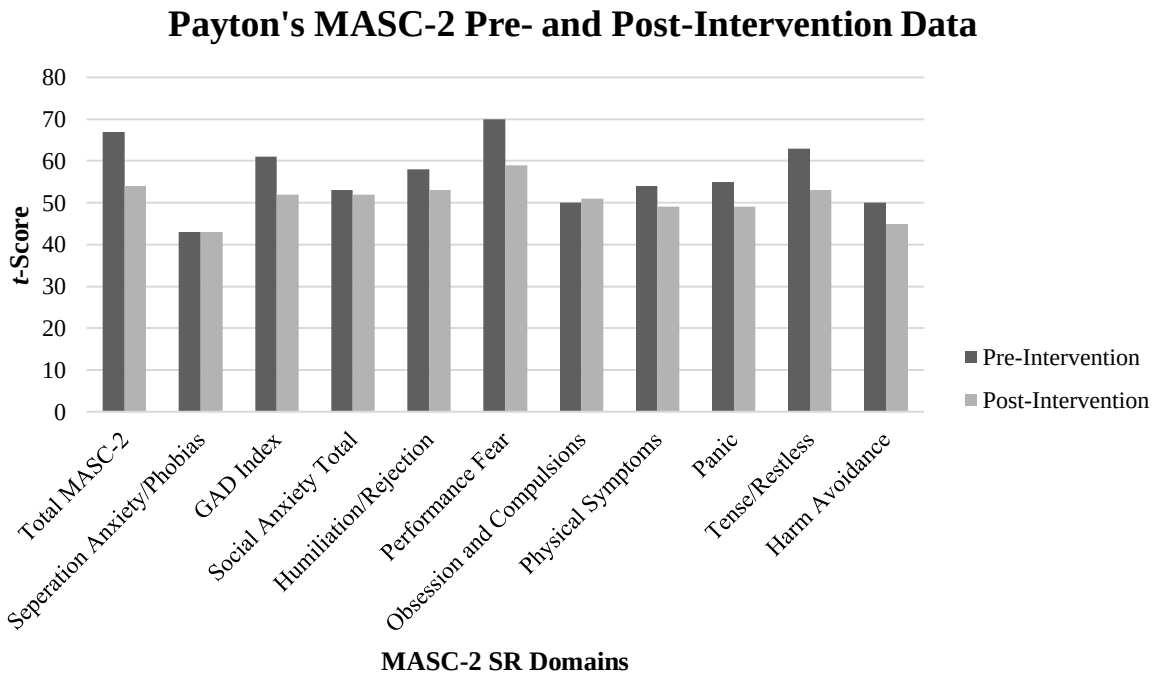


**Figure 6. Payton's MASC-2 Data**

*Table 3. Payton's MASC-2 Results*

| Domain | Pre-Intervention *t*-Scores | Post-Intervention *t*-Scores |
|---|---|---|
| Total MASC-2 | 67* | 54 |
| Separation Anxiety/Phobias | 43 | 43 |
| GAD Index | 61 | 52 |
| Social Anxiety Total | 53 | 52 |
| Humiliation/Rejection | 58 | 53 |
| Performance Fear | 70** | 59 |
| Obsessions and Compulsions | 50 | 51 |
| Physical Symptoms | 54 | 49 |
| Panic | 55 | 49 |
| Tense/Restless | 63 | 53 |
| Harm Avoidance | 50 | 45 |

*Note: Mean = 50, Standard Deviation = 10; * Elevated, ** Very Elevated*

**Overall Group Effectiveness**

The average effect size (*d*-index = -1.46) was calculated across all participants to determine the overall intervention effect based on the weekly SUDS rating scales completed by each participant. A *d*-index of +/- 0.80 and higher is considered to be a large effect size, therefore, the current study's average effect size of -1.48 indicates that the school-based implementation of the Brief Coping Cat had a large effect on the gifted students who participated. Table 4 shows the average SUDS ratings during baseline and intervention phases for each participant, along with the overall intervention effect.

*Table 4. Mean SUDS Ratings and Overall Effect Size*

| | Baseline | Intervention | | |
|---|---|---|---|---|
| Participant | Mean | Mean | SD | Effect Size |
| Kacie | 6.7 | 3.3 | 1.94 | -1.75 |
| Jordan | 7.7 | 5.3 | 1.70 | -1.41 |
| Payton | 6.3 | 4.5 | 1.48 | -1.22 |
| Means | 6.9 | 4.4 | 1.71 | -1.46 |

Note. Negative effect sizes reflect change in the desired direction (i.e., reductions in anxiety)

To examine the changes in pre/post measures for MASC-2 SR results, a reliability change index (RCI) was utilized. An RCI greater than 1.96 is considered reliable and significant. The RCI was calculated for the MASC-2 SR (see Table 5) completed by each participant; statistically significant changes from pre- to post- *t*-scores were observed in 82% of the RCI scores calculated across all three participants (Kacie = 82%; Jordan = 91%; Payton = 73%).

*Table 5. Reliability Change Indices (RCI) on MASC-2 SR*

| | Total Score | | Separation Anxiety/ Phobias | | Generalized Anxiety Index | | Total Social Anxiety | | Humiliation/ Rejection | | Performance Fears | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Participant | *RCI* | *Sig?* | *RCI* | *Sig?* | *RCI* | *Sig?* | *RCI* | *Sig?* | *RCI* | *Sig?* | *RCI* | *Sig?* |
| Kacie | 11.96 | Yes | 1.26 | No | 10.27 | Yes | 1.26 | No | 11.39 | Yes | 18.98 | Yes |
| Jordan | 11.96 | Yes | 3.79 | Yes | 15.18 | Yes | 12.66 | Yes | 16.46 | Yes | 11.39 | Yes |
| Payton | 16.46 | Yes | 0.00 | No | 11.39 | Yes | 1.26 | No | 6.33 | Yes | 13.92 | Yes |

*Table 5 (continued)*

| | Obsessions & Compulsions | | Total Physical Symptoms | | Panic | | Tense/Restless | | Harm Avoidance | |
|---|---|---|---|---|---|---|---|---|---|---|
| Participant | *RCI* | *Sig?* | *RCI* | *Sig?* | *RCI* | *Sig?* | *RCI* | *Sig?* | *RCI* | *Sig?* |
| Kacie | 3.79 | Yes | 6.33 | Yes | 7.59 | Yes | 11.39 | Yes | 3.79 | Yes |
| Jordan | 6.33 | Yes | 6.33 | Yes | 12.66 | Yes | 7.59 | Yes | 0.00 | No |
| Payton | -1.26[a] | No | 7.59 | Yes | 6.33 | Yes | 12.66 | Yes | 6.33 | Yes |

[a]Significance on this scale indicates an increase in symptoms.

# CHAPTER V

# DISCUSSION

## Review of Purpose and Major Findings

Anxiety in the school setting has been shown to cause serious and detrimental long-term effects on students (Chiu et al., 2013; Crawley et al, 2013; Seligman & Ollendick, 2011; D'agostino, Schirripa Spagnolo, & Salvati, 2020). Chiu et al (2013) reported that, when anxiety is left untreated, students demonstrate increased rates of refusal of school, poor performance in the classroom, and social impairments resulting in fewer positive interactions compared to their peers. However, many gifted students are often overlooked and underserved in schools regarding their mental health (Robertson et al., 2011) and subsequent school-based initiatives. Research has shown that students who are identified as gifted have tendencies, such as perfectionism, that could put them at an increased risk to develop a mental health disorder that interferes with their school functioning. (Dansinger, 1998; Lamont, 2012; Pfeiffer, 2013; Robertson et al., 2011).

There is research on the widespread use of psychoeducational and therapeutic interventions in the school setting; however, few studies are focused on the gifted population. Cognitive behavioral therapy (CBT) is the basis for many of the school-based interventions geared towards anxiety in students. CBT is a short-term, goal-oriented form of psychological treatment, frequently used for anxiety and depression, that focuses on trying to change an individual's thinking patterns (Dobson & Dobson, 2018).

The present study adds to the existing body of literature on the school-based implementation of the Brief Coping Cat CBT program using a multiple baseline, single

case design with gifted students who have anxiety, which had yet to be empirically examined by previous researchers. Results from the present study indicate that the Brief Coping Cat intervention demonstrated a significant and positive effect in decreasing perceived levels of anxiety in students who are identified as gifted in a school setting.

## Interpretation of Findings Relative to the Hypothesis

**SUDS anxiety ratings.** Participants in the current study demonstrated significant reductions in SUDS anxiety ratings throughout the course of the intervention phase. Based on the visual analysis of the data, all participants' intervention data demonstrated a downward trend, indicating that anxiety levels decreased over time. All three participants' data yielded large effect sizes (greater than +/- 0.80). Given that no other intervention was implemented during this time period, it can be reasonably presumed that the school-based implementation of the Brief Coping Cat intervention was the primary factor that led to anxiety reductions and that it significantly aided in decreasing perceived anxiety in students who are identified as gifted. Among all the participants, Payton demonstrated the smallest effect size (*d* index = -1.22); however, she also had the lowest self-reported anxiety levels at the start of the study.

The current study's findings support the use of brief cognitive-behavioral interventions such as the Brief Coping Cat in a school setting, and specifically that which targets anxiety for students who are identified as gifted. This study helps to further close the gap in the literature by contributing to empirical support for the use of school-based interventions for children who are gifted and experience anxiety.

**MASC-2 results.** All three participants demonstrated a decrease in elevated pre-test scores on the MASC-2 after completing the 8-sessions of the Brief Coping Cat.

These results reflect a self-reported improvement in anxiety symptoms. Payton demonstrated the largest reduction (13 standard scores) in overall MASC-2 Total Scores. However, both Jordan and Kacie also reported significant changes on the MASC-2 Total Score (reductions of 11 standard scores from pre- to post-intervention). Kacie and Payton's MASC-2 domain ratings ended in the *Average* or *High Average* at post-intervention, despite starting with several subscales in the *Elevated* range. For instance, Kacie's Performance Fear rating was in the *Very Elevated* (*t*-score = 71) range prior to the intervention, and in the *High Average* range (*t*-score = 56) at the conclusion of the study. Jordan's MASC-2 ratings improved as well. Although it should be noted that three of his ratings still fell in the *Slightly Elevated* range at the conclusion of the study, including General Anxiety Index, Performance Fear, and Physical Symptoms. However, these areas were the highest rated at the start of the study and he still demonstrated reductions in these areas after the 8-weeks of intervention. Furthermore, on the post-test all three participants' scores shifted from the *high probability* classification on the Anxiety Probability Score to the *low probability* classification. Lastly, calculation of the *RCI* suggests that a majority (82%) of the differences in MASC-2 SR *t*-scores from pre- to post-intervention are significant and thus attributable to the intervention.

**Limitations**

There are several limitations to the current study. First, given the small sample size of only three participants from the same school setting, it limits the ability to generalize findings to other settings where contextual and environmental factors may vary. Additionally, the methodology of the study was not implemented with full fidelity due to the nature of the school setting. Specifically, it was not feasible to maintain the

multiple baseline design due to the limited access to students during the school closures from the COVID-19 pandemic. Not staggering intervention implementation start points makes it difficult to interpret the visual analysis data and effect size, particularly when attributing the change solely to the intervention. Without implementation of a strong methodology, other factors such as maturation or differential selection could occur and inhibit the ability draw causative conclusions. Maturation is a change that occurs over time due to 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). Collecting baseline data until it truly stabilizes controls for this threat. Despite not maintaining the multiple baseline design, baseline data were generally stable across participants, an important factor in drawing causative conclusions. Differential selection is another potential threat to internal validity because without randomized start points, systematic differences in participant characteristics could cause effects (Mertens, 2015). Further, given the characteristics of gifted students, such as perfectionism and need to thrive, the participants may have perceived that they were "supposed to" lower their ratings on the SUDS and MASC-2 to indicate that they have learned, leading to skewed perceptions of improvements in anxiety. Lastly, unique to the time this research was conducted, the COVID-19 pandemic may have impacted the participants' ability to fully invest their thought processes in the intervention. Further, due to the global pandemic that resulted in nationwide school closures, the students' perceived anxiety levels could have been skewed and misinterpreted.

## Implications for Practice

Although students who are gifted and experience anxiety may not have poor academic performance or struggle academically within the classroom, their mental health diagnoses and experiences can impact their emotional well-being and hinder their ability to reach their full potential within and outside the classroom. Foley, Nicpon, and Pfeiffer (2011) reported that due to the complex nature of giftedness and the level of expertise needed to identify this special population, school psychologists can play a prominent role in serving these twice exceptional learners by educating others through consultation and professional development, aiding in the identification process, developing appropriate accommodations, and implementing evidence-based interventions.

Further, with the findings from this study, it can be suggested that a brief cognitive behavioral therapy intervention approach is ideal when working with gifted students who are experiencing anxiety within the school setting. This is consistent with previous research that supports the notion that cognitive behavior therapy is an effective treatment option for childhood anxiety (McLoone, Hudson, & Rapee, 2006; Dobson & Dobson, 2018; Lusk & Kozlowski, 2021). Gifted students' advanced cognitive abilities allow for them to learn and remember strategies utilized with a CBT approach. Thus, it can be concluded that brief CBT is an effective intervention to aid in treating anxiety with students who are identified as gifted within the school environment.

## Future Research

To generalize the findings of the current study, it could be expanded to larger and more diverse populations of participants, differentiated based on participant's needs, and implemented in various school settings. If this study were to be duplicated, the study

should follow the multiple baseline methodology, as intended, by ensuring randomization of participant start points, beginning intervention implementation after a stable baseline is fully established, and not starting the intervention with the next participant until the previous participant enters the intervention phase and demonstrates a sufficient response (Rhoda et al., 2011). Additionally, it may be beneficial if all SUDS ratings could be completed immediately following anxious situations, such as those the participants engaged in during the STIC tasks, in order to improve the validity of ratings. These factors could improve the internal and external validity of the study.

## Conclusion

The present study examined if the Brief Coping Cat, a brief cognitive-behavioral intervention, would help improve perceived levels of anxiety for students who were identified as gifted within the school environment. 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 current study's findings. Such studies are needed to help close the gap existing in the current literature addressing intervention effectiveness for students who are identified gifted and experience high levels of anxiety.

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APPENDIX A

IRB Materials and Consent/Assent Letters

**UNIVERSITY OF DAYTON**
**Parental Consent for Minor/Child to Participate in a Research Project**

| | |
|---|---|
| Project Title: | School-Based Application of the Brief Coping Cat Program for Students who are Gifted and Experience Anxiety |
| Investigator(s): | Leanna Henry, M.S. Ed., University of Dayton, School Psychology Program |
| Description of Study: | The purpose of this project is to study ways that school psychologists can help gifted students who experience anxiety within the school environment.<br>Students who are identified as gifted (as determined by the district of the child ) will be asked to complete an Anxiety Survey for Children with 50 questions to determine their current level of anxiety. If they meet eligibility criteria, they will complete the same survey after the intervention. This assessment will be administered individually and will take approximately 15-20 minutes, including reading the assent form, instruction, and completing the measure.<br><br>Students who meet the eligibility criteria to participate in this study will be asked to participate in The Brief Coping Cat, an evidence-based intervention program that targets anxiety and coping techniques. The intervention will consist of 8-weeks of 40-minute sessions once a week. Each session will involve activities, including worksheets, games, and exposure situations. |
| Adverse Effects and Risks: | There are some possible risks for participating in the 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, there will be a loss of some instructional time, mostly during enrichment and/or elective classes throughout the school day.<br>*Steps Taken to Minimize Risk:* Students and parents will be notified prior to screening of the potential risk. The researcher will offer suggestions for additional support if students don't qualify for the study. In addition, the researcher will offer support and additional resources for participants at the end of the intervention. Additionally, the researcher will not take students out of core academic classes in order to participate in this study. |
| Duration of Study: | The intervention period will last 8 weeks, with baseline data collection occurring first; the study will take approximately 10-11 weeks in total. |
| Confidentiality of Data: | All information will be kept confidential and under lock and key in a file cabinet and/or on a password protected computer. The intervention materials will only be available to the faculty advisor and the researcher. Students' names will be coded using pseudonyms and will not appear in any data sets or |

| | |
|---|---|
| | publications. Participants will not be videotaped, photographed, or recorded in any way during the duration of this study. Data will be kept up to three years following the completion of the research project, for which it will then be destroyed |
| Contact Person: | Parents or guardians of participants may contact:<br>Leanna Henry, M.S. Ed, henryl9@udayton.edu, (614) 546-6904<br>Dr. Elana Bernstein, PhD, ebernstein1@udayton.edu, (937) 229-3624<br>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, Amy Adkins, J.D., at (937) 229-3515, IRB@udayton.edu. |

_____

Student's Full Name (please print)

_____

Parent's Full Name (please print)

_____

Parent or Guardian Signature Date

**University of Dayton - Participant Assent Form**

**TITLE OF STUDY**: School-Based Application of the Brief Coping Cat Program for Students who are Gifted and Experience Anxiety

**Who is doing this research?**
Leanna Henry, School Psychology Student, Primary Researcher

**Why should I do this?**
The purpose of this project is to study ways that school psychologists can help gifted students who experience anxiety in school.

**How long will it last?**
You will work with Ms. Henry once a week for 8 weeks; sessions will last about 40 minutes. Before we begin the intervention, we will meet once a week for several weeks, lasting 15 minutes, to check in on your anxiety. Altogether, the project will take 10-12 weeks.

**What will happen?**
Each week you will meet with Ms. Henry to talk about anxiety and how it affects you in school. We will develop strategies to help you feel less anxious in school. Some activities may involve practicing together, playing games, or completing worksheets. You will fill out a questionnaire at the beginning and end of the study to see how much progress you make. You will also rate your anxiety level each week that you meet with Ms. Henry.

**How will you feel?**
You may feel some anxiety or stress when we talk about certain situations that make you nervous. In order to minimize this, we will stop the session if it gets to be too overwhelming and try on another day. After we meet a few times, I hope that you start to feel less anxious at school and at home.

**Will anyone know I'm doing this?**
Everything that you and I talk about when we meet will be kept confidential. This means what whatever you say to me will be kept between us. However, if you tell me that you are going to hurt yourself, hurt someone else, or if someone is hurting you, I would have to tell someone like your parents or a safe adult to make sure you are safe. Ms. Henry will use a fake name for you on any information that is written down, so your name isn't associated to anything we do during our sessions.

**What if I have questions or am worried about something?**
If you have questions or start to feel worried, you may talk to me (Ms. Henry). You do not have to participate in this activity. If you start working with Ms. Henry and change your mind about participating, you can tell your teacher, your parents, or me at any time. This study is only supposed to help you feel better and less anxious; it's not to make you feel sad or more worried. If at any point you feel uncomfortable, we can skip certain activities or take a break.

**Consent to Participate**

I agree to work with Leanna Henry and her team on this project. I understand all that is expected of me and promise to do my best. Leanna Henry has answered all my questions. I understand I may stop this activity at any time.

_____ _____

Participant's Name DATE

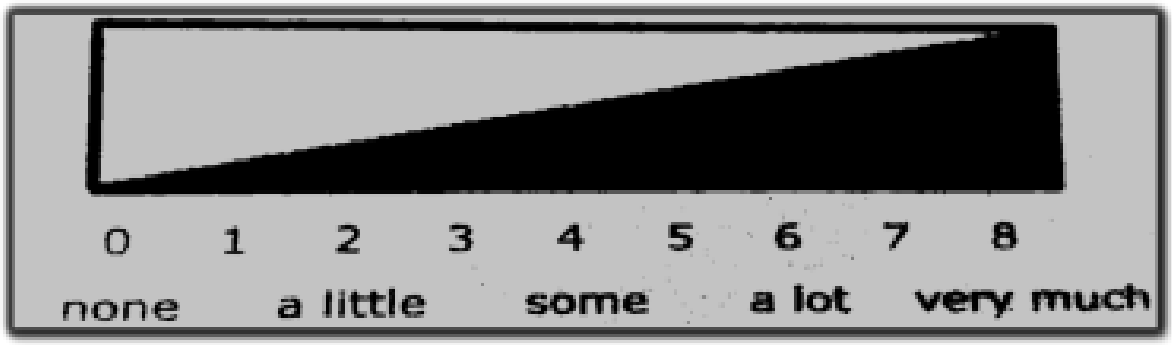
_____

_____

Participant's Signature Researcher's Name

APPENDIX B

Repeated Measure – SUDS Rating Scale



APPENDIX C

Brief Coping Cat Session Objectives

| Session | Objective |
|---|---|
| 1 | • Get to know one another<br>• Explain basic information about the program<br>• Gather information about situations that make the child anxious and learn about the child's reactions<br>• Help the child identify feelings and distinguish anxious/worried feelings from other types of feelings<br>• Encourage parental cooperation in the treatment program and answer their questions |
| 2 | • Normalize feelings of anxiety<br>• Have the child begin to identify his own specific somatic responses to anxiety<br>• Introduce the "F" step<br>• Introduce the role of personal thoughts and their impact on response on anxiety-provoking situations<br>• Help the child begin to recognize self-talk (expectations, automatic questions) in anxious situations<br>• 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<br>• Help the child begin to recognize self-talk (expectations, automatic questions) in anxious situations<br>• Help the child begin to develop and use coping self-talk<br>• Introduce problem-solving concepts and develop problem-solving strategies to better manage anxiety<br>• Introduce the concept of evaluation or rating performance and rewarding yourself for effort |
| 4 | • Finalize hierarchy of anxious symptoms<br>• Review and apply the 4-step F.E.A.R. plan<br>• Begin practicing and applying skills for coping with anxiety in situations that produce low anxiety<br>• Encourage continued parental cooperation in the treatment program<br>• 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<br>• Review and summarize the training program<br>• Make plans with the parents to help the child maintain and generalize newly acquainted skills<br>• Bring closure to the therapeutic relationship |

APPENDIX D

F.E.A.R Acronym Chart

| | |
|---|---|
| **F: Feeling Frightened?** | • **Check my body**<br>• **Does my body (head, hands, belly) feel strange?** |
| **E: Expecting Bad Things To Happen?** | • **Am I having worried thoughts?**<br>• **What is my brain thinking right now?** |
| **A: Attitudes and Actions That Can Help** | • **What can I do to change my worried thoughts?**<br>• **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?**<br>• **Reward time! (say "good job", etc.)** |