EFFECTIVENESS OF A SCHOOL-BASED MODULARIZED COGNITIVE BEHAVIORAL INTERVENTION FOR STUDENTS WHO ARE GIFTED AND EXPERIENCE ANXIETY

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EFFECTIVENESS OF A SCHOOL-BASED MODULARIZED COGNITIVE
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ABSTRACT

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Students who suffer from untreated anxiety often experience a range of behavioral, social, and academic consequences; this is augmented when the child is also intellectually gifted. The present study examined the effectiveness of a modularized cognitive behavior intervention, MATCH-ADTC, with four students who were identified gifted and demonstrated elevated levels of anxiety. Students participated in a seven to eight week intervention designed to teach effective coping skills to manage anxiety. Each student completed the Multidimensional Anxiety Scale for Children 2nd Edition Self Report (MASC-2 SR; March, 2013) before and after the intervention period, and completed fear ladder ratings during each session, to measure the efficacy of the intervention. Results indicated that the intervention was effective in reducing anxiety for students who were intellectually gifted. Suggestions are made for future research.
To my husband, family, and colleagues

Thank you for supporting and guiding me throughout my educational journey.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>iv</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xi</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xii</td>
</tr>
<tr>
<td>CHAPTER I: INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>CHAPTER II: LITERATURE REVIEW</td>
<td>3</td>
</tr>
<tr>
<td>Definition and Characteristics of Anxiety</td>
<td>3</td>
</tr>
<tr>
<td>Childhood anxiety</td>
<td>5</td>
</tr>
<tr>
<td>Giftedness and Twice Exceptionality</td>
<td>5</td>
</tr>
<tr>
<td>Characteristics of gifted students that contribute to anxiety</td>
<td>6</td>
</tr>
<tr>
<td>Twice exceptionality</td>
<td>9</td>
</tr>
<tr>
<td>School-Based Interventions for Students with Anxiety</td>
<td>10</td>
</tr>
<tr>
<td>Multi-tiered system of support for students with anxiety</td>
<td>10</td>
</tr>
<tr>
<td>Tier one</td>
<td>11</td>
</tr>
<tr>
<td>Tier two</td>
<td>12</td>
</tr>
<tr>
<td>Tier three</td>
<td>13</td>
</tr>
<tr>
<td>Cognitive-behavioral interventions</td>
<td>13</td>
</tr>
</tbody>
</table>
Modularized intervention for anxiety ................................................................. 14

Interventions for Gifted Students with Anxiety ............................................. 16

The Present Study .......................................................................................... 17

CHAPTER III: METHOD .............................................................................. 19

Research Question and Prediction ................................................................ 19

Research Design ............................................................................................ 19

Participants and Setting .................................................................................. 20

Luke .................................................................................................................. 21

Maria ............................................................................................................... 21

Claire .............................................................................................................. 22

Mike .............................................................................................................. 23

Materials .......................................................................................................... 24

Measures ......................................................................................................... 24

Intervention materials ................................................................................... 26

Procedures ........................................................................................................ 27

Phase I: IRB approval ....................................................................................... 27

Phase II: Recruitment, consent, and screening ............................................. 27

Phase III: Baseline ........................................................................................... 27

Phase IV: Intervention ....................................................................................... 28

Phase V: Post intervention data collection ..................................................... 29

CHAPTER IV: RESULTS .............................................................................. 30

Data Analyses .................................................................................................. 30

Research Question .......................................................................................... 31
LIST OF TABLES

Table 1  Mean Fear Ladder Ratings and Corresponding Effect Sizes .......................... 46
Table 2  Reliability Change Indexes (RCI) for Students’ Pre/Post Scores on the
       MASC-2 ........................................................................................................ 47
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Luke’s average fear ladder rating per session</td>
<td>33</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Luke’s pre-test and post-test scores on the MASC-2 assessment</td>
<td>35</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Maria’s average fear ladder rating per session</td>
<td>37</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Maria’s pre-test and post-test scores on the MASC-2 assessment</td>
<td>38</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Claire’s average fear ladder rating per session</td>
<td>40</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Claire’s pre-test and post-test scores on the MASC-2 assessment</td>
<td>41</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Mike’s average fear ladder rating per session</td>
<td>43</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Mike’s pre-test and post-test scores on the MASC-2 assessment</td>
<td>45</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Anxiety is a normal, innate response to natural environmental stressors, but it can disrupt an individual’s overall well-being when symptoms interfere with one's daily activities (NIMH, 2011). The National Institute of Mental Health (NIMH, 2011) reports that close to 20% of youth meet the diagnostic criteria for an anxiety disorder. In fact, childhood anxiety disorders are the most common mental health disorder among children and adolescents (Kerig, Ludlow, & Wenar, 2012). If left untreated, anxiety can adversely affect a number of facets of one’s life (Grigaite, Misiuniene, & Dženkauskiene, 2009), even in students who seem to have protective factors, such as being identified as gifted.

In fact, gifted students are at an increased risk for developing anxiety when compared to their typically developing peers (Dansinger, 1998; Lamont, 2012; Pfeiffer, 2013; Robertson, Pfeiffer, & Taylor, 2011). This is often due to characteristics associated with giftedness, including: asynchronous development, overexcitability, perfectionism, and emotional intelligence.

School psychologists are trained to serve diverse learners; thus, they are in an ideal position to serve students who are gifted and also experience anxiety (Foley Nicpon
& Pfeiffer, 2011). School psychologists can provide numerous support services for this population, including helping in the identification process, determining accommodations, and planning and implementing interventions for these students.

A substantial body of research supports cognitive behavior therapy (CBT) as an effective treatment for childhood anxiety (e.g., Barmish & Kendall, 2005; Barrett, Dadds, & Rapee, 1996; Ginsburg & Kingery, 2007; Silverman, Pina, & Viswesvaran, 2008) and specifically a modularized CBT approach (Chiu et al., 2013; Christon et al., 2012; Lyon, Charlesworth-Attie, Vander Stoep, & McCauley, 2011; Weisz et al., 2012).

There is, however, little research on the implementation of such strategies in a school setting, specifically with students who are gifted. Thus, the present study examined the school-based implementation of a modularized cognitive behavioral intervention for students who are identified as gifted and experience symptoms of anxiety that impacts school functioning.
CHAPTER II

LITERATURE REVIEW

This literature review begins with a definition of anxiety and a report of statistics, particularly in the child and adolescent population. The sections to follow describe the definition of giftedness and characteristics of youth who are gifted. Next, current interventions that target anxiety in the school setting are reviewed. Finally, literature examining intervention effectiveness with students who are gifted and also experience symptoms of anxiety is reviewed.

Definition and Characteristics of Anxiety

Anxiety is a natural response to a stressor in the environment; it only becomes a disorder when it persists, has disproportional intensity, is involuntary (Kerig et al., 2012) and lasts at least 6 months (NIMH, 2011). A qualified professional diagnoses anxiety as a disorder (specifically, generalized anxiety disorder) when criteria outlined in the Diagnostic Statistical Manual (DMS-V; APA, 2013) are present. Criteria include: (a) excessive anxiety and worry occurring more days than not for at least 6 months, about a number of events or activities (e.g., school performance); (b) the individual finds it difficult to control the worry; (c) the anxiety and worry are associated with at least one
(this is specific to children; adults must meet at least three) of the following six symptoms for more days than not for the past six months: restlessness or feeling keyed up or on edge, being easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension, and sleep disturbance; (d) the anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other areas of functioning; (e) the disturbance is not attributable to the physiological effects of a substance or another medical condition; and (f) the disturbance is not better explained by another mental disorder.

The National Institute of Mental Health (NIMH) reports that approximately 29% of Americans 18 years and older are affected by an anxiety disorder at one point in their lifetime, with the earliest onset out of all mental health disorders of age 11. Additionally, approximately 31% of adolescents age 13-18 are diagnosed with an anxiety disorder (SAMHSA, 2012), and only about 32% of those adolescents affected receive treatment (NIMH, 2011).

Anxiety is an internalizing disorder; thus, symptoms may not be visible to those other than the individual. Symptoms of anxiety can include: stomach aches, phobias, worrying, nausea, insomnia, compulsions, crying, withdrawal, and isolation (Kerig et al., 2012). Anxiety involves excessive worry or irrational thoughts (NIMH, 2011). If left untreated, anxiety disorders are likely to persist; contrary to popular belief, it is unlikely for an individual to outgrow anxiety over time (Kerig et al., 2012). Furthermore, anxiety disorders are likely to coexist with another internalizing disorder (i.e., depression, addiction), with comorbidity rates reported as high as 95% (Kovacs & Devlin, 1998).
**Childhood anxiety.** Anxiety disorders are the most common mental health disorder among children and adolescents (Kerig et al., 2012). Research suggests the overall prevalence of childhood anxiety ranges from 6% to 11% (Briggs-Gowan, Horwitz, Schwab-Stone, Leventhal, & Leaf, 2000) and has a lifetime prevalence of 32% (Costello, Egger, & Angold, 2005). The Substance Abuse and Mental Health Services Administration supports these statistics, reporting a lifetime prevalence of 31%, making anxiety disorders the most prevalent mental health disorder (SAMHSA, 2012). These statistics could be even higher, given the underreported identification of anxiety due to its internalizing nature. Because anxiety is an internalizing disorder, it does not typically manifest with externalizing behaviors – this makes it difficult for others to identify without self-disclosure (Masia Warner & Fox, 2012).

If left untreated, childhood anxiety can have lasting effects, including increased rates of school refusal, poor academic performance, and even social impairment, which can persist over time (Chiu et al., 2013). Negative impacts of anxiety that affect academic performance include: decreased working memory, lowered concentration, and limited positive decision-making (Grigaite et al., 2009). According to Simon and Bögels (2009) if left untreated, anxiety can become chronic and comorbid, and may decrease an individual’s overall quality of life.

**Giftedness and Twice Exceptionality**

According to the Ohio Department of Education (ODE, 2014), students are identified as gifted within the Ohio public school system when predetermined scores on approved performance assessments and nationally normed tests are met. The cut scores vary by assessment, but are commensurate with two standard deviations above the mean.
minus the standard error of measurement (ODE, 2015). A student can meet gifted requirements in one or more of the following categories: superior cognitive ability, specific academic ability (including math, science, social studies, and reading or writing), creative thinking ability, and visual or performing arts ability. The current study will focus on students who have superior cognitive and/or specific academic abilities.

Although public schools in Ohio are required to identify students who are gifted, there currently is no legislation requiring districts to provide services to these students. The state offers partial funding to districts that do offer gifted services, and potential gifted services may include: differentiated instruction, Advanced Placement (AP) courses, and enrichment programs. If services are provided, students receive a Written Education Plan (WEP) to outline academic goals and corresponding services that will be provided to meet those goals. Ohio does, however, mandate that all public schools allow for academic acceleration, whole grade acceleration, early graduation, and participation in College Credit Plus (formerly Post-Secondary Enrollment Option Program [PSEOP]), which allows students to attend college and receive dual credit; guardians have the right to request evaluations to determine eligibility for these opportunities.

Characteristics of gifted students that contribute to anxiety. There is considerable debate in the literature regarding gifted students and anxiety. Specifically, the discussion focuses on whether or not students who are gifted are more likely to have anxiety disorders than their average intelligence peers because of their increased emotional perceptions (Harrison & Van Haneghan, 2011) and increased academic pressure (Yadusky-Holahan & Holahan, 1983), or whether they are actually at less risk due to the high intellectual ability that allows for adjusted adaptation (i.e., they are better...
able to problem-solve and rationalize situations that may be anxiety-provoking; Grigaite et al., 2009).

According to Dansinger (1998), gifted students are just as likely to develop a disability that impacts their education as their typical peers, with 7-10% of gifted students developing a disability. Dansinger (1998) further argues that because gifted students have high abilities, their disabilities are often overlooked; a consistent theme supported in the literature (Robertson et al., 2011). Some literature also supports that gifted students are at an increased risk to develop anxiety when compared to their typical peers (Dansinger, 1998; Lamont, 2012; Pfeiffer, 2013; Robertson et al., 2011) because of certain characteristics associated with giftedness, including: asynchronous development, overexcitabilities, perfectionism, and emotional intelligence. Each characteristic is described further below.

Gifted students can suffer from *asynchronous development*, a term that describes the imbalance between intellectual development and emotional development. Asynchronous development allows gifted students to intellectually understand advanced concepts, but may leave them unable to process them emotionally, which can lead to confusion and ultimately increase their risk for developing anxiety (Lamont, 2012). One example described by Lamont (2012) explains how a gifted child had a better understanding of the idea of death compared to a sibling close in age. In essence, when a pet dies, the gifted child understands that the pet is gone forever, while the sibling does not, resulting in the gifted child becoming more upset and unable to cope with the distress when compared to the sibling. Additionally, Pfeiffer (2013) argues that gifted, or high ability students, do not always have the necessary coping or social skills, or resiliency
needed to reach their full academic potential. These skill deficits can also place gifted students at an increased risk of developing anxiety.

Lamont (2012) argues that gifted students experience more fears and anxieties than their typical peers due to their overexcitabilities. In brief, overexcitabilities consist of five hypersensitivities: psychomotor, sensual, intellectual, imaginational, and emotional (Harrison & Van Haneghan, 2011). Examples include hyperactivity, sensitivity to taste leading to picky eating, the need to understand complex questions, an active imagination that allows for pretend play, and intense feelings, such as love for others, respectively (Lamont, 2012).

Neumeister and Finch (2006) examined perfectionism, a commonly seen characteristic of gifted students. They found that perfectionism mediated fear of failure, a variable associated with anxious thinking and anxiety disorders, thus placing gifted students at an increased risk for developing anxiety. The characteristic of perfectionism may make identification of anxiety difficult. Moreover, perfectionism may inhibit acceptance of weakness (Peterson, Duncan, & Canady, 2009). Many assessments that screen for anxiety require students to self-disclose personal struggles and experiences that could reveal individual weaknesses, resulting in a less honest self-report and thus an inaccurate measure of anxiety.

Emotional intelligence, as defined by Salovey and Mayer, is “the subset of social intelligence that involves the ability to monitor one’s own and others feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking and actions” (1990, p. 189). Bar-On (2007) indicated that because gifted students demonstrate an increased level of emotional intelligence when compared to non-
gifted peers, they are better able to exercise skills in problem-solving, managing, and expressing emotions (i.e., motivation). It is assumed that the gifted student knows how to manage their emotional intelligence with use of acquired coping skills. Consequently, if gifted students are not equipped with knowledge regarding anxiety and also have poor emotional intelligence management, they are less likely to successfully cope with anxious symptoms, thus making them more susceptible to the development of an anxiety disorder.

**Twice exceptionality.** In the literature (and in the state of Ohio), *twice exceptionality* is defined as a student who is intellectually gifted and who also has a disability that impacts their education in a significant way (Robertson et al., 2011; ODE, 2014). Disabilities can vary in both type and intensity and may include attention deficit hyperactivity disorder (ADHD), anxiety, autism spectrum disorder (ASD), and--most commonly found in Ohio’s count of twice-exceptionality--a specific learning disability (31%; ODE, 2014).

According to the ODE, 6,328 students enrolled in Ohio public schools were identified as twice exceptional during the 2012-2013 school year; accounting for 0.4% of the total public school student population (2014). Of those students identified as twice exceptional, approximately 75% were male, 12% received gifted services, and 10% of students were identified under the disability category of emotional disturbance – the disability category that encompasses individuals with severe anxiety disorders in Ohio. These statistics may not represent the true twice exceptional population. A recent survey administered to school psychologists across the country revealed that 37% of respondents indicated no training regarding many aspects of both gifted and twice exceptional learners and 60% had little to no familiarity with the term “twice exceptional” (Robertson
et al., 2011). Additionally, the population of twice exceptional learners may be underrepresented because students who are identified as gifted often have unique abilities that mask their disabilities, making identification of these students difficult (Robertson et al., 2011). A student who is receiving gifted services and suffers from anxiety may not be identified unless their impairment in school is so severe that it is brought to the attention of school staff. Only in certain situations will a gifted child with anxiety receive specialized instruction through special education identification; if a student does not qualify for an individualized education plan, he or she may receive classroom accommodations (e.g., extended time, use of a stress ball, planned breaks, etc.) through a Section 504 Individual Accommodation Plan given the disability substantially interferes or limits a major life activity.

**School-Based Interventions for Students with Anxiety**

Students spend approximately six hours a day at school, making it an excellent setting to provide mental health services to children, including interventions to treat anxiety (Chiu et al., 2013). Given the high diagnostic rates of childhood anxiety and the known adverse effects, it is imperative for schools to target childhood anxiety before it interferes with students’ education by implementing school-wide screenings and prevention programs (Neil & Christensen, 2009) that could reach students at a universal level, typically identified as a tier one intervention. Because untreated anxiety can persist and worsen, early intervention is critical.

**Multi-tiered system of support for students with anxiety.** Due to the nature of a school setting, and the difficulty locating resources to address mental health concerns, it is recommended that mental health services be provided within a multi-tiered system of
support (MTSS) framework (Wright & Sulkowski, 2013). This framework helps identify students who require supports tailored to their needs and the appropriate intensity of interventions, which informs efficient allocation of time and resources. Additionally, the MTSS framework promotes improved student engagement and achievement; facilitates collaboration between the home, school, and community; and fosters prevention and early intervention efforts (Vaillancourt, Cowan, & Skalski, 2013). Early intervention not only decreases symptomology of anxiety (Neil & Christensen, 2009), but can also decrease rates of comorbidity (Dadds et al., 1997). Structurally, a MTSS framework aims to provide support across three tiers: universal (tier one), targeted (tier two), and intensive (tier three; Wright & Sulkowski, 2013). Each tier is discussed further below.

**Tier one.** Interventions at tier one are universal and aim to meet the needs of a wide range of students with diverse needs. Tier one strategies focus on prevention and early intervention, before problems become significant. Tier one strategies that address anxiety typically include behavioral screeners to identify students at risk for developing anxiety or who meet or exceed clinical levels of anxiety. They can include measures such as the Behavioral Assessment Scale for Children, 2nd edition (BASC-2; Reynolds & Kamphaus, 2004), the Behavioral and Emotional Screening System (BASC-2 BESS; Kamphaus & Reynolds, 2008) and the Multidimensional Anxiety Scale for Children, 2nd edition (MASC-2; March, 2013).

Universal interventions might include school-wide prevention programs, such as positive behavior support (PBS) programs that aim to improve overall school climate (Sulkowski, Joyce, & Storch, 2012) or the *FRIENDS Program* (Lowry-Webster, Barrett, & Dadds, 2001), which can be implemented by the classroom teacher and is folded into
the school curriculum and teaches cognitive strategies, exposure exercises, and relaxation techniques (McLoone, Hudson, & Rapee, 2006).

**Tier two.** This level of support is for students who, after receiving tier one intervention supports, appear to continue to show elevated levels of anxiety. Although behaviors such as increased somatic complaints, clingy behavior, and performing rituals are clearly observable, it is necessary to also use a systematic behavior rating scale to determine the severity of symptoms associated with anxiety (Wright & Sulkowski, 2013) before providing tier two services.

After identification of anxiety through a multi-method assessment, students with concerning levels of anxiety (5-10%) may receive more targeted supports at tier two, including group intervention and computer delivered CBT based programs (Sulkowski et al., 2012). One group based intervention that uses a CBT approach is *The Skills for Social and Academic Success Program* (SASS; Masia et al., 1999). This program is unique in that it is used to treat social phobia specifically. In a program evaluation of *SASS*, it was found that in a school setting, students who were in the *SASS* program condition had better treatment outcomes when compared to the waitlisted condition (Masia, Klein, Storch, & Corda, 2001). An additional CBT based program that can be used in a group format is *The Cool Kids program* (Lyneham, Abbott, Wignall, & Rapee, 2003), which was evaluated in the school setting and determined to have significant impacts on levels of anxiety in a low socio-economic status school (Mifsud & Rapee, 2005). If tier two interventions do not decrease severity of anxiety symptoms, then further intensified interventions may be appropriate at the tier three level.
**Tier three.** A small number of students (1-5%) will require additional supports after receiving targeted intervention support at tier two (Suñkowski et al., 2012). Due to the intensity and amount of resources needed to implement CBT at an individual level, it is considered a tier three intervention.

**Cognitive-behavioral interventions.** Current literature strongly supports the use of cognitive behavior therapy (CBT) as an effective evidence-based treatment for childhood anxiety (see Barmish & Kendall, 2005; Barrett et al., 1996; Silverman et al., 2008). Research indicates CBT supports positive outcomes (i.e., diagnostic remission) with a recovery rate as high as 80% (Ginsburg & Kingery, 2007) and many treatment outcomes endure for a period of 1 year or longer (Mychailyszyn et al., 2011); it is no question why the American Psychological Association considers CBT the ‘gold standard’ in treating anxiety (APA, 1993, 1995).

CBT consists primarily of the following components: psychoeducation, exposure, contingency management, affective education, relaxation training, cognitive restructuring, problem-solving, and parental involvement (Ginsburg & Kingery, 2007). As defined by Ginsburg and Kingery (2007), psychoeducation is the teaching of information related to anxiety and giving an overview of the treatment program; exposure is described as having the child “face their fears” gradually and collaboratively, whether it is imaginably or physically (p. 125). Exposure is documented in the literature to be a crucial component of CBT for positive treatment outcomes (Nakamura, Pestle, & Chorpita, 2009). Contingency management is a technique that is coupled with exposure so that behavior (good or bad) is followed by a consequence (good or bad) in an attempt to increase the likelihood of the targeted behavior to occur. Additionally, affective...
education is the process of teaching children how to read emotions to increase awareness of the onset of anxiety by identification of symptomology. Relaxation training is the teaching of relaxation techniques to decrease anxiety symptomology, and cognitive restructuring is the process of teaching positive self-talk and the link between thoughts, emotions, and behavior. Lastly, problem solving is a strategy that teaches coping skills to handle anxiety-provoking situations (Ginsburg & Kingery, 2007).

One evidence-based CBT program is *Coping Cat*, a 16-session intervention program (Kendall & Hedtke, 2006). *Coping Cat* is considered manualized since it is structured in order. One drawback of using a manualized CBT approach, such as *Coping Cat*, when implemented in the school setting, includes the lack of flexibility the approach offers in regards to session duration, frequency, and content (Lyon et al., 2014). Such flexibility is often needed in the school environment. In response to the disadvantages of the manualized CBT approach, a modularized approach to CBT was developed, which will be discussed in the following section.

**Modularized intervention for anxiety.** While maintaining all of the important, evidence-based components of CBT, the modularized approach to intervention is different from the manualized approach in that it offers more flexibility in how it is implemented. The advantage of using a modularized approach is that it allows the treatment to be tailored to the needs of the individual, thus additional presenting problems may be identified and addressed as the intervention period naturally unveils itself (Christon et al., 2012). Additionally, a modularized approach is better suited for school settings because it accommodates practice constraints, such as unpredictable schedules, by manipulating session length and frequency (Lyon et al., 2011).
A randomized effectiveness trial by Weisz et al. (2012) demonstrated support for the use of a modularized approach when comparing delivery methods of evidence-based treatments, specifically cognitive behavioral therapy (CBT), designed for treating youth with anxiety, depression, and conduct problems. Statistically significant findings revealed that youth receiving a modular treatment demonstrated better rates of predicted improvements and fewer diagnoses compared to the standard and usual care treatments. Implementing modularized CBT allows professionals to modify treatment components to target an individual’s needs while remaining within bounds of the evidence-based treatment (Chiu et al., 2013). Similar findings by Chiu et al. (2013) were noted in their examination of a different modular CBT program called Building Confidence in treating childhood anxiety in the school setting. Their results indicated the modular CBT program was more effective at treating anxiety in the treatment versus the waitlisted group. In addition to its demonstrated effectiveness in the school setting, modularized CBT is cited for short-term program effectiveness (Chiu et al., 2013), and long-term (1-year) sustained treatment effects (Galla et al., 2012), thus this was selected as the intervention method examined in the current study.

Specifically, an intervention service called Practice Wise, which provides evidence-based, problem-specific modularized CBT programs, was used in this study. Lyon and colleagues (2011) examined an evidence-based modular treatment approach adapted from Practice Wise’s Managing and Adapting Practice (MAP) System for use by therapists working in school-based health centers. Data indicated that these therapists increased their use of evidence-based practice and that this specific approach helped therapists make effective clinical decisions needed for optimal client change (Lyon et al.,
In one additional study, Christon et al. (2012) examined treatment outcomes of Modular Approach to Therapy for Children With Anxiety, Depression, Trauma, or Conduct Problems (MATCH-ADTC), in a case study with an adolescent who suffered from selective mutism. Findings from the study concluded that the approach was effective in treating multiple presenting problems when adapted for adolescents. MATCH-ADTC employs a modularized CBT approach, is published by Practice Wise (Chorpita & Weisz, 2008), and is the intervention examined in the present study.

**Interventions for Gifted Students with Anxiety**

There is currently a gap in the literature addressing the effectiveness of interventions in the school setting for anxiety, specifically for students who are gifted. Moreover, there is limited support in the literature focusing on intervention effectiveness in the clinical setting for this population of students. In a doctoral dissertation, Gaesser (2014) examined intervention effectiveness between two intervention models: CBT and the Emotional Freedom Technique (EFT; Craig, 2011). One hundred and fifty-three gifted youth exhibiting subclinical (undiagnosed) levels of anxiety participated in a randomized controlled trial, and results indicated that both treatments groups (CBT and EFT) had lower anxiety scores when compared to the control (waitlisted) group. Furthermore, research has examined intervention effectiveness with students who have high functioning autism and anxiety, in addition to students who are gifted and also underachievers. In a systematic review of the literature, Vasa et al. (2014) found that CBT had moderate effects on levels of anxiety in youth with high functioning autism spectrum disorder when focusing on non-psychopharmacological treatments.
Additionally, of those studies reviewed in the analysis, most used a randomized controlled trial.

Cognitive behavioral therapy is suggested as an intervention for gifted students who are underachievers on the premise that the underachievement is due to motivational, goal-setting, and productivity factors – not academic skill deficits (Mennuti, Christner, & Freeman, 2012). There are no known studies examining modularized cognitive behavioral intervention effectiveness for gifted students with anxiety in the school setting, adding to the importance of this study. The underlying principles of cognitive behavioral therapy are that: 1) cognitions, separate from intelligence, are linked to behavior and emotions, and 2) cognitions and behavior can be changed. Thus, it could be argued that students who are gifted are equally or more likely to respond well to an intervention that employs reasoning, teaching, and restructuring (Damiani, 2006) given the higher intellectual abilities gifted students have (Durlak, Furhman, & Lampman, 1991; Mennuti et al., 2012) to reason, learn, and remember.

The Present Study

Students who are identified as gifted are as likely, or perhaps even more likely, to develop a disability that interferes with their academic potential compared to their typical peers (Dansinger, 1998; Lamont, 2012; Pfeiffer, 2013; Robertson et al., 2011). Because gifted students are high ability individuals, their gifts often conceal disabilities or mental health problems, making them difficult to identify. The focus of this study was on anxiety, an emotional disorder that can impact the educational outcomes of gifted students.
The purpose of this study was to add to the literature supporting the use of a modular CBT program in a school setting in treating anxiety. Furthermore, this study aimed to fill the gap that exists in the literature by specifically examining the effect of the intervention on twice exceptional students who are gifted and who also experience anxiety.
CHAPTER III

METHOD

Research Question and Prediction

The current study examined the following research question: What is the impact of a modularized cognitive behavioral intervention on gifted students with anxiety, implemented in the school setting?

It was predicted that a modularized cognitive behavioral intervention would result in significant reductions in anxiety for gifted students in the school setting. This prediction was based on previous research that supports the use of modularized cognitive behavioral interventions to improve anxiety symptomology (Chiu et al., 2013; Weisz et al., 2012) and logical connections between the characteristics of gifted students and the strengths of CBT.

Research Design

A single-case multiple baseline across participants design was used in the present study. This methodology was chosen for several reasons: (a) due to the low prevalence of gifted students, a control group was not feasible, (b) it did not require a large sample size, making it ideal for the school setting, (c) the participants’ baseline served as a control for comparison purposes, (d) the participants pre-test/post-test served as a measure of
improvement, and (e) it is the preferred method when a single behavior is being observed and expected to change among a few individuals at a time (Kazdin, 2011).

This study used fear ladder ratings as a weekly repeated measure of anxiety to evaluate reductions in anxiety levels throughout the treatment phase. The ratings were also used to establish baseline before treatment. The independent variable was the modularized cognitive behavioral intervention (MATCH-ADTC) and the dependent variable was the reduction in anxiety documented by weekly fear ladder ratings.

**Participants and Setting**

Convenience sampling was used to recruit a sample of participants from a midwestern school in Ohio through the school’s gifted education program. This method of sampling was selected due to its feasibility in the school setting. The school district served about 7,600 students, 2,450 of whom were children of military-related parents. Participants in the present study included \( N = 4 \) 5\(^{th} \) grade attended a public elementary school; two were children of military-related parents. Intervention sessions took place in an unused conference room located in the elementary schools independent media center (i.e., library). The conference room was well lit and quiet.

To be included in the study, students met the following requirements: (a) the student was in the gifted education program, or was identified by the school district to have an intellectual or academic gift; (b) school records or interviews indicated general academic success; and (c) the student demonstrated subclinical levels of anxiety indicated by a T-score of 60 or higher on one or more of the subscale scores as determined by the results of the Multidimensional Anxiety Scale for Children 2\(^{nd} \) Edition (MASC-2; March, 2013).
Participants were excluded if: (a) they were receiving other CBT intervention support, (b) did not meet the qualifying t-score on the MASC-2, (c) were not identified as academically or intellectually gifted, (d) started medication to control for anxiety-related symptoms within the last 6 months, (e) the student, teacher, or parent was not willing to participate in the study, and/or (f) the student or the student’s parent(s) did not speak proficient English. The four participants were assigned a pseudonym to protect their identity, and are described in detail below.

**Luke.** Luke was a 10 year old fifth grade student. He was enrolled in the school since kindergarten and started receiving pull-out gifted services in January 2015 (4th grade). Based on a review of Luke’s educational records, he was performing above grade level expectations and maintained good attendance; teachers reported he was a pleasure to have in class. Results of the Ohio Achievement Assessment (OAA) in 2014 indicated that Luke’s reading and math skills were in the advanced range. Additionally, the Measure of Academic Progress (MAP) assessment was administered to Luke in the Fall of 2015. The MAP assessments provide information regarding student strengths and weaknesses, as well as a comparison to same-grade peers. Luke performed at the 88th percentile in math, and at the 89th percentile in reading. According to Luke’s first quarter report card for 5th grade, he received all A’s. Luke’s 5th grade gifted teacher reported that he was polite, cared about his work, and got along well with his peers; Luke’s mom indicated that Luke did not have a formal diagnosis of anxiety, has never received formal treatment, and she denied a family history of anxiety.

**Maria.** Maria was a 10 year old fifth grade student. She enrolled in the district of residence in August 2015. According to the parent interview, Maria was still adjusting to
the new school, and previously attended school overseas at her father’s assigned air force base. Maria started receiving pull-out gifted services immediately following enrollment (August 2015). Based on a review of Maria’s educational records, she was performing above grade level expectations, maintained good attendance; her 5th grade gifted teacher indicated she was a pleasure to have in class. Because Maria was new to the district, and state, no previous state-wide testing results were available. The Measure of Academic Progress (MAP) assessment was administered to Maria in the Fall of 2015. The MAP assessments provide information regarding student strengths and weaknesses, as well as a comparison to same-grade peers. Maria performed at the 98th percentile in math, and at the 95th percentile in reading. She received all A’s on her first quarter report card for 5th grade. Maria’s gifted teacher reported that she was quiet, very bright, and mature for her age (she is young for her grade, and has a late summer birthday).

Claire. Claire was a 10 year old fifth grade student. She attended school in the district since kindergarten and started receiving pull-out gifted services in January 2015 (4th grade). Based on a review of Claire’s educational records, she was performing above grade level expectations, maintained perfect attendance; her gifted teacher indicated she was a pleasure to have in class. Results of the Ohio Achievement Assessment (OAA) from 2014 indicated that Claire’s reading and math skills were in the advanced range. Additionally, the Measure of Academic Progress (MAP) assessment was administered to Claire in the Fall of 2015. The MAP assessments provide information regarding student strengths and weaknesses, as well as a comparison to same-grade peers. Claire performed at the 91st percentile in math, and at the 95th percentile in reading. She received all A’s on her first quarter report card in 5th grade. Claire’s gifted teacher reported that she was
polite, detail-oriented, and had a great work ethic; her mom stated that she did not have a formal diagnosis of anxiety, denied a family history of anxiety, stated that she never received formal treatment, and indicated that Claire is doing excellent in school.

Mike. Mike was a 10 year old fifth grade student. He enrolled in the district of residence in August 2014 after moving in from out-of-state. According to a parent interview, Mike’s father was active military and another move was anticipated for the upcoming summer. Mike started receiving pull-out gifted services in January 2015 (4th grade). Based on a review of Mike’s educational records, he was performing above grade level expectations and maintained acceptable attendance. Because Mike was new to the district, and state, no previous state-wide testing results were available. The Measure of Academic Progress (MAP) assessment was administered to Mike in the Fall of 2015. The MAP assessments provide information regarding student strengths and weaknesses, as well as a comparison to same-grade peers. Mike performed at the 94th percentile in math, and at the 98th percentile in reading. He received all A’s and B’s on his report card during the first quarter of 5th grade. The principal indicated tension between Mike and his general education teacher, which has required meetings between his teacher and parents. The difficulties were often due to miscommunication between Mike, his parents, and his teacher, all of which led to increased symptoms of anxiety for Mike. According to his mom, Mike did not have a formal anxiety diagnosis, and there is not a clear familial history of anxiety, but his older sister was treated for migraines (triggered by stress) and the doctor recommended a “neutral mentor” as a form of treatment. Additionally, Mike’s mother indicated that Mike’s older sister was his best friend and role model, and he was affected when she moved away to college out-of-state.
Materials

Measures. To screen for anxiety, and to measure improvement in anxiety levels before and after the cognitive behavioral intervention, participants completed the Multidimensional Anxiety Scale for Children 2nd Edition (MASC-2; March, 2013) rating form. The MASC-2 is a comprehensive, multi-rater assessment of anxiety dimensions (i.e., generalized anxiety disorder, separation anxiety/phobias, social anxiety, obsessions and compulsions, physical symptoms, and harm avoidance) in children and adolescents ages 8-19. There are two separate forms: the MASC-2 Self Report (SR) and the MASC-2 Parent Report (PR) – only the SR form was used in the present study because only the students who met the gifted qualifier (N = 13) were asked to complete the MASC-2.

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 intended for early identification and treatment, so 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. 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, all 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. The normative sample for the MASC 2-SR included 1800 self-report ratings from youth’s aged 8 to 19 years old. This information demonstrated that the users of the MASC 2-SR can be confident the scores generated 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 highly acceptable in discriminating between relevant groups, correlating meaningfully with scores from other measures of anxiety, and generalizing across rater type and racial/ethnic groups.

Given the internalizing nature of anxiety, it is difficult for external observers to detect symptomology; it is challenging to accurately measure treatment outcomes. Thus, fear ladder ratings were used as a behavioral representation of the child’s anxiety-related avoidant behaviors. Fear ladder ratings were used as the primary dependent (repeated) measure in the study, and served as a general indicator of anxiety reductions. The fear ladders that were used for the intervention were acquired from a MATCH-ADTC module titled Fear Ladder.

Participants created a Fear Ladder with the researcher prior to the baseline period in order to establish the repeated measure to be used in both the baseline and intervention phases of the study. This required participants to complete the Fear Ladder module with the researcher prior to the start of the intervention. In this module, participants were asked to identify anxiety-provoking situations, and to list all items related to anxiety-provoking situations, with a target number of 10 items. The participants were then read the items on the list aloud and asked to rate how fearful the item made them feel on a scale from 1-10. The items were then ordered on a graphic image of a ladder from the
bottom to the top, from least anxiety provoking to most anxiety provoking, respectively. Each week, the students were asked to re-rate their fears on the ladder. Ratings were averaged and graphed each session to provide a behavioral representation of the child’s anxiety over time.

To establish participating students’ background history, the researcher conducted a parent interview and records review once eligibility was determined. The parent interview took place after consent was obtained and collected information about participating student’s history of anxiety, school history, family history, formal diagnoses, previous treatment, and so forth. The record review served as an additional method to gain information and support participant’s academic success at the onset of the study.

**Intervention materials.** Given the nature of a modularized CBT program – tailored to individual needs – not all participants completed the same number or type of modules. However, all participants completed the core *MATCH-ADTC* modules, including: *Getting Acquainted, Fear Ladder, Learning About Anxiety – Child, Practicing, Maintenance*, and *Wrap Up*. Before students started the *Practicing* module, it was determined whether implementation of interference modules that aligned to their individual interference (i.e., conduct related, trauma related, mood related) was necessary based on progress made (predominately based on experiences shared by the child or distorted cognitions). Naturally, the intervention plan unfolded in response to each individual participant’s needs.
Procedures

**Phase I: IRB approval.** This study was submitted for approval to the University of Dayton Institutional Review Board (IRB).

**Phase II: Recruitment, consent, and screening.** Prior to recruitment, the participating school’s principal provided consent (See Appendix A). The principal contacted the gifted teacher in order to assist in recruiting participants. It was determined that the entire class would be screened using the MASC-2 to determine those students experiencing anxiety rather than having the teacher make student referrals. Both parent consent and student assent were obtained prior to the screening process (See Appendix A). All participants selected were assigned a pseudonym to protect their identity and to maintain confidentiality in all written documents, including this thesis project. All data were kept on a password-protected computer. After two years, all data files, paper and electronic, will be shredded and/or deleted. If results of research from this study are published or discussed in conferences, no identifying information will be included.

When eligibility criteria were met, parent and student interviews were completed to gather background history (including mental health) information. After interviews, a formal record review was conducted to obtain academic and behavioral information in order to establish the students’ current level of academic success. Records included, but were not limited to: attendance, discipline, teacher comments, benchmarks, and Ohio Achievement Assessment scores.

**Phase III: Baseline.** Baseline data were collected beginning after the creation of the fear ladder (See Appendix B). This occurred when participants completed the preliminary MATCH-ADTC modules: Getting Acquainted and Fear Ladder with the
researcher. Because of the unpredictable schedule of the school setting, it was difficult to find a fixed and consistent time to work with the participants, thus full adherence to the multiple baseline design was challenging. Although the intervention phase began regardless if baseline data stabilized, the baseline period endured for a fixed three sessions; this was true for all participants.

**Phase IV: Intervention.** The cognitive behavioral intervention used involved a modular approach to therapy for children with anxiety, depression, trauma, and conduct problems (*MATCH-ADTC*; Chorpita & Weisz, 2008). The program included session itineraries and intervention materials (i.e., worksheets, visual aids, fear ladder progress monitoring tool). Students completed 7-8 modules related to anxiety; modules were identified based on participants’ results from the MASC-2, in addition to shared experiences from the participant and/or cognitive distortions that revealed themselves over the course of the treatment. All participants completed the following modules regardless of their level of anxiety: *Getting Acquainted, Fear Ladder, Learning Anxiety – Child, Practicing, Maintenance,* and *Wrap Up.* If students were not ready to begin *Practicing* (exposure) after completing the first four modules listed, interference modules were completed based on the specific type of interference (i.e., conduct related, trauma related, mood related). After successful completion of the interference modules, participants completed the *Practicing, Maintenance,* and *Wrap Up* modules to conclude the treatment. Before every module, students were asked to complete their fear ladder ratings (repeated measure), which were then averaged and graphed by the researcher.

Intervention start points were initially staggered a week apart, consistent with the multiple baseline approach, but as participants were unavailable to work with, the order
shifted and participant’s received intervention based on availability and not necessarily on a week-to-week basis. Given the constraints of a school setting/calendar, participants were not randomly assigned to a start point; all participants were recruited and provided consent simultaneously, thus they began therapy in the order in which they were available, given their school schedule.

*Phase V: Post intervention data collection.* Participating students were asked to complete the post MASC-2 SR form following the completion of the intervention. This served as a supplemental measure of anxiety reduction.
CHAPTER IV
RESULTS

Following are the results of the MATCH-ADTC cognitive behavioral intervention, including an analysis of the pre/post and weekly repeated data for each participant.

Data Analyses

Fear ladder ratings were analyzed visually via graphed data examined for patterns in level, trend, variability and consistency (Hunley & McNamera, 2010). Additionally, calculation of an effect size for each participant was completed using Cohen’s $d$ ($d$-index). This approach is used to examine the effectiveness of behavior interventions when discrepancies are performance-based, there are at least 3 baseline data points, and variability exists among baseline data (Hunley & McNamera, 2010; Riley-Tilman & Burns, 2009).

The MASC-2 yielded ordinal and interval data and was analyzed using descriptive statistics and Reliability Change Indexes (RCI). RCI is the preferred method of statistical analysis when sample sizes are small, and for the purpose of this study, determined whether the change in each participant’s anxiety level was statistically significant based on the reliability (i.e., standard error of measurement [SEM]) of the MASC-2. A $t$-score less than -1.96 the difference for a change in the negative direction was considered reliable.
Research Question

In order to determine the effect of the modularized cognitive behavioral intervention on reducing anxiety in children who are intellectually gifted, each participant completed the MASC-2 SR before and after the intervention. Additionally, participants completed weekly fear ladder ratings, which served as a behavioral representation of their perceived anxiety session-to-session. The following sections describe the results for each of the four students in the MATCH-ADTC intervention.

Luke

Fear ladder ratings. Luke completed a 10-item rating of self-identified fears during each session of the baseline and intervention phases. The rating utilized a 10-point feelings thermometer, where a 0 indicated that the item triggered no fear in Luke, and a 10 indicated the item was anxiety provoking and caused a lot of fear. Luke’s self-identified fears focused on performance and humiliation/rejection anxieties, consistent with MASC-2 results. Luke’s fear ladder included items like, “giving a presentation in front of the class” and “being called on without having my hand raised.” Based on these fears and Luke’s self-disclosed fear of an upcoming award banquet in front of the whole school, it was determined that the interference module titled Quick Calming was appropriate to implement. Luke responded well to the module, which focused on three different strategies he could use to calm himself in public when he felt anxious. Luke was open to trying the strategies during the intervention session. At the session following the award ceremony and the implementation of the interference module (Session 6), Luke’s average fear ladder ratings decreased significantly. Figure 1 depicts how Luke rated his fears during each session of the baseline and intervention phases. Ratings were not
collected weekly, because school cancellations and holiday breaks made a continuous weekly schedule difficult to follow, but ratings were collected during every session.

Luke’s self-rated anxiety-related behaviors decreased from an average of 7.7 during the first session of the baseline period to 0.2 at the last session of the intervention period. This indicates a reduction in perceived anxiety by the end of the intervention. A visual analysis indicates a downward trend in the baseline and intervention data. Luke communicated that he enjoyed meeting with the researcher, even during the baseline period. Luke knew before the first session why he was participating in the research study, and that meeting with the researcher was “intended to help him not worry as much.” Therefore, the expectation was prematurely set that there was a cause-and-effect relationship with meeting with the researcher and feeling better about his anxieties. He stated during the third baseline meeting that “something changed; I just feel better,” without having received any intervention. Characteristics associated with giftedness, such as increased emotional intelligence likely influenced Luke’s perceived self-improvements, which may have contributed to a downward trend in the baseline data. At the start of the intervention phase, Luke spoke about his fear of an upcoming award ceremony that was going to take place in front of the whole school and the honorees’ parents. The two data points prior to the ceremony were rated higher than the remaining data points collected after the ceremony, and after implementation of the interference module. This suggests that Luke was factoring in his anxiety about the event when rating his fears on the fear ladder. When he experienced success using the strategies learned during the ceremony, he was able to rationalize with his fears and perceive them to be overall less fearful, indicating intervention effectiveness.
The effect size (d-index) for Luke was -1.41, and is considered a large effect; however, as described above, Luke’s baseline data may not be an accurate portrayal of his true feelings due to his inclination that meeting (informally) with the researcher led to self-improvement. This indicates that the overall calculation of intervention effectiveness as represented by the calculated d-index may not be a true depiction of Luke’s response to the intervention, and it could actually be higher. A d-index of +/-0.80 and higher is considered to be a large effect, thus MATCH-ADTC is supported in this study, with this student, as an effective intervention in reducing anxiety.

**MASC-2 analysis.** Luke’s MASC-2 pre-test Total Score was 52, which was at the 55th percentile. On the post-test, Luke’s Total Score was 46, which was in the average range and at the 34th percentile when compared to typical same-age, same-gender peers; his Total Score was reduced by 6 points. Although Luke’s pre-test Total Score on the MASC-2 fell within the average range, he was eligible to participate based on the anxiety probability index. An anxiety probability score was determined by the number of slightly
elevated T-scores on the Anxiety Scales (Separation Anxiety/Phobias, Generalized Anxiety Disorder [GAD] Index, and Social Anxiety). Because Luke demonstrated slightly elevated (T-scores of 60 or above) on two of the three scales, it was determined that he had a high probability of anxiety. Luke demonstrated elevated levels of anxiety in the GAD Index and the Social Anxiety scale (including humiliation/rejection and performance fears). Figure 2 displays Luke’s pre-test and post-test scores on the MASC-2 by subtest. Scores of 60 or above were considered slightly elevated and warranted further attention and potential treatment. Luke reduced his score on the Generalized Anxiety Index by 13 points, from a 60 to 47; he also decreased his score on the Total Social Anxiety Index by 14 points, from 62 to 48. All of Luke’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 range and he had a low probability of having anxiety. For both the pre- and post-measure, the consistency scales fell within the acceptable range, indicating that Luke provided responses that were consistent across questions. Thus, both measures were likely reliable ratings of his true perception of his anxiety-related behavior.
Figure 2. Luke’s pre-test and post-test scores on the MASC-2 assessment.

**Maria**

**Fear ladder ratings.** Maria completed a 10-item rating of self-identified fears during each session of the baseline and intervention phases. The rating utilized a 10-point feelings thermometer, where a 0 indicated that the item triggered no fear in Maria, and a 10 indicated the item was anxiety provoking and caused a lot of fear. Maria’s self-identified fears focused on test anxiety and the fear of getting anything less than an A or B on homework, tests, and report cards. Maria’s fear ladder included items like, “getting a B on a report card” or “taking a test I didn’t study for.” During the initial intervention session, Maria talked a lot about physical symptoms she experienced when she was anxious (e.g., before a test, or when she earns a C on homework) and it was evidenced during sessions that she exhibited cognitive distortions. This prompted the implementation of two interference modules: *Cognitive STOP* and *Learning to Relax.*
The *Cognitive STOP* module focused on cognitive restructuring, and taught Maria to use the STOP acronym (identify Scared feelings, identify what Thoughts are racing, develop Other positive thoughts to have instead, and Praise self for efforts). The *Learning to Relax* module focused on managing physical symptoms and taught evidence-based coping strategies, such as deep breathing, muscle relaxation, and visualizing a “happy place”. Figure 3 depicts how Maria rated her fears during each session of the baseline and intervention phases. Ratings were not collected weekly because school cancellations and holiday breaks made a continuous weekly schedule difficult to follow, but ratings were collected during every session.

Maria’s self-rated anxiety-related behaviors decreased from an average of 6.9 during the first session of the baseline period to 1.42 at the last session of the intervention period. This indicates a reduction in perceived anxiety by the end of the intervention. A visual analysis indicates a downward trend in the intervention and baseline data, translating to expected reductions in anxiety. The baseline trendline predicted reductions at a slower rate compared to the intervention trendline as determined by the slopes. This indicates that the intervention had an overall positive effect and resulted in quicker anxiety reductions.
Figure 3. Maria’s average fear ladder rating per session.

The effect size (d-index) was calculated to be -1.22. A d-index of +/-0.80 and higher is considered to be a large effect, thus MATCH-ADTC is supported in this study, with this student, as an effective intervention in reducing anxiety.

**MASC-2 analysis.** Maria’s MASC-2 pre-test Total Score was 76, which was at the 99th percentile and in the very elevated range. On the post-test, Maria’s Total Score was 52, which was in the average range and at the 55th percentile when compared to typical same-age, same-gender peers; her Total Score was reduced by 24 standard score points. Maria demonstrated very elevated levels of anxiety on the following scales: Obsessions and Compulsions (SS = 81) and Physical Symptoms (SS = 73). Figure 4 displays Maria’s pre-test and post-test scores on the MASC-2 by subtest. Scores of 60 and above were considered slightly elevated and warranted further attention and potential treatment. Maria reduced her score on the Obsessions and Compulsions scale by 15 points, from 81 to 66; she also decreased her score on the Total Physical Symptoms Scale by 13 points, from 73 to 60. Based on the pre-test, Maria scored in the slightly elevated
range or above on all but one scale (Harm Avoidance); on the post-test all of her scores had reduced to within the average range, except for three scales that remained within the *slightly elevated* range. It should be noted that on the pre-test two scores could not be calculated because Maria skipped too many items for those scales (i.e., *Total Social Anxiety and Humiliation/Rejection*). Nevertheless, her anxiety probability index score on the post-test fell within the *low probability* category. The pre- and post-measure consistency scales fell within the acceptable range, indicating Maria provided responses that were consistent across questions. Thus, both measures were likely reliable ratings of her true perception of her anxiety-related behavior.

![Maria MASC-2 Pre & Post T-Scores](image)

*Note.* Mean = 50; Standard Deviation = 10

*Figure 4.* Maria’s pre-test and post-test scores on the MASC-2 assessment.

**Claire**

**Fear ladder ratings.** Claire completed a 10-item rating of self-identified fears during each session of the baseline and intervention phases. The rating utilized a 10-point feelings thermometer, where a 0 indicated that the item triggered no fear in Claire, and a
10 indicated the item was anxiety provoking and caused a lot of fear. Claire’s self-identified fears were strictly performance based and demonstrated her perfectionistic characteristic; her fear ladder included items such as “Getting a B on a test” and “Getting a B on a grade card,” both of which made her anxious and bad about herself. Claire identified several physical symptoms associated with her fears, in addition to cognitive distortions. This prompted the implementation of the following interference modules: Cognitive STOP and Learning to Relax. The Cognitive STOP module focused on cognitive restructuring, and taught Claire to use the STOP acronym (identify Scared feelings, identify what Thoughts are racing, develop Other positive thoughts to have instead, and Praise self for efforts) when she started to worry excessively. The Learning to Relax module focused on managing physical symptoms and taught evidence-based coping strategies, such as deep breathing, muscle relaxation, and visualizing a “happy place.” Figure 5 depicts how Claire rated her fears during each session of the baseline and intervention phases. Ratings were not collected weekly, because school cancellations and holiday breaks made a continuous weekly schedule difficult, but ratings were collected during every session.

Claire’s self-rated anxiety-related behaviors decreased from an average of 7.75 during the first session of the baseline period to 2.67 at the last session of the intervention period. This indicates a reduction in perceived anxiety by the end of the intervention. A visual analysis indicates a downward trend in the baseline and intervention data, translating to expected reductions in anxiety. The baseline trendline predicted reductions in perceived anxiety; however, since the baseline data did not stabilize, the trendline is not an accurate representation of growth prediction. During the intervention phase, Claire
consistently decreased her average ratings, and the trendline demonstrates a negative trend. This indicates that the intervention had an overall positive effect and resulted in anxiety reductions.

**Figure 5.** Claire’s average fear ladder ratings per session.

The effect size (**d-index**) was calculated to be -1.19. A **d**-index of +/-0.80 and higher is considered to be a large effect, thus **MATCH-ADTC** is supported in this study, with this student, as an effective intervention in reducing anxiety.

**MASC-2 analysis.** Claire’s MASC-2 pre-test Total Score was 79, which was at the 99th percentile and in the very elevated range. On the post-test, Claire’s Total Score was 52, which was in the average range and at the 55th percentile when compared to typical same-age, same-gender peers; her Total Score was reduced by 27 standard score points. In addition to the Total Score, Claire demonstrated very elevated levels of anxiety on the following scales: Separation Anxiety/Phobias (SS = 73), Generalized Anxiety Index (SS = 80), Obsessions and Compulsions (SS = 80), and Physical Symptoms (SS = 78). Figure 6 displays Claire’s pre-test and post-test scores on the MASC-2 by subtest.
Scores of 60 and above were considered *slightly elevated* and warranted further attention and potential treatment. Claire reduced her score on the Separation Anxiety/Phobias scale by 33 points, from 73 to 40; Generalized Anxiety Index by 27 points, from 80 to 52; Obsessions and Compulsions by 19 points, from 80 to 61; and the Total Physical Symptoms Scale by 15 points, from 78 to 62. Based on the pre-test, Claire scored in the *slightly elevated* range or above on all but one scale (Total Social Anxiety); on the post-test all of her scores had reduced to within the average range, except for two scales that fell from the *very elevated* range to within the lower end of the *slightly elevated* range. Nevertheless, her anxiety probability index score on the post-test fell within the *low probability* category. For the pre- and post-test, the consistency scales were within the acceptable range, indicating Claire provided responses that were consistent across questions. Thus, both measures were likely reliable ratings of her true perception of her anxiety-related behavior.

*Note.* Mean = 50; Standard Deviation = 10

*Figure 6.* Claire’s pre-test and post-test scores on the MASC-2 assessment.
Mike

**Fear ladder ratings.** Mike completed a 10-item rating of self-identified fears during each session of the baseline and intervention phases. The rating utilized a 10-point feelings thermometer, where a 0 indicated that the item triggered no fear in Mike, and a 10 indicated the item was anxiety provoking and caused a lot of fear. Mike’s self-identified fears revolved around separation anxiety and tense/restless feelings, consistent with MASC-2 results. Mike’s fear ladder included items like, “being away from my family” and “parent teacher conferences without me being present.” In general, Mike did not demonstrate performance fears like the other participants, but in general feared conflict with authority figures and showed traits consistent with asynchronous development. This unveiled when Mike shared that he understood the impact conflicts between his parents and teacher could have (i.e., make his time at school more difficult); he demonstrated an understanding of higher level thinking, but was having difficulty managing his feelings toward it. Additionally, in response to his excessive worrying, Mike communicated that he experienced increased physical symptoms (e.g., increased heart rate, butterflies in stomach, etc.). In response to this, the following interference modules were implemented: *Cognitive STOP* and *Learning to Relax*. The *Cognitive STOP* module focused on cognitive restructuring, and taught Mike to use the STOP acronym (identify Scared feelings, identify what Thoughts are racing, develop Other positive thoughts to have instead, and Praise self for efforts) when he had racing thoughts. The *Learning to Relax* module focused on managing physical symptoms and taught evidence-based coping strategies, such as deep breathing, muscle relaxation, and visualizing a “happy place.” Figure 7 depicts how Mike rated his fears during each
session of the baseline and intervention phases. Ratings were not collected weekly, because school cancellations and holiday breaks made a continuous weekly schedule difficult, but ratings were collected during every session.

Mike’s self-rated anxiety-related behaviors decreased from an average of 5.45 during the first session of the baseline phase to 0 at the last session of the intervention phase. This indicates a reduction in perceived anxiety by the end of the intervention. A visual analysis indicates a slight upward trend in the baseline data, indicating Mike’s anxiety was predicted to increase over time without intervention. The intervention data resulted in a clear downward trend translating to expected reductions in anxiety. Additionally, there was an immediate response to the intervention following the first session as indicated by the drop in the average fear ladder ratings. This indicates that the intervention had an overall positive effect and resulted in reductions in anxiety.

![Mike's Fear Ladder Ratings](image)

**Figure 7.** Mike’s average fear ladder ratings per session.

The effect size (*d*-index) was calculated to be -1.71. A *d*-index of +/-0.80 and higher is considered to be a large effect, thus MATCH-ADTC is supported in this study,
with this student, as an effective intervention in reducing anxiety. The $d$-index should be considered with caution and in conjunction with the visual analysis.

**MASC-2 analysis.** Mike’s MASC-2 pre-test Total Score was 75, which was at the 99th percentile and in the *very elevated* range. On the post-test, Mike’s Total Score was 40, which was in the low end of the average range and at the 16th percentile when compared to typical same-age, same-gender peers; his Total Score was reduced by 35 standard score points. In addition to the Total Score on the pre-test, Mike demonstrated *very elevated* levels of anxiety on the following scales: Generalized Anxiety Index (SS = 76), Obsessions and Compulsions (SS = 70), and Physical Symptoms (SS = 78). Figure 8 displays Mike’s pre-test and post-test scores on the MASC-2 by subtest. Scores of 60 and above were considered *slightly elevated* and warranted further attention and potential treatment. Mike reduced his score on the Generalized Anxiety Index by 36 points, from 76 to 40; Obsessions and Compulsions by 26 points, from 70 to 44; and the Total Physical Symptoms Scale by 38 points, from 78 to 40. Based on the pre-test, Mike scored in the *slightly elevated* range or above on all scales. On the post-test, all of his scores had reduced to within the low end of the *average* range. On the post-test anxiety probability index, Mike’s score was in the *low probability* range. For the pre- and post-test, the consistency scales were within the acceptable range, indicating Mike provided responses that were consistent across questions. Thus, both measures were likely reliable ratings of his true perception of his anxiety-related behavior.
**Figure 8.** Mike’s pre-test and post-test scores on the MASC-2 assessment.

**Overall Group Effectiveness**

The effect size (*d-index* = -1.38) was calculated for the entire group to determine an overall intervention effect based on the weekly fear ladder ratings. When examined holistically, MATCH-ADTC demonstrated a large effect. A *d*-index of +/-0.80 and higher is considered to be a large effect. See Table 1 for average fear ladder ratings during the baseline and intervention phases by participant, in addition to the overall intervention effect.
In addition to an individual analysis of scores on the MASC-2 SR to examine a decrease in T-Scores from pre to post intervention, a reliability change index (RCI) was utilized to examine changes in pre/post measures for MASC-2 results (Nunally & Kotsche, 1983). This is the preferred statistical calculation when there is a small sample size, leading to statistical limitations for measure significance of change in scores on pre/post measures. The RCI is a method for determining a significant impact of change when employing an intervention, and is computed by dividing the difference between the pre-intervention and post-intervention t-scores by the standard error of measurement (SEM). A calculated RCI less than -1.96 is considered reliable and significant. The RCI was calculated for the MASC-2 SR (see Table 2); statistically significant changes from pre- to post- t-scores were observed in 79% of the RCI scores calculated.
Table 2

Reliability Change Indexes (RCI) for Students’ Pre/Post Scores on the MASC-2

<table>
<thead>
<tr>
<th>Participant</th>
<th>Total Score</th>
<th>Separation Anxiety/Phobias</th>
<th>Generalized Anxiety Index</th>
<th>Total Social Anxiety</th>
<th>Humiliation/Rejection</th>
<th>Performance Fears</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>RCI</td>
<td>Sig?</td>
<td>RCI</td>
<td>Sig?</td>
<td>RCI</td>
<td>Sig?</td>
</tr>
<tr>
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<td>-2.31</td>
<td>Yes</td>
<td>0.00</td>
<td>No</td>
<td>-2.52</td>
<td>Yes</td>
</tr>
<tr>
<td>Maria</td>
<td>-7.57</td>
<td>Yes</td>
<td>-3.82</td>
<td>Yes</td>
<td>-1.74</td>
<td>No</td>
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<tr>
<td>Claire</td>
<td>-8.52</td>
<td>Yes</td>
<td>-5.25</td>
<td>Yes</td>
<td>-4.70</td>
<td>Yes</td>
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<tr>
<td>Mike</td>
<td>-13.46</td>
<td>Yes</td>
<td>-3.89</td>
<td>Yes</td>
<td>-6.99</td>
<td>Yes</td>
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</tbody>
</table>

*Denotes that a RCI could not be calculated because a t-score was not available due to too many omitted items for that scale.
Table 2 (cont.)

Reliability Change Indexes (RCI) for Students’ Pre/Post Scores on the MASC-2 continued.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Obsessions &amp; Compulsions</th>
<th>Total Physical Symptoms</th>
<th>Panic</th>
<th>Tense/Restlessness</th>
<th>Harm Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>RCI</strong></td>
<td><strong>Sig?</strong></td>
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<td><strong>Sig?</strong></td>
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<tr>
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<td>Yes</td>
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<tr>
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<td>-3.60</td>
<td>Yes</td>
<td>-3.20</td>
<td>Yes</td>
<td>-2.90</td>
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<td>Claire</td>
<td>-4.56</td>
<td>Yes</td>
<td>-3.69</td>
<td>Yes</td>
<td>-2.32</td>
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<tr>
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<td>-7.37</td>
<td>Yes</td>
<td>-11.95</td>
<td>Yes</td>
<td>-9.23</td>
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</tbody>
</table>
CHAPTER V

DISCUSSION

Review of Purpose and Major Findings

When an individual has not developed adequate coping skills to deal with stressors, it can develop into anxiety (i.e., excessive worrying and physical symptoms). Characteristics associated with giftedness such as asynchronous development, overexcitability, perfectionism, and emotional intelligence, can increase the likelihood of the development of anxiety (Dansinger, 1998; Lamont, 2012; Pfeiffer, 2013; Robertson et al., 2011). When anxiety is left untreated, there can be unintended consequences in overall functioning, including: increased rates of school refusal, negative academic performance, and even social impairment. Not only are students who are intellectually gifted at-risk for developing anxiety, but typical peers are as well. Although there are numerous empirically supported modularized cognitive behavioral interventions for the latter population, research is limited for intervention effectiveness with students who have anxiety and are gifted. Because cognitive behavioral interventions are effective in treating childhood anxiety in typical children, interventions that have support for that population of students could be applied to students who are gifted; however, such strategies have not been adequately researched for this special population of students.
The purpose of the present study was to examine the impact of a modularized
cognitive behavioral intervention on students who are identified intellectually gifted, and
also experience anxiety. To date, no known studies have examined the effectiveness of
school-based interventions for this population. Results from the present study indicated
that the MATCH-ADTC intervention demonstrated a positive effect for decreasing
perceived levels of anxiety for students who are gifted.

**Interpretation of Findings Relative to the Hypothesis**

**Fear ladder ratings.** All four students decreased their ratings on the fear ladder
form by the last week of the intervention session. This demonstrates the students’ belief
that there was a decrease in their anxiety and an increase in their ability to apply skills
learned and practiced during intervention sessions. All four students demonstrated a
downwards-linear trend in their intervention data indicating transference of skills from
session to session. Additionally, all four effect sizes were large. To be considered a large
effect, the calculated effect size had to be +/-0.80, and the smallest effect size was for
Claire ($d\text{-index} = -1.19$). It should be noted that she had the highest average baseline
ratings, thus reporting the highest level of perceived anxiety at the onset of recruitment
(she also had the highest with MASC-2 Total Score on the pre-test).

Claire and Maria demonstrated characteristics consistent with giftedness,
specifically perfectionism. This was apparent when their individual fear ladders were
developed and they both identified earning anything less than an A on their report card as
very fearful. Research has found that perfectionism mediates fear of failure, which in-turn
leads to anxious thinking, and ultimately anxiety disorders (Neumeister & Finch, 2006).
This was evident for Claire and Maria. Despite the risk factor (perfectionism), both
students responded to the intervention. Luke demonstrated strictly performance-based fears, specifically regarding class presentations and being called on in class unexpectedly. This manifested as poor management of his heightened emotional intelligence. He was hypersensitive to his own feelings as well as that of others when put in a situation where he was performing in front of others, but he did not know how to cope with his anxieties. Once Luke learned a few coping strategies, he demonstrated an immediate response to the intervention, allowing him to better manage his emotional intelligence. Lastly, Mike appeared to suffer from asynchronous development. His intellectual development allowed him to understand the consequences of conflict and also reason the impact it could have on him in the school setting; however, there appeared to be a discrepancy in his emotional development evidenced by his limited ability to cope with his frustrations that resulted from his anxieties. Overall, there were no elements of the intervention that uniquely addressed characteristics associated with giftedness. However, as suggested in previous research (Damiani, 2006; Durlak et al., 1991; Mennuti et al., 2012), it is likely that the students responded well to the intervention because of their high intellectual ability, allowing them to use their advanced cognitive functioning to reason, learn, and apply skills learned in the intervention.

These findings add to the support of the use of a modularized cognitive-behavioral intervention in treating childhood anxiety, and also helps close the gap in the literature by supporting the use of a modularized cognitive-behavioral intervention in a school-based setting and with children who are intellectually gifted.

**MASC-2.** All four students demonstrated a decrease in elevated pre-test scores on the MASC-2 after completion of the intervention, which reflects a perceived
improvement in anxiety symptoms, reported each student. Mike made the largest reduction in his overall Total Score on the MASC-2 (35 points), but all four students made large reductions on this scale and had moved from either the *slightly elevated* or the *very elevated* range to within the *average range* by the end of the intervention phase. There were two students, Maria and Claire, who still had *slightly elevated* scores on the Obsessions and Compulsions scale as well as the Total Physical Symptoms scale; however, they had the highest scores on those scales to begin with and reduced their scores from 81 to 66 and 80 to 61 on the Obsessions and Compulsion scale, and from 73 to 60 and 78 to 63 on the Total Physical Symptoms scale, respectively. Furthermore, on the post-test all four students moved from the *high probability* classification on the Anxiety Probability Score to the *low probability* classification. Lastly, the calculated *RCI* suggests that majority (79%) of the differences in t-scores from pre- to post- are considered an effect from the intervention.

**Limitations**

There were several limitations to this research study. Given the small sample size, it is difficult to generalize the findings to other settings where participants and environmental stimuli may differ. 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 establish a stable baseline across participants within the multiple baseline design. This limitation makes it difficult to interpret the visual analysis data and effect size, particularly when attributing the change entirely to the intervention. Without implementation of a strong methodology, other factors such as maturation or differential selection may occur. Maturation is when participants naturally change their behavior over
time and it is confused as an intervention effect (Mertens, 2015); collecting baseline data until it stabilizes controls for this threat. 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, the students may have set an expectation that they were supposed to lower their ratings on their fear ladders to indicate that they have learned, leading to skewed perceptions of improvements in anxiety. Lastly, each participant required varying degrees of intervention in regards to intensity, duration, and implementation of interference modules. For instance, Luke only required the implementation of one interference module, while Maria, Claire, and Mike demonstrated presenting problems that required two interference modules. This makes it difficult to determine the effect of the intervention on the group because not every participant endured identical treatment plans.

**Implications for Practice**

Students who are intellectually gifted can also have a disability that, although may not have a negative impact on their academic performance, can certainly impact their emotional well-being. Foley Nicpon, and Pfeiffer (2011) note that due to the complex nature of twice exceptionality, and the level of expertise needed to identify this special population, school psychologists can play a prominent role in serving these exceptional learners by educating others, aiding in the identification process, developing appropriate accommodations, and implementing evidence-based interventions. In accordance with the findings of this study, *MATCH-ADTC* is an appropriate, and evidence-based intervention to address the emotional needs of students who are gifted. Moreover, based on the
individual participant’s response to the intervention, it can be suggested that a modularized cognitive behavioral approach to therapy is ideal when working with students who are intellectually gifted. Their advanced cognitive abilities allow for them to reason, learn, and remember strategies utilized with a CBT approach. Additionally, based on this study, gifted students are more apt to practice and apply the strategies learned in therapy to the outside setting. This likely leads to better treatment outcomes for this population, and generalizability across settings. Thus, it can be concluded that CBT, and specifically the modularized approach, is an effective intervention to treat childhood anxiety with intellectually gifted students in the school-setting.

**Future Research**

This study could be expanded, differentiated, or replicated in various ways that might add to the evidence supporting the generalizability of the findings. Future research should utilize a larger sample size that is diverse in age. Additionally, future research should follow the multiple baseline methodology by ensuring participant start points are randomized, the implementation of the intervention phase is driven by the stability of baseline data, and participants do not begin baseline until the previous participant enters the intervention phase (Kazdin, 2011). This would significantly improve the internal and external validity of the study. Finally, future research could examine the impact of including teacher and parent involvement during the intervention phase. This would allow the researcher to monitor transference of skills across settings (i.e., in the classroom and at home).

As previously mentioned, early intervention and identification is imperative to decreasing anxiety symptomology (Neil & Christensen, 2009), thus future research may
consider working with a younger population of children struggling with anxiety to produce better outcomes.

Conclusion

The present study examined if MATCH-ADTC, a modularized cognitive-behavioral intervention, would help improve perceived levels of anxiety for students who were identified as intellectually gifted. The findings indicate that the intervention demonstrates high levels of efficacy in a school-based setting, and with the specialized population, but requires further research to help support the generalizability of the findings. Such studies are needed to help close the gap existing in the current literature addressing intervention effectiveness for students who have anxiety and are gifted.
REFERENCES


intelligence and anxiety in gifted students aged 14 to 15. Special Education, 1(20), 16-23.


Pfeiffer, S. I. (2013). Lessons learned from working with high-ability students. *Gifted


and Family Studies, 21(6), 938-947. doi: 10.1007/s10826-011-9553-1


APPENDIX A

IRB MATERIALS AND CONSENT/ASSENT LETTERS

UNIVERSITY OF DAYTON - CONSENT TO PARTICIPATE IN RESEARCH

TITLE OF STUDY:

EXAMINING INTERVENTION OUTCOMES FOR STUDENTS WHO ARE GIFTED AND EXPERIENCE ANXIETY IN A SCHOOL SETTING

Dear Principal,

My name is Lesley Beigel and I am a graduate student in the School Psychology program at the University of Dayton, and am currently the school psychologist intern in the district. I am writing to invite you to participate in a research project examining intervention outcomes for students who are gifted and experiencing anxiety.

PURPOSE OF THE STUDY

The purpose of the present study is to examine the effectiveness of a cognitive-behavioral anxiety intervention for students with an identified academic or intellectual gift and experiencing anxiety.

WHAT WILL BE DONE IN THIS STUDY?

This project involves using the Multidimensional Anxiety Scale for Children 2nd ed.-Self-Report (MASC 2-SR; March, 2013) in order to determine a student’s current level of anxiety. The MASC-2 will be used before (to establish eligibility) and at the conclusion of (to demonstrate improvements) the intervention. The MASC-2-SR consists of 50 Likert scale questions ranked from 0 to 3 (0 = Never, 1 = Rarely, 2 = Sometimes, and 3 = Often). This assessment will be administered individually and will take approximately 15-20 minutes, including reading the assent form to each child, reading the instructions, and completing the questionnaire. Each child will complete this assessment with the researcher/school psychology intern, Lesley Beigel. In addition, if a child is accepted into the intervention, parents will be contacted by the researcher to discuss each child’s school and anxiety history and to seek consent.
Students who have an identified academic/intellectual gift and demonstrate moderate to significant anxiety on the MASC 2-SR will be eligible to participate in the present study. Students who qualify for the study meet with the researcher/school psychology intern weekly for 30-45 minutes to complete the intervention sessions. The entire intervention is estimated to take approximately 10-12 weeks. The intervention in the current study is taken from a program called MATCH-ADTC, a modularized program that provides materials and worksheets for working with children with anxiety. This program is based on a cognitive-behavioral treatment, which has demonstrated excellent outcomes for youth with anxiety. Each child will complete a series of intervention modules with the researcher/school psychology intern focused on reducing anxiety through challenging anxious patterns of thinking, learning relaxation skills, and practicing skills in situations that may be anxiety provoking with the support of the researcher. Activities may involve completion of worksheets, playing games, talking about anxiety, and practicing newly learned skills.

POTENTIAL RISKS AND DISCOMFORTS

There are some possible risks with participation in my research project. First, children may experience increased stress if scores on the MASC-2 indicate high levels of anxiety and potentially require further evaluation and/or intervention. Second, there is a potential that families may face a financial expense if they decide to further pursue additional treatment based on their child’s elevated scores on the MASC-2.

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

ANTICIPATED BENEFITS TO PARTICIPANTS

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

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

**PARTICIPATION AND WITHDRAWAL**

Participation in the project is completely voluntary. If a child and family agree to participate, they are free to stop participating at any time, without penalty. Each child is also free to choose not to answer any questions that he/she is not comfortable with, without penalty. If you choose, you can view the questionnaire and treatment materials before the study begins. If participants experience any kind of discomfort as a result of your participation in this study, they may contact the primary investigator Lesley T. Beigel at (937) 638-2540 and the project’s advisory committee chair Dr. Elana Bernstein at (937)-229-3644.

**IDENTIFICATION OF INVESTIGATORS**

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

Lesley T. Beigel, Principal Investigator, University of Dayton, School Psychology Graduate Student, (937) 638-2540, lesley.beigel@beavercreek.k12.oh.us.edu.

Elana R. Bernstein, PhD, Clinical Faculty, Advisory Committee Chair, University of Dayton, Department of Counselor Education School & Human Services, School Psychology Program, (937) 229-3624, ebernstein1@udayton.edu.

**RIGHTS OF RESEARCH PARTICIPANTS**

If you have questions regarding your rights as a research participant, you may contact the Chair of the Institutional Review Board (IRB) at the University of Dayton: Dr. Mary Connolly, (937) 229-3493, Mary.Connolly@notes.udayton.edu.

Thank you for considering allowing me to complete my study in your school. Please return the attached consent form to Lesley Beigel. Please feel free to contact me with any questions or concerns by phone at (937) 638-2540 or by email at Lesley.beigel@beavercreek.k12.oh.us.

**SIGNATURE OF RESEARCH PARTICIPANT**

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

Signature

Date
Dear Parent,

We ask that your child participate in a research study conducted by Lesley T. Beigel, School Psychology Intern, from the University of Dayton. Participation in this study is voluntary. Please read the information below. If you have any questions, please direct them to Mrs. Lesley Beigel. Contact information is located at the end of this document.

**TITLE OF STUDY**: Examining Intervention Outcomes for Students who are Gifted and Experience Anxiety in a School Setting

**PURPOSE OF THE STUDY**: The purpose of this study is to examine the effectiveness of a cognitive-behavioral anxiety reduction intervention on students identified as having an intellectual or academic gift and who also experience symptoms of anxiety in the school setting.

**PROCEDURES**: Students who are identified as intellectually or academically 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.

Students who meet the eligibility criteria to participate in this study will be asked to participate in MATCH-ADTC by Practice Wise, an evidence-based intervention program that targets childhood anxiety, depression, trauma, and conduct problems. In this case, the intervention will be used to address symptoms of anxiety. The intervention will consist of activities including worksheets and games.

**POTENTIAL RISKS AND DISCOMFORTS**: There are some possible risks with participation in the research project, including: 1) You or your child may experience increased stress if scores on the Anxiety Survey for Children (MASC-2) indicate high levels of anxiety and potentially require further investigation, 2) There will be loss of instruction time in enrichment and/or elective classes, but NOT in core academic classes.

**ANTICIPATED BENEFITS TO PARTICIPANTS**: There are a number of potential benefits associated with participation in this study. Benefits may include: (a) early identification of anxiety as identified through the Survey (MASC-2); (b) early intervention will be provided to students who show subclinical levels of anxiety, and (c) students will learn coping skills that can help relieve anxiety symptoms.

Thank you for considering playing a part in this research study. Please return the attached consent form to your child’s classroom teacher, indicating whether or not you agree to
allow your child to participate. Please feel free to contact me with any questions or concerns by phone at (937) 638-2540 or by email at lesley.beigel@beavercreek.k12.oh.us

CONFIDENTIALITY: 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 my faculty advisor (Dr. Elana R. Bernstein) and myself. Students’ names will be coded using pseudonyms and will not appear in any data sets or publications.

PARTICIPATION AND WITHDRAWAL: Participation in the project is completely voluntary. If you and your child agree to participate, you and your child are free to stop participating at any time, without penalty. Your child is also free to choose not to answer any questions that he/she is not comfortable with, without penalty. If you choose, you can inspect the questionnaire before agreeing/not agreeing to allow your child to participate in my project. If you or your child experience any kind of discomfort as a result of participation in this study, you may contact the main investigator Lesley T. Beigel at (937) 638-2540 or the study’s advisory committee chair, Dr. Elana R. Bernstein at (937) 229-3644.

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

Lesley T. Beigel, Principal Investigator, University of Dayton, School Psychology Graduate Student, (937) 638-2540, lesley.beigel@beavercreek.k12.oh.us

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

RIGHTS OF RESEARCH PARTICIPANTS: If you have questions regarding your rights as a research participant, you may contact the Chair of the Institutional Review Board (IRB) at the University of Dayton (937) 229-3493, or e-mail IRB@udayton.edu

SIGNATURE OF PARENT OF RESEARCH PARTICIPANT (or legal guardian)
I have read the information provided above. I have been given an opportunity to ask questions and all of my questions have been answered to my satisfaction. I have been given a copy of this form.

Child’s Name (please print) ____________________________________________

Parent’s Name (please print) ____________________________________________

Parent Signature __________________________________________ Date ___________
Thank you for considering playing a part in this research study. Please return the attached consent form to your child’s classroom teacher, indicating whether or not you agree to allow your child to participate. Please feel free to contact me with any questions or concerns by phone at (937) 638-2540 or by email at lesley.beigel@beavercreek.k12.oh.us

Approved by the University of Dayton Institutional Review Board for use until 9/27/2016.
TITLE OF STUDY: HELPING STUDENTS WHO WORRY

Who is doing this research?
Mrs. Lesley T. Beigel, Principal Investigator, University of Dayton, School Psychology Graduate Student, (937) 638-2540, burdissl1@udayton.edu

Why should I do this?
The purpose of this project is to help students who feel nervous or worry a lot. Participating in the project may help you learn ways to worry less in school.

How long will it last and what will happen?
You will be asked 50 questions about how you think and feel, which will take about 15-20 minutes. You will have to do this twice, at the beginning and end of the project. You will then meet weekly with Mrs. Beigel, the School Psychology Intern, to learn about your worries, play games, and do activities to help you worry less. These sessions will take place one time a week for 30-45 minutes in an empty classroom or office for 10-12 weeks.

How will you feel?
You may feel nervous when sharing your feelings with me or when practicing your coping skills during times you experience worry.

Will anyone know I’m doing this?
Everything that we say in the weekly sessions will stay between you and the School Psychology Intern, unless she is concerned about your safety. If she is concerned, she may need to talk with another adult about it so that we can keep you safe. The School Psychology Intern will determine a meeting time that will allow you to miss the least amount of class. We will meet in an empty classroom or office where other people cannot see or hear us.

What if I have questions or am worried about something?
If you have questions, you may talk to the researcher/School Psychology Intern, Mrs. Beigel.

Your rights as the participant. If you have questions regarding your rights as a research participant, you may contact the Institutional Review Board (IRB) at the University of Dayton: (937) 229-3493, IRB@udayton.edu

Consent to Participate
I agree to work with Mrs. Beigel and her team on this project. I understand all that is expected of me and I will do my best. Mrs. Beigel has answered all my questions. I understand that I may stop this project at any time.
APPENDIX B

REPEATED MEASURE – FEAR LADDER

<table>
<thead>
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<th>ITEM</th>
<th>How scary is this item today? Please give a rating from 0-10.</th>
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