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## Interventions to Reduce Anxiety for Gifted Children and Adolescents

Amy H. Gaesser, Ph.D

University of Connecticut, 2014

Anxiety can cause many concerns for those affected, and previous research on anxiety and gifted students has been inconclusive. This study examined the anxiety levels of gifted students, as well as the effectiveness of two interventions: Cognitive-Behavioral Therapy (CBT) and Emotional Freedom Technique (EFT). Using the Revised Children's Manifest Anxiety Scale-2 (RCMAS-2) to measure students' anxiety levels, Phase I of this study examined anxiety in gifted youth ( $n = 153$ ) participating in private and public gifted education programs, grades 6-12, in two Northeastern states. ANOVAs were used to assess differences in the anxiety levels, and results indicated that gender ( $F [1, 149] = 13.52, p < .001, \eta_2 = .08$ ) and school setting ( $F [2, 149] = 21.41, p < .001, \eta_2 = .23$ ) were significant factors in the anxiety levels of the gifted students in this study. In Phase II, a randomized controlled research design was used to investigate the effectiveness of CBT and EFT interventions for gifted adolescents. Utilizing permuted randomized assignment, participants ( $n = 63$ ) identified with moderate to high levels of anxiety on the pre treatment RCMAS-2 were assigned to one of three treatment groups: a) CBT, the current gold standard of anxiety treatment, b) EFT, an innovative modality presently showing increased efficacy in anxiety treatment, and c) a wait-listed control group. Students assigned to CBT or EFT treatment groups received three individual sessions of the identified therapy from upper-level counseling, psychology, or social work students enrolled in graduate programs at a large Northeastern research university. Treatment outcomes were measured by administration of

the RCMAS-2 post treatment and analyzed using ANCOVA with pre treatment RCMAS-2 scores serving as the covariate. Using a Bonferroni correction of  $p = .016$ , EFT participants ( $n = 20$ ,  $M = 52.163$ ,  $SE = 1.42$ ) showed significant reduction in anxiety levels when compared to the control group ( $n = 21$ ,  $M = 57.93$ ,  $SE = 1.39$ ,  $p = .005$ ). CBT participants ( $n = 21$ ,  $M = 54.82$ ,  $SE = 1.38$ ) did not differ significantly from either the EFT or control groups ( $p = .12$  and  $p = .18$ , respectively).

Interventions to Reduce Anxiety for Gifted Children and Adolescents

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A Dissertation

Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

at the

University of Connecticut

2014

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2014

APPROVAL PAGE

Doctor of Philosophy Dissertation

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## **Dedications**

This dissertation is dedicated to my son, Brendan James Gaesser, and, daughter, Erin Marie Gaesser. Your zest to experience life in its fullest and to live with integrity and compassion are rewarding and inspiring. I am deeply proud of you both. Thank you for your love and support throughout this process; you have been my greatest cheering section! I look forward to many more adventures together – here’s to living outside of the box!

It is also dedicated in loving memory to my grandmothers – two of the greatest role models and pillars throughout my life. To Ethel Marian Hegeman – for your strong faith in the unseen and the loving way in which you tended to ever detail of life; and to Mary Philemon Cooley – for your strong sense of independence and determination to forge your own path in life. I am forever grateful for your love, encouragement, and support, which have sustained me throughout my life.

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Our greatest accomplishments in life are often driven by a desire to make a meaningful contribution, quench a thirst for new knowledge, and/or gain a deeper understanding of some phenomenon of interest. Creative curiosity, a passion for adventure, the ability to think broadly, an unshakeable willingness to dive deep into the unknown, and stamina provide the fuel that catalyzes us through what is required to succeed. When chosen, this path is often a combination of joyful peaks and growth-promoting challenges. The biggest challenges in life require a blend of rugged individualism, determination, endless hours of work, time for reflection and contemplation, and a wonderful support system of friends, family, colleagues, and mentors to encourage and inspire us.

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## Chapter 1

### Statement of Problem

Research on anxiety and giftedness has presented conflicting findings. On the one hand, qualitative research and clinical observations have suggested that gifted youth experience anxiety more acutely and with greater intensity based on their exceptional characteristics (Hébert, 2011; Mendaglio, 2007), and that the unique stressors related to the gifted experience make them more susceptible to anxiety (Moon, 2002; Silverman, 1993). For these youth, the interactions between their distinctive needs, demands, and anxiety require better understanding to create meaningful supports and effective treatment options, thereby enabling them to maximize their greatest potentials.

Conversely, quantitative research has been less prevalent, but has suggested that the unique perspectives and skills of gifted students provide greater resiliency to manage anxiety. These studies have found that gifted youth do not experience anxiety in greater numbers than the general population (Cross, Adams, Dixon, & Holland, 2004; Cross, Cassady, Dixon, & Adams, 2008; Martin, Burns, & Schonlau, 2010). However, childhood anxiety negatively impacts approximately 9.9% of the general population (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003, p. 388), while the National Association for Gifted Children (NAGC, 2013) estimates that that “there are approximately 3 million academically gifted children in grades K-12 in the U.S. — approximately 6% of the student population” (para 1), not including gifted students from non-academic areas. If quantitative research on anxiety and gifted youth is correct, that equates to a conservative approximation of 297,000 gifted youth who may struggle with anxiety, not including those who possess talents outside of the academic realm.



When comprehensively considered, the qualitative, clinical, and quantitative research suggest that advancing our understanding of the relationship between gifted children and anxiety would assist with more effective identification and support of those affected. Additionally, it would allow for the development of programs to support and reinforce their resiliency and optimal well-being. While acknowledging that CBT is currently the treatment of choice for anxiety disorders, Muris and Broeren (2008) state that “a substantial proportion of the children and adolescents do not respond to psychological and pharmacological interventions” (p. 393). Identifying alternative, effective treatment modalities would empower gifted young people with useful, lifelong strategies to mitigate future stressors, strengthen resiliency, and enhance the continued expansion of their gifts and talents.

Eysenck (2010) has found that the utilization of additional resources reduced or eliminated adverse effects of anxiety on performance. Researchers (Compton et al., 2010; Jansen et al., 2012) have shown, children who experience debilitating anxiety were at increased risk of psychopathology in adulthood; a phenomenon echoed by Kessler, Chui, Demler, Merikangas, and Walters’s (2005) findings that approximately 18% of youth who experienced anxiety in childhood continued to be affected by some form as adults. Herbert et al. (2009) indicated that early identification and treatment of anxiety is “critical to prevent development of a chronic course of symptoms, persistent functional impairment, and progressive psychiatric comorbidity” (p. 167). Researchers of gifted youth have echoed these concerns, calling for further studies to clarify issues of anxiety for gifted students and provide appropriate proactive interventions; both of which are imperative if we are to assist gifted students negatively affected by anxiety to overcome these challenges and maximize their fullest talent potentials.

## **Research Questions**

This study: a) examined the extent to which gifted youth experienced anxiety across gender and school levels, as well as compared to a normed population, and b) compared CBT versus EFT treatment effectiveness for those gifted youth identified as experiencing moderate to high levels of anxiety. Research questions included:

- 1) How did the anxiety of gifted students, as measured by pre treatment RCMAS-2 scores, differ by gender and school type/level, as well as compared to a normed sample?
- 2) How did CBT, EFT, and control group outcomes differ for gifted students, grades 6-12, as measured post treatment RCMAS-2 anxiety scores?

## **Hypotheses**

Hypotheses included that:

- The anxiety levels experienced by gifted students would differ by school type, school level, and gender,
- When compared to the control group, the participants in both the CBT and EFT groups would experience a reduction in anxiety, and
- Intervention outcomes for the EFT group would be at least equivalent to the CBT group.

## **Chapter 2**

### **Literature Review**

The issue of anxiety and high potential students has yet to be fully understood and research in this area has been limited. Anxiety creates a state of mental uneasiness or concern that causes physical and psychological discomfort (American Psychological Association [APA], 2013). Extreme anxiety has been found to disrupt cognitive flow impeding concentration, unsettling behavior, and interfering with perception (Beilock & Gray, 2007; Bishop, 2007; Nieuwenhuys & Oudejans, 2011; Eysenck, Derakshan, Santos, & Calvo, 2007; LeDoux, 1996, 2002). Qualitative research and clinical observations have indicated that some high potential youth may experience anxiety differently and more intensely based on their unique characteristics (Hébert, 2011; Mendaglio, 2007; Moon, 2002; Silverman, 1993). Quantitative examination has been less prevalent and suggested that high potential youth do not experience anxiety in greater numbers than the general population (Cross, Adams, Dixon, & Holland, 2004; Cross, Cassady, Dixon, & Adams, 2008; Martin, Burns, & Schonlau, 2010; Moon, 2007; Webb, Amend, Webb, Goerss, Beljan, & Olenchak, 2005).

The interaction between the unique characteristics of gifted youth and anxiety requires better understanding to create meaningful supports and effective intervention options. Additionally, for some gifted children, their unique perspectives and skills may provide greater resiliency to manage anxiety when experienced. Based on these inconclusive findings, further examination of this issue and effectiveness of treatments for those gifted students struggling with anxiety are needed. This review, therefore, examines both sides of the debate, and two different interventions to reduce anxiety for gifted youth.

## **Definitions**

It is important to understand what is meant by two key terms - gifted students and anxiety. Identifying high potential students is complex and several factors must be considered.

### **Giftedness**

The National Association for Gifted Children (NAGC; 2010) defined gifted students as those who demonstrate outstanding levels of aptitude (defined as an exceptional ability to reason and learn) or competence (documented performance or achievement in top 10% or rarer) in one or more domains. Domains include any structured area of activity with its own symbol system (e.g., mathematics, music, language) and/or set of sensorimotor skills (e.g., painting, dance, sports). (para 4)

Renzulli's (1978) definition included additional components, stating that high ability students possessed

above-average general and/or specific abilities, high levels of task commitment (motivation), and high levels of creativity. Gifted and talented children are those who possess or are capable of developing this composite of traits and applying them to any potentially valuable area of human performance. (p. 261)

Silverman (1996) noted that it is important to also include "asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm" (p. 4). Renzulli, Reis, and Smith (1981) found it was the top 15-20% of the general population of students that demonstrated the potential for this advanced development.

## **Anxiety**

Related to anxiety, the American Psychological Association (2013) defined anxiety as

an emotion characterized by feelings of tension, worried thoughts, and physical changes . . . . People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat. (para 1)

Anxiety has been “associated with an increased influence of the stimulus-driven attentional system and a decreased influence of the goal-directed attentional system” (Eysenck, Derakshan, Santos, & Calvo, 2007, p. 338) in which “information processing is geared toward identifying potential threats and minimizing potential negative outcomes” (Blanchette & Richards, 2010, p. 585). If not effectively managed, the impact of anxiety can be significant.

## **Anxiety and Giftedness**

### **Overview**

The exact number of gifted students struggling with anxiety is currently unknown, but can be conservatively estimated when several factors are taken into account. Based on clinical experience and qualitative inquiry, Peterson (2009) stated that gifted students struggle with issues such as anxiety at a rate that is similar to those of the general adolescent population. Costello, Mustillo, Erkanli, Keeler, and Angold (2003) examined psychiatric disorders in the general population of children and adolescents, finding that 1 in 10 of the youth in their study had suffered from an anxiety disorder by age 16; a prevalence rate of 9.9% with the most common anxieties experienced including specific phobia, social phobia, generalized anxiety

disorder and separation anxiety. The NAGC (2013) conservatively estimates that “there are approximately 3 million academically gifted children in grades K-12 in the U.S.” (para 1), not including high potential students from non-academic areas. If estimations by Peterson (2009) and Costello et al. (2003) are correct, they minimally suggest that approximately 297,000 high ability students are adversely affected by anxiety, not including talented students in non-academic areas. Compton et al. (2010) and Jansen et al. (2012) noted children who experienced debilitating anxiety were at increased risk of psychopathology in adulthood. Similarly, Kessler, Chui, Demler, Merikangas, and Walters’s (2005) found that approximately 18% of youth who experienced anxiety in childhood continued to be affected by some form as adults. Herbert et al. (2009) posited that early identification and treatment of anxiety was “critical to prevent development of a chronic course of symptoms, persistent functional impairment, and progressive psychiatric comorbidity” (p. 167). Researchers of high ability youth echo these concerns, calling for further research to clarify issues of anxiety for gifted students, provide appropriate interventions early, and better assist gifted students in maximizing their potentials.

### **Differentiating Between Unique Characteristic and Impairing Anxiety**

High potential youth have a variety of unique social and emotional needs (Hébert, 2011; Mendaglio, 2007; Moon, 2007; NAGC, 1995; Silverman, 1993). These differences can be a source of strength that enhance their motivation and task commitment or stress that impede their creative productivity and emotional well-being (Moon, 2007; Webb et al., 2005). It is important for mental health providers to understand the unique attributes of high potential youth, as well as be able to distinguish a child who is experiencing anxiety resulting in impairment from one ardently pursuing a passion. Mendaglio (1995) indicated that gifted individuals have greater sensitivities in the forms of increased self-awareness, empathetic perspective-taking, and the

awareness of one's own and others' emotional states. Webb et al. (2005) posited that youth with higher level thinking skills and elaborative abilities often experience highly detailed planning and pursuing information to great depth as exhilarating, rational, and appropriate; adding that it transitions into cause for concern when intense focus becomes unproductive and overly self-critical. Additional signs indicating a need for assistance include when thoughts and actions become obsessive or compulsive or motivated by fear or anxiety with no other specific goal than to relieve the affective experience, resulting in "anti-creative behaviors designed to undo a possibility instead of exploring or developing one" (Webb et al., 2005, p.89). Further research is needed to better understand the relationship between giftedness and anxiety, determine which treatments are effective, and enable high potential youth to maximally utilize their unique skills and talents.

### **Anxiety and Giftedness – Qualitative Studies and Clinical Observations**

Utilizing case studies, qualitative research, and clinical experience, experts have identified components of the gifted experience that contribute to anxiety (Peterson, Neihart, Cross, Olszewski-Kubilius, & Jackson, 2012) and indicated the need for more specific understanding to best support their needs, as well as prevent the debilitating effects of anxiety. Anxiety can be felt as a result of growing up in a society that "does not always recognize, understand, or welcome giftedness" (Moon, 2002, p. 213). Unique characteristics that can make high potential youth vulnerable to anxiety have included: asynchronistic development (Silverman, 1993; Silverman & Conarton, 2005), heightened awarenesses (Mendaglio, 2007), perfectionism (Rogers & Silverman, 1997; Schuler, 2000, 2002), elevated performance concerns (Fehm & Schmidt, 2006; Tsui & Mazzocco, 2007), increased intensities (Amend, 2009; Daniels

& Meckstroth, 2009), twice-exceptionality (Baum & Olenchak, 2002), and over-extension (Peterson, Duncan, & Canady, 2009).

Silverman and Conarton (2005) defined asynchronistic development as being out of sync academically and socially. High ability students often advance in their area(s) of talent at a faster rate than their age mates. This can create situations in which their cognitive and talent development require environments of greater stimulation than typically occur with age-related peers, while paradoxically their social and emotional needs best fit with youth who are of similar age chronologically; resulting in the gifted child continually feeling mismatched in some way to his/her environment. The complexity of understanding for high potential youth is a composite of their divergent thinking, their ability to see many aspects and variables of situations at once, and their need for deeper meaning in the things they study and do (Silverman & Conarton, 2005). As a result, children with high ability often love to question and discuss more deeply than their age-mates. Hébert (2011) examined the social and emotional experience of gifted youth and found that the school environment can be one experience that highlights asynchrony and exacerbates anxiety. Lack of challenge and meaningful stimulation, as well as a lack of understanding by school personnel about the unique needs and characteristics of the gifted child, can result in increased internal discord, a deficit of adequate supports for high ability students, and further aggravate stress and anxiety.

Past literature has suggested that high potential students may also feel greater internal dissonance due to inappropriate school placements, if peers are hostile towards their advanced achievement (Moon, 2002) or they encounter conflicts with environmental messages about “normal” adolescent identity development (Hébert, 2011). Fonseca (2011) explored the dissonance this created for gifted children as they responded to mixed messages from society,



including the sense of value placed on being smart, while paradoxically that asking too many questions was annoying. Additional mixed messages included: 1) keen intellect being seen as highly desirable, but too much intellectual or emotional intensity then evaluated negatively, and 2) gifted students being seen as unique, but being different then judged as bad (Hébert, 2011). Silverman (1993) suggested that asynchronistic development and unique personality traits make some gifted students more susceptible to affective stressors associated with anxiety including: loneliness, feeling they need to hide pressures, perfectionism, and bullying from peers when they attempt to meet high expectations.

As the following research suggests, gifted children often have a greater awareness and perception of their environment and are more likely to actively question inconsistencies. Acute self-awareness can become debilitating. Roeper (2009) noted that gifted youth's ability to see the nuances, gray areas, exceptions, and complex interrelationships contributed to their sense of being out of sync with those around them. They can see through the hypocrisies and hidden agendas and are often more aware of a number of global concerns (Peterson et al., 2009). Mendaglio (2007) defined this as Heightened Multifaceted Sensitivity (HMS) characterized by "enhanced awareness of behavior, emotions, and cognitions pertaining to self or others" (p. 39). When supported, it can lead to motivation towards personal growth; however, unmitigated, heightened self-criticism can lead to anxiety (Mendaglio, 2007). High ability students "think deeply about how the world could or ... should be, and they can envision it. But they can also see clearly how both they and world fall short" (Webb et al., 2005, p. 91).

Additionally, deep thinkers often experience higher levels of idealism and moral concern (Silverman & Conarton, 2005). Webb et al. (2005) pointed out that as a result young gifted children, who have not yet mastered a sense of firm boundaries or healthy limitations, experience

greater feelings of responsibility to make a difference, thereby increasing their angst and guilt. Similarly, world issues like homelessness or interpersonal concerns such as an upset friend or family member creates excessive worry and/or lost sleep, further contributing to anxiety. This experience can be further augmented by their potential for greater levels of perfectionism and performance (Rogers & Silverman, 1997; Schuler, 2000, 2002; Tsui & Mazzocco, 2007). When not given adequate strategies to effectively channel perfectionism, an increased cycle of disabling anxiety results (Hébert, 2011), as well as increased vulnerability to underachievement (Reis & McCoach, 2002). As Grobman (2006) also noted that particular anxieties and concerns accompany the diverse phases of gifted development and inability to resolve these conflicts can lead to underachievement and self-destructive behaviors.

According to Dabrowski's (1964) Theory of Positive Disintegration, anxiety is an integral component to psychological growth and advanced development, which can ultimately lead to the development of creativity, compassion, positive social capital, and innovative problem solving (Amend, 2009). As high potential individuals move through the process of Dabrowski's advanced development, they experience internal conflict, complex emotions, and heightened sensitivity that aggravate self-criticism and anxiety (Hébert, 2011). Dabrowski and Piechowski (1977) suggested that overexcitabilities (OEs) are a part of this process and can provide tools that enhance talent development and complexity of understanding, while paradoxically exacerbating stress and anxiety.

Daniels and Meckstroth (2009) defined OEs as "a greater capacity to be stimulated by and respond to external and internal stimuli" (p. 35). Dabrowski and Piechowski (1977) identified five areas of increased sensitivities or intensities, including psychomotor, intellectual, imaginal, emotional, and sensual. Based on clinical observation, Amend (2009) noted that

without adequate skills and support, “sensory overload may arise, bringing with it excess anxiety and nervousness” (p. 98). According to Amend (2009), anxiety could take the form of impulsivity or compulsive behavior related to Psychomotor OEs, while Emotional OEs intensified anxiety through heightened and deep emotions, powerful highs and lows, and extreme affective expressions. An insatiable quest for knowledge, lasered pursuit of understanding and precise answers, and/or a drive to develop multipotentiality reflected Intellectual OEs. This intensity of purpose could create neglect of important people or events in one’s life, resulting in anxiety as the gifted individual became more aware of this disconnect.

### **Anxiety and Cognitive Functioning – Impact on Manifesting High Ability**

To better understand the impact of anxiety on the qualitative experience of high ability students, it is important to include research on anxiety and cognitive functioning. Peterson et al. (2009) maintained, “highly able, high achieving students felt overextended, pressured academically, and burdened by heavy expectations from self and others” (p.45). Paradoxically, Hébert (2011) and Moon (2002) noted that lack of ongoing academic challenge could result in cyclical stress and anxiety. The right amount of intellectual challenge is crucial to maintaining motivation for high potential students, yet must be well managed to avoid impairment of cognitive functioning. Sapolsky (2003) has found that without buffers to mitigate the stress response, individuals developed increased anxiety, mood swings, and bursts of hyper-vigilance that negatively impacted concentration and creative production. This negative impact can be especially frustrating for high potential youth who thrive on advanced levels of performance, intellectual exploration or artistic creation, yet struggle with some of the unique characteristics outlined previously. For these individuals, managing the challenges may lead to greater anxiety.

The fight or flight response associated with anxiety has been shown to negatively impact one's ability to function cognitively (Banks, 2005; LeDoux, 2002; Sapolsky, 2004; Teicher, Anderson, Polcari, Anderson, & Navalta, 2002), further hindering the divergent thinking processes associated with the gifted experience for affected youth (Silverman & Conarton, 2005). Researchers (Sapolsky, 2004; Teicher et al., 2002) identified the fight or flight response triggered by anxiety and stress as a physiological and biochemical response that is stimulated by one's sympathetic nervous system and which releases a flood of stress hormones. The stress response that is activated causes the prefrontal cortex to be bypassed and creates a hypervigilance and hyperarousal cycle within the limbic system, thereby exacerbating the anxiety experienced and impeding one's ability to process cognitively (Banks, 2005; Teicher et al., 2002).

LeDoux (2002) outlined how the body processes information at a synaptic level. Researchers (Banks, 2005; LeDoux, 1996, 2002; Sapolsky, 1996; Teicher et al., 2002) suggested that chronic stress created synaptic interference, adding to the negative impact on one's ability to process information and emotions, as well as impeding the overall learning process. On cellular and psychological levels, resources normally involved in supporting the cognitive processes are diverted to manage the stress and anxiety experienced. Anxiety has been shown to impede cognitive functioning (Derakshan & Eysenck, 2009; Eysenck & Derakshan, 2011; Hopko, Crittendon, Grant, & Wilson, 2005) by negatively impacting control of attentional processing (Ansari & Derakshan, 2011; Ashcraft & Kirk 2001; Bishop, 2007; Eysenck, 1985; Eysenck & Calvo, 1992; Eysenck, et al., 2007), behavior (Beilock & Gray, 2007; Nieuwenhuys & Oudejans, 2011), interpretational processes (Blanchette & Richards, 2010; Bishop, 2007; Nieuwenhuys & Oudejans, 2011), emotion-driven cognitions (Blanchette & Richards, 2010), and in turn emotion-

driven behavior (Krieglmeyer, De Houwer, & Deutsch, 2011; Krieglmeyer, Deutsch, De Houwer, & De Raedt, 2010).

Additionally, anxiety has been found to negatively impact performance on IQ scales (Hopko, et al., 2005), suggesting that anxiety may exacerbate the issue of under identification of high potential students when relying solely on academic and IQ scores. The qualitative and clinical evidence offered by researchers specializing in gifted education suggest that effective treatments to address anxiety experienced by high ability youth are therefore critical to assisting them in maximizing their full potentials. However, quantitative researchers offer further considerations on the topic of giftedness and anxiety.

### **Anxiety and Giftedness – Quantitative Studies**

A paucity of quantitative research exists on the relationship between giftedness and anxiety. Past findings have suggested that high potential youth have the same to lower rates of anxiety than the general population. An early study by Scholwinski and Reynolds (1985) reviewed more than 5000 gifted and average-ability scores on the Revised Children's Manifest Anxiety Scale (RCMAS) and concluded that gifted children actually had lower levels of anxiety across the developmental span of study (i.e. ages 6-19). Using the Minnesota Multiphasic Personality Inventory-Adolescent version (MMPI-A) content scales, Cross, Adams, Dixon, and Holland (2004) examined self-reported personality profiles of 139 gifted students from a public residential academy run by a university in a Midwestern state and found that psychological indicators, including anxiety, were within normal limits with minimal change reported during a 2-year residency. Additionally, students with initially elevated scores had fallen to the normal range by end of the study (i.e. 2 years). Further consideration needs to be given to the resources that were available to these youth that may not be readily available to youth outside a residential

setting, which may have positively affected their abilities to cope with anxiety over time.

Cross, Cassady, Dixon, and Adams (2008) found similar results when they administered MMPI-A over a 4-year period to 567 (320 females, 247 males) students in grades 11 and 12 from a similar residential program. Factors, such as whether or not admission requirements to the residential programs impacted the study outcomes by weeding out students with elevated social/emotional concerns and low SES (both of which can contribute to students' levels of anxiety), were not considered. Additionally, it should be noted that the majority of students in the residential program were Caucasian. Gifted students from minority populations often encounter unique stressors not experienced by the majority (Plucker, 1998), which have the potential for increasing their overall level of anxiety. The lack of minority students in Cross et al.'s studies (2004, 2008) may have also skewed the studies' reported findings.

A meta-analysis by Martin, Burns, and Schonlau (2010) evaluated the relationship between giftedness and mental health disorders in youth. The researchers limited their review to those studies published between 1983 and 2008 that 1) compared gifted to non-gifted populations and 2) quantified mental health concerns based on being measured by some form of psychometric scale. Their final meta-analysis related to anxiety and giftedness in adolescents included four studies (Bracken & Brown, 2006; Reynolds & Bradley, 1983; Richards, Encel, & Shute, 2003; Tong & Yewchuk, 1996). Their resulting conclusions were that gifted males exhibited no difference in anxiety levels from those of their non-gifted counterparts; and that gifted females had slightly higher anxiety than other non-gifted same-sexed peers. These results, however, need to be interpreted with caution based on inconsistencies in statistical analyses done, as well as one study in particular (Reynolds & Bradley, 1983) potentially skewing the analytical results due to its significantly larger sample size.

Taken together, qualitative and quantitative studies indicate the need for further examination of giftedness and anxiety. Quantitative research suggests that high potential students do not struggle with anxiety to any greater extent than the general population; however, even if levels of anxiety experienced by gifted students are within the normal range of occurrence, that still results in a significant number (i.e. minimally 297,000) of high potential youth in need of support. Further, qualitative research and clinical observation suggest that for those high ability students who are impacted, their complex characteristics make some more susceptible to anxiety's debilitating affects and require intervention strategies that address their unique needs.

While experts differ regarding the extent to which anxiety affects gifted youth as a whole, most agree that to provide effective interventions for those negatively impacted, the unique needs and characteristics of high ability children must be incorporated. Mendaglio (2007) reminds us that, while anxiety is natural part of advanced personality development for gifted students, with the right supports it can assist one to move from self-focused instincts and drives to altruistic tendencies guided by morals and values. Eysenck (2010) echoed that the adverse effects of anxiety on performance can be reduced or eliminated when those affected utilize additional resources, while research by Compton et al. (2010) and Ginsburg et al. (2011) further supported the importance of identifying effective treatments for anxiety in children.

### **Treatment Modalities**

#### **Cognitive-Behavioral Therapy (CBT)**

Researchers (James, Soler, & Weatherall, 2005; Muris, & Broeren, 2008; Mychailyszyn, Brodman, Read, & Kendall, 2012) have identified CBT as the treatment of choice for anxiety in children and adolescents. One of the core tenets of cognitive-behavioral therapists is that “stimulus events are mediated by cognitive processes and private or subjective meanings”

(Corey, 2005, p. 232). Clients' physiological and emotional responses to events in their lives are seen as being based in the thoughts, interpretations, and meanings they place on them. Negative responses, over-reactivity, and psychological distress to present stimuli are thought to be the result of unresolved negative past events or learned messages. The therapist assists clients to cognitively reframe their interpretations and neutralize their psychological and emotional responses to present stimuli through awareness building and systematic desensitization processes.

By learning to pair emotionally charged responses with relaxation techniques and more affirming self-talk, clients develop strategies to mitigate their reactivity and overcome emotional, behavioral, and psychological blocks, thereby allowing clients to live more self-fulfilling lives. The client is an active participant in the treatment, regularly completing homework assignments between sessions, which support and reinforce the reframing/desensitization process (Corey, 2005). For example, if the client has a fear of snakes, the client is assisted in recognizing his/her body's physiological response to snakes, as well as the cognitive self-talk that occurs when the fear is being experienced. The client is then given progressively more challenging homework assignments, which assist the client to lessen the stress response.

Homework the first week involves practicing a relaxation technique, such as deep breathing, while consciously focusing on relaxing various physical responses. The individual also learns positive, reinforcing self-talk to incorporate as part of the reframing process. In the following weeks, the client pairs the newly learned relaxation responses and positive cognitions with progressive exposure to the triggering stimuli (e.g. the client imagines a snake while practicing his/her newly learned relaxation strategies, advancing to being able to hold a snake while fully relaxed). The end goal is for the client to be able to engage in desired behaviors that



support goals and optimal living without adversely reacting to daily stimuli and/or sabotaging desired outcomes.

To evaluate the effectiveness of CBT in treating childhood anxiety, several key studies relevant to the present study are assessed here. Mychailyszyn et al. (2012) conducted a meta-analysis of school-based interventions for anxious and depressed youth in which they examined 63 studies containing a total of 8,225 participants receiving CBT and 6,986 subjects in comparison conditions. Utilizing mean pre-post effect sizes, they determined that CBT was moderately effective in reducing anxiety (Hedge's  $g = 0.501$ ). Beidel, Turner, and Morris (2000) undertook a randomized controlled study of 67 children (ages 8-12) diagnosed with social phobia. Thirty-six participants were randomly assigned to receive a CBT treatment modality, while 31 were placed in a nonspecific treatment control group. One of the instruments used to assess treatment outcomes was the Social Phobia and Anxiety Inventory for Children (SPAI-C). Utilizing the SPAI-C, the researchers found an effect size of 1.24 for those receiving CBT.

The SPAI-C was also the instrument of choice in Herbert et al.'s (2009) randomized controlled study on the efficacy of CBT for treating generalized Social Anxiety Disorder (SAD) in adolescence. In their study, 73 adolescents were divided into three treatment groups with 24 to individual CBT, 23 to group CBT, and 26 to psychotherapy. Participants all received 12 weekly sessions of their assigned treatment. Treatment gains were seen across all three groups, with an effect size of 1.08 for individual CBT. Herbert et al. (2009) also used the Subjective Units of Discomfort Scale (SUDS). The SUDS effect size for the Herbert et al. study was 1.72 for individual CBT. CBT protocols used within the studies were not consistent, but shared key CBT components, such as teaching relaxation techniques and elements of exposure therapy and systematic desensitization.

## **Energy Psychology (EP)**

Feinstein (2004, 2005) defined EP as a treatment approach that incorporates CBT strategies, such as exposure therapy, cognitive reframing and systematic desensitization, with stimulation of acupoints to decrease symptomology, as well as rebalance, restore, and/or improve optimal functioning. Darras, Vernejoul, Albarède, and Malades (1992) provided evidence of the migration pathways of the meridian system used in acupuncture, while other researchers (Dhond, Kettner, & Napadow, 2007; Fang et al., 2009; Hui et al., 2000) have linked activation of identified acupoints to a decrease in limbic arousal and found that stimulation of acupoints modulates activity in the limbic system.

EP uses manual stimulation of the acupoints in conjunction with cognitive reframing and systematic desensitization to address issues presented by clients. Clients are taught a sequence of acupoints, such as found in the Emotional Freedom Technique (EFT) protocol (Craig, 2011), to stimulate while working with the therapist using exposure and desensitization techniques. EFT is one of the most researched EP protocols and was the EP protocol of choice in this study. EFT utilizes a series of eight acupoints combined with key phrases from the client's assessment of his/her issues to support the exposure/desensitization process (Craig, 2011).

Preliminary and pilot EP studies have shown promising results for a number of physical and psychological issues. Feinstein (2012) reviewed the efficacy of acupoint stimulation to treat psychological concerns. Of the 51 peer-reviewed articles on clinical outcomes that were identified, 18 were found to be randomized controlled studies, with further analysis determining a strong – medium effect size (.8 - .5 based on Cohen's *d*) for EP treatments. Criteria for evidence-based treatments proposed by Division 12 of the American Psychological Association were also applied to the studies reviewed and found to be met for a number of anxiety-based

conditions. For the purpose of the present study, the EP studies that evaluated the effects of EFT on anxiety or anxiety-like symptoms are included here.

Several of these EFT studies have shown a significant reduction in psychological distress, as measured by the SA-45, in adults. Using a sample of 102 adults, Rowe (2005) determined that utilization of EFT correlated to a significant decrease in psychological distress, with improvements holding as evidenced by follow-up evaluations at six months post treatment. A repeated measures MANOVA indicated statistically significant change over time,  $F(44, 59) = 7.80, p < .0005$ . Measurement points included pre intervention, immediately after treatment, one month, and six months post treatment. Univariate repeated measures ANOVAs were run on each scale. All indicated improvement with the Global Severity Scale (GSI;  $F[4, 99] = 100.60, p < .001$ ) and the Positive Symptom Scale (PST;  $F[4, 99] = 92.10, p < .001$ ) being the most significantly impacted. Rowe (2005) does not report if the same or parallel forms of the SA-45 were used with each repeated measure, so it is unclear if instrument familiarity became an issue with follow-up scores. Church and Brooks (2010) and Palmer-Hoffman and Brooks (2011), using similar study designs and samples sizes of 216 and 207 respectively, found similar results. None of these three studies incorporated control or comparison treatment groups, leaving questions regarding whether or not differences would have been equally observed in a comparative analysis.

A randomized study investigated the use of EFT with adults to treat anxiety caused by phobias (Wells, Polglase, Andrews, Carrington, & Baker, 2003). Participants in this study all met the DSM-IV criteria for specific phobia and were randomly assigned to EFT ( $n = 18$ ) and deep breathing (DB) relaxation ( $n = 17$ ) treatment groups. Both received exposure therapy paired with their treatment modality. Instruments included the Behavioral Approach Task (BAT), Fear

Questionnaire, SUDS, and pulse rate, with measures being taken at pre intervention, immediately post intervention, and six months post. Research assistants administering the measures were blind to what intervention each participant received. Analysis of pretest scores indicated no significant variance between the two groups prior to treatment. ANOVA results for pre to immediately post indicated both groups showed decreases with the EFT showing a significantly greater reduction in fear when compared to the DB group for the first four instruments. Effect sizes for the four significant measures, 1.24, 1.42, 1.30, and 1.54 were significant in terms of Cohen's *d*. Pulse rate results also showed a decrease for both groups, but did not differ significantly between the two. Small sample size and lack of a control group did not allow for generalization of study results.

Church, Yount, and Brooks (2012) implemented a randomized, controlled design and identified a correlation between the use of EFT and the reduction in cortisol levels (as measured by saliva samples) in the 83 adult participants (EFT  $n = 28$ , SI  $n = 28$ , and control  $n = 27$ ), as well as clinically significant improvements in their psychological distress (as measured by the SA-45). The comparison treatment group received a 50-minute supportive interview (SI) from either a licensed clinical psychologist or marriage and family therapist who utilized cognitive-behavioral principals, providing empathetic support coupled with challenging negative cognitions. The experimental group received 50-minute EFT session from a practitioner certified in EFT. One-way analyses of variance revealed no baseline differences in the three groups. ANCOVAs were conducted and Bonferroni-corrected post hoc pairwise comparisons done on all significant models. The EFT group showed statistically significant reductions in cortisol levels when compared to the SI and control group. On the SA-45, the EFT group had statistically lower scores at posttest than did the SI or control on both global scales (GSI and PST) and all

individual symptom scales, except phobic anxiety. None of the comparisons between SI and control groups were significant.

**EFT studies involving childhood anxiety.** Sezgin and Özcan (2009), using the Test Anxiety Inventory (TAI), compared EFT to a common stress reduction technique, Progressive Muscle Relaxation (PMR), for the treatment of test anxiety in 32 Turkish high school students. Students were randomly assigned to two treatment groups with a resulting *n* of 16 for both. The experimental group learned the Emotional Freedom Technique (EFT) protocol, while the comparison was taught a (Progressive Muscle Relaxation) PMR protocol approved by the Turkish Psychological Association. Each group employed their technique three times per week for 2 months. The EFT group had a statistically greater decrease in anxiety. The effect size reported for the EFT Total TAI was 2.78, and 2.42 and 2.54 for the Worry and Emotionality subscales respectively.

Church, Piña, Reategui, and Brooks (2011) conducted a randomized controlled pilot study and evaluated the impact of receiving a single-session of EFT on the intensity of traumatic memories. Potential candidates were residents of a treatment facility for youth who had been identified as having a history of abuse, neglect, or abandonment. Of the original 51 participants assessed, 16 males, ages 12-17, met the criteria for the study and were randomly assigned to either the EFT treatment group or the wait listed control group. The EFT group received a one-hour single session of EFT, while the control group received no intervention. The Impact Event Scale (IES) and the SUDS were administered pre and at the 30-day posttest. At posttest, all of the control group participants were still in the moderate clinical range on the IES, while none of the experimental group members scored in the clinical range. Effect size for the EFT group on

the IES was 5.46, while the mean SUDS score dropped from 8.25 with  $sd = .71$  pre treatment to a SUDS mean of .25 and  $sd = .46$  post treatment.

Clinical observation and quantitative study outcomes have suggested that EP modalities, including EFT, show promise in effectively treating anxiety and producing significant reduction or elimination of symptoms long-term with fewer required treatments than traditional modalities like CBT. However, results presently have limited generalizability due to small sample sizes and, in some cases, the lack of control and/or comparison groups. Further, only a limited number of studies (Church, Piña, Reategui, & Brooks, 2011; Sakai, Connolly, & Oas, 2010; Sezgin & Özcan, 2009; Stone, Leyden, & Fellows, 2009) have evaluated the use of EP in treating adolescents. Additional study is needed to fully assess the efficacy of EP as a treatment for anxiety, as well as its effectiveness for children and adolescents.

This review of the literature suggests some high ability youth benefit from strategies to manage anxiety. Effective interventions can allow them to transform struggle into motivation, creative expression, and success. Further research is needed to more fully evaluate the relationship between anxiety and gifted youth, as well as investigate the efficacy of EFT as treatment modality. The present study assessed the level of anxiety in gifted students, grades 6 – 12, as measured by the Revised Children’s Manifest Anxiety Scale - Second Edition (RCMAS-2). Additionally, for gifted students scoring in the moderate and high levels of anxiety on the initial RCMAS-2, the study used a randomized controlled research design to evaluate the differences in treatment outcomes between those assigned to CBT versus EFT intervention groups.

## Chapter 3

### Research Methods

Research has suggested that stress and anxiety can impede creative productivity and emotional well-being (Eysenck et al., 2007; Webb et al., 2005) for some gifted children, and that some youth may benefit from strategies to manage anxiety. This study first examined anxiety experienced by gifted adolescents overall, as well as across gender and school setting. Using a restricted random assignment and pretest-posttest control group design, differences in CBT versus EFT intervention outcomes were then investigated. The following research questions guided this study.

- 1) How did the anxiety of gifted students, as measured by pre treatment RCMAS-2 scores, differ by gender and school type/level, as well as compared to a normed sample?
- 2) How did CBT, EFT, and control group outcomes differ for gifted students, grades 6-12, as measured by post treatment RCMAS-2 anxiety scores?

Hypotheses included the following:

- The anxiety levels experienced by gifted students would differ by school type, school level, and gender
- When compared to the control group, the participants in both the CBT and EFT groups would experience a reduction in anxiety
- Intervention outcomes for the EFT group would be at least equivalent to the CBT group

This study involved two phases. In Phase I, middle and high schools, as well as the Association for the Gifted in the Northeastern state in which this study originated, were identified to collaborate in the recruitment of gifted students, grades 6-12. Participating students'

anxiety levels were then measured using the Revised Children's Manifest Anxiety Scale – second edition (RCMAS-2; Reynolds & Richmond, 2008).

In Phase II, a randomized controlled investigation of the effectiveness of CBT versus EFT interventions was then conducted for those participants experiencing moderate to high levels of anxiety. CBT is currently the treatment of choice for anxiety in children and adolescents (James et al., 2005; Muris & Broeren, 2008; Mychailyszyn et al., 2012). EFT is a more-recently developed modality that incorporates acupoint stimulation in addition to traditional CBT elements and has shown promise in the treatment of anxiety (Feinstein, 2012).

### **Sample**

Research (Hopko et al., 2005) has shown that anxiety negatively affects performance on IQ scales, suggesting that limiting gifted identification solely to IQ scores had the potential to exclude some of the students this study was designed to assess. Further, the importance of broadly defining giftedness to support a diversity of talent development has been recommended (NAGC, 2010; Renzulli, 1978, 2000). Renzulli (1988) notes that giftedness manifests at different times, under different circumstances, and for different reasons. Thus, this study did not limit participant identification to a single factor or IQ scores. All participants in this study were within the top 15-20% of their peer groups academically, aligning with the recommendations to broadly identify a diversity of students for talent development (NAGC, 2010; Renzulli, Reis, & Smith, 1981).

For the purposes of this study, the definition of giftedness, as outlined by the State Education Department from Northeastern state in which this study originated, was used.

Specifically,



"Gifted and talented" means a child identified by the planning and placement team as (1) possessing demonstrated or potential abilities that give evidence of very superior intellectual, creative or specific academic capability and (2) needing differentiated instruction or services beyond those being provided in the regular school program in order to realize their intellectual, creative, or specific academic potential. The term shall include children with extraordinary learning ability and children with outstanding talent in the creative arts as defined by these regulations. (Connecticut State Department of Education, n.d.)

Further, these regulations state that the school districts' identification processes include criteria beyond traditional intelligence testing and that identification measures match the districts' definition of giftedness.

**Power analysis.** Mychailyszyn et al. (2012) and Herbert et al. (2009) note that a power of .80 and an effect size of .50 are considered sufficient for measuring clinically meaningful outcome differences in psychological studies. For the proposed study, research question one was analyzed using 2x3 between-groups ANOVAs. Regarding research question 2, results of the intervention session outcomes were statistically analyzed using ANCOVA with the pre intervention RCMAS-2 scores being used as the covariate. A power analysis with a power of .80 and effect size of .50 at an alpha of .05 with 1 covariate was run and indicated that a total *n* of 158 participants was needed for the randomly-assigned intervention group portion of the proposed study to detect a moderate effect size.

**Participants.** A total *n* of 153 gifted students from grades 6-12, ages 10-18, completed the initial RCMAS-2. Students were representative of the gender and ethnicity demographics of the collaborating schools. As there were no private high schools in this study, school type and

level were combined into the following factors — PublicMiddle, PublicHigh, and PrivateMiddle. See Figures 1-3 for gender, ethnicity, and school type/level statistics for this sample. School type/level is referred to as school setting within the text of this document.

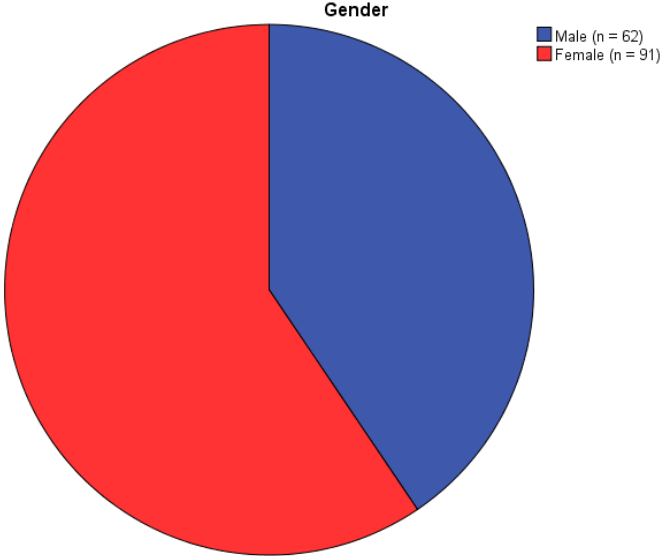


Figure 1. *Sample demographics by gender*

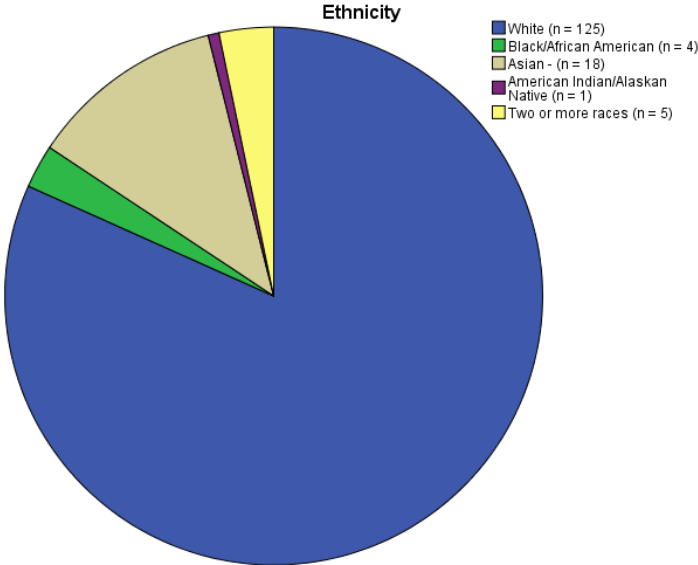


Figure 2. *Sample demographics by ethnicity*

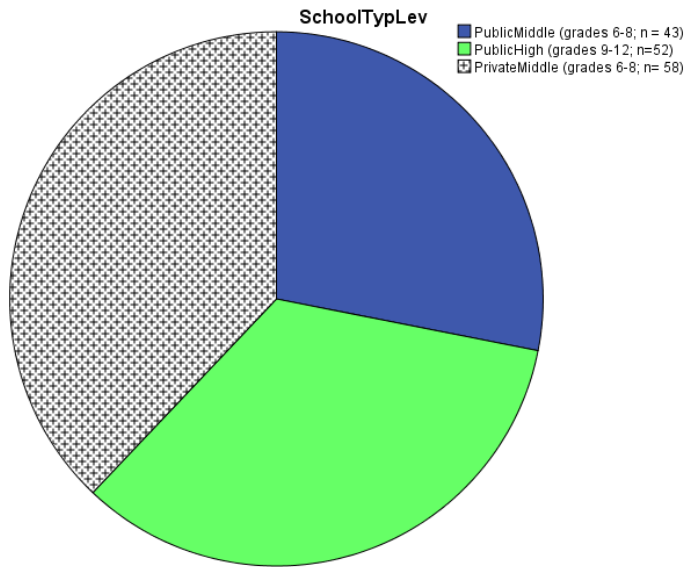


Figure 3. *Sample demographics by school type/level*

From the initial sample, 63 participants scored in the moderate to high ranges for anxiety on the RCMAS-2 and were randomly assigned to CBT ( $n = 21$ ), EFT ( $n = 21$ ), and control ( $n = 21$ ) intervention groups. One EFT participant was unable to participate in the individual intervention sessions due to scheduling difficulties, resulting  $n$ s of 21, 20, and 21 respectively for the CBT, EFT, and control groups. This low attrition rate did not compromise the equivalency of any groups compared.

### **Instrument**

The Revised Children's Manifest Anxiety Scale-2 (RCMAS-2; Reynolds & Richmond, 2008) was used to assess initial anxiety levels in study participants, as well as anxiety levels of participants post intervention groups. The RCMAS-2 is one of the most extensively used anxiety scales for children (Silverman & Treffers, 2004), consisting of 49 self-reporting items. RCMAS-2 scores are reported as T-scores. RCMAS-2 scores of 60 or lower are considered in the normal to low range, 61-70 are considered in the moderate range, and 71 or higher is considered in the high range.

The RCMAS-2 retained 89% of the items from the RCMAS and demonstrates high interform correlations, thus the test developers utilized some of the statistical information from the RCMAS to report on the RCMAS-2. The RCMAS-2 generates five scores: Total Anxiety (TOT) and three anxiety-related scales — Physiological (PHY), Worry (WOR), Social Anxiety (SOC), as well as Defensiveness (DEF). PHY scale assesses anxiety expressed somatically, including headaches, stomachaches, sleep difficulties, and fatigue. The WOR subscale measures anxious thoughts of a generalized or vague nature, including fears about being hurt or emotionally isolated and oversensitivities to environmental pressures. “A high score on this scale may indicate a child or adolescent who internalizes much of the anxiety he or she experiences and who thus may get overburdened with trying to relieve this anxiety” (Reynolds & Richmond, 2008, p. 18). The SOC scale evaluates anxiety in social and performance situations and is especially focused on self in relation to others. A high SOC score may indicate concerns about meeting significant others’ expectations and fears about not being as good, capable, and/or effective as others. This form of anxiety can be associated with school refusal issues (Reynolds & Richmond, 2008). DEF measures inconsistent responding from the participants.

RCMAS-2 reports adequate to excellent reliability based on Cronbach’s alpha estimates of TOT = .92, PHY = .75, WOR = .86, SOC = .80, and DEF = .79 for internal consistency with SEMs of  $\pm 3$ ,  $\pm 5$ ,  $\pm 4$ ,  $\pm 4$ , and  $\pm 5$ , respectively. Test-retest reliability for TOT, PHY, WOR, SOC, and DEF are  $r^2 = .76$ ,  $r^2 = .73$ ,  $r^2 = .71$ ,  $r^2 = .64$ ,  $r^2 = .67$ , respectively (Reynolds & Richmond, 2008). RCMAS-2 was determined to be a reliable measure for anxiety across gender, grade level, and ethnicity (Ang, Lowe, & Yusof, 2011; Reynolds & Richmond, 2008; Varela & Biggs, 2006), as well as for gifted children (Reynolds & Bradley, 1983; Scholwinski &

Reynolds, 1985). RCMAS-2 subscales also report moderate-to-high intercorrelations (Reynolds & Richmond, 2008).

Construct validity of the RCMAS-2 is supported by extensive factor analysis (Reynolds & Paget, 1981; Reynolds & Richmond, 1979) and reported by both coefficients of congruence ( $r^c$ ) and the non-parametric index denoted as  $s$ . Gender-based comparisons resulted in coefficients of congruence of .99 for PHY, .99 for WOR/Oversensitivity, .96 for SOC/Concentration, .99 for Lie 1, .98 for Lie 2, with corresponding  $s$  values at  $p < .01$  of .79, .92, .92, 1.00, and 1.00, respectively. DEF replaced the Lie 1 and 2 scales in the RCMAS-2. Similar validity results were seen across ethnic comparisons (Ang, Lowe, & Yusof, 2011; Reynolds & Richmond, 2008; Varela & Biggs, 2006). Reynolds (1980) further confirmed construct validity by comparing convergent and divergent validity between the RCMAS and the State-Trait Anxiety Inventory for Children (STAIC) and found a large correlation between the RCMAS and the STAIC Trait scale ( $r = .85, p < .001$ ). Reynolds (1985) found a score correlation of  $r = .78$  between the RCMAS and the STAIC Trait scale for high-IQ children, providing additional support for validity with this group. Validity has been further established with correlations between RCMAS scores and teacher-observed behavior (Reynolds, 1982).

### **Participant Recruitment and Screening**

Participants for the study consisted of students in grades 6-12 who were participating in educational settings within two Northeastern states and identified as gifted by their participating schools. Student participants needed to have at least a working knowledge of spoken and written English; thus, students participating in ESL or ELL services were excluded. Potential participants were notified about the study through their school and/or the state's association for the gifted as follows. From August 22, 2013 until mid-November 2013, school administrators

and the president of the state's association for the gifted were contacted via email and/or in-person meetings to formally notify them of the study and invite them to collaborate in the recruitment process. See Appendix A for the letter of invitation that was used for schools/districts and Appendix B for the letter of invitation that was used for the state's association for the gifted. The study information sheets that were shared with the school personnel prior to participant recruitment to assist the schools in making their decisions to assist with the recruitment process are included in Appendices D.1 or D.2, E.1 or E.2, F, G.1 or G.2.

A total of 10 schools from two Northeastern states agreed to collaborate in the recruitment process by distributing the information forms to students that they had previously identified as gifted based on each school's established selection criteria for their gifted and/or high ability programs. The collaborating schools in this study included: two private middle schools, four public middle schools, and four public high schools.

The state's association for the gifted indicated their agreement (Appendix G) to post the study recruitment announcement (Appendix H). The recruitment announcement appeared on their website from September 15, 2013 to November 15, 2013. As agreement to collaborate was secured (Appendix I) from interested schools, school-designated contact personnel sent one of two invitations to participate in the study (Appendices D.1 or D.2) to identified students and their parents/guardians. The invitation form sent was based on the format requested by each school. Some schools requested delivery of the interventions in private meeting places within the school setting, while others preferred to have the interventions delivered at the designated offices at the university. The invitation forms were amended twice, with IRB-approval each time, to accommodate these requested changes, as were the parent permission forms and consent forms.

In addition to the invitation to participate and dependent on the students' ages, students and their parents received the following:

- For children ages 10-11 — a parent/guardian permission form (Appendix D.1 or E.2) and a child assent form (Appendix E)
- For children ages 12-17 — a parent/guardian permission form (Appendix D.1 or E.2).  
Participating children in this age range indicated their assent by signing a specified line on the parent/guardian permission form.
- For children 18 and older — a consent form (Appendix F.1 or G.2)

All parent permission, child assent, and consent forms were available in both English and Spanish.

Informational meetings for the gifted students and their parents/guardians were held from early October 15, 2013 – November 26, 2013. Informational meetings occurred individually or in groups, based on the preference of the schools and/or interested participants. The student investigator, who is also the author of this study, facilitated all meetings. At the meetings, this student researcher reviewed the appropriate information outlined in Appendices D.1 - G.2 and answered any questions from students and parents/guardians. These meetings took place at a time outside of the school day at the schools participating in the study during a time convenient for each school and/or participant. For those students and their parents/guardians interested in attending but who could not make the informational meeting, arrangements to share the study information and gather appropriate parent/guardian permission, child assent and/or consent forms were made by the student researcher.

Due to the minor status of students ages 10-17, parent/guardian permission as well as student assent or consent, depending on age, was needed to participate in the study. For

those attending an informational meeting, parent/guardian permission and child (ages 12-17) assent forms (Appendix D.1 or E.2) and child (ages 10 - 11) assent forms (Appendix E) were distributed by the student investigator after a brief overview of the study was presented. One participant turned 18 during her participation in the study. At that time, the student investigator met with this student, reviewed the consent form (Appendix F.1), and secured her consent to continue participation in the study.

Parents/guardians and students were given time to discuss/consider the study, ask questions, and decide if they wanted to participate. To maintain privacy, locations outside of the meeting room, but within the school were provided for private conversations when the participants and/or their parents/guardians so desired. Interested participants were given the choice to either hand in the signed forms that evening or take a postage-paid envelope addressed to the student investigator in which to mail the signed forms within one week if the student decided to participate. All participants attending the group information meetings chose to turn in their forms at the meeting; none chose to mail the forms later.

The initial RCMAS-2 was administered by the student investigator to all students who assented and received parent/guardian permission to participate, as well as any who consented. A student research assistant helped with the informational meeting tasks as needed. To minimize any potential impact of researcher bias, the student research assistant received training in how to score the RCMAS-2 and scored all of the completed assessments. Within 2 weeks of a study participant completing his/her initial RCMAS-2, the student research assistant scored the participant's RCMAS-2.



Using permuted randomization, the student investigator then randomly assigned participants scoring at a moderate to high level on any of the RCMAS-2 subscales (i.e. scores of 61-70 and 71 or higher, respectively) to one of three intervention groups: 1) CBT, 2) EFT, or 3) a wait-listed control group. Permuted randomization (Friedman, Furberg, & DeMets, 1998) allowed for restricted distribution of participants across the assignment of intervention groups, maintaining equity in the number of participants assigned to each group. Additionally, it ensured that the order in which groups were assigned each time was randomized to minimize assignment bias. A restricted assignment model was used to force equal sample sizes across groups as recommended by Shadish, Cook, and Campbell (2002) for studies under 200 participants.

Upon completion of random assignment, the student researcher then contacted study participants scoring in the moderate to high range on the RCMAS-2 and their parents/guardians by phone to notify them of their group assignment. Additionally, they were given the name of the graduate student who would be providing their intervention sessions and told that the assigned graduate student would be contacting them within the week to schedule the intervention sessions. The student researcher also notified the graduate students of their assigned study participants as the assignments occurred and reminded these graduate students to make contact with their assigned participant within the week. Initial intervention start dates were delayed in some cases due to school breaks and/or school cancellations due to weather. All study participants were screened and participants meeting the criteria placed in the randomly assigned intervention groups by December 16, 2013.

The student researcher, through the letter in Appendix J, notified students who did not meet the criteria for the intervention portion of the study and their parents/guardians. The letter

for each of these students was placed in a stamped mailing envelope and sealed. It was then either taken to the school-designated contact person at the appropriate school district to be addressed and mailed or mailed directly to the participants' parents, depending on the preference of the school and/or family.

To minimize hesitancy to participate in the randomized controlled study due to concern about being assigned to the control group and therefore receiving no intervention, wait-listed control group participants were offered an EFT group intervention session after all individual CBT and EFT sessions had been completed. The EFT protocol in Appendix K was used. Research (Rowe, 2005) has supported the effectiveness of a single session of EFT. Such support for a single session of CBT does not presently exist.

### **Organization and Delivery of the Intervention Groups**

**CBT and EFT trainers.** The student investigator facilitated the CBT training and the primary investigator (PI) supervised this training. The PI was also the student investigator's primary advisor. Using grant funds, the student investigator hired an independent consultant to teach the EFT training. The PI, student investigator, and the EFT consultant monitored intervention fidelity for the modalities. Their qualifications follow.

***Primary investigator.*** The PI received his doctorate in 1974 in Special Education and Rehabilitation Psychology under the mentorship of his major professor, William I. Gardner, a leader in the application of behavior management and cognitive behavior management on behalf of individuals with cognitive, developmental and behavioral disabilities. He then completed a post-doctoral year on the psychiatric unit of the Veterans Administration Hospital in Madison, Wisconsin. Many of the patients in that setting had been in combat in Vietnam and suffered post-traumatic stress syndrome, and they used various forms of CBT to address these concerns.

Following his post doc year, he acquired his license to practice psychology and began a small private practice with a specialty in adolescent and adult behavioral and developmental disabilities. He frequently used CBT practices with various individuals with whom he was working and often supplemented these therapies by consulting with the patients' families and caretakers to help support the types of things they were trying to accomplish in therapy. At the time, he was also on the faculty at the University of Wisconsin's Harry A. Waisman Center on Mental Retardation and Human Development and taught classes on applied behavior management, which included topics on self-management and CBT. In 1988, he relocated to the university where this study took place.

Since coming to this university as a faculty member in the Department of Educational Psychology, he has taught Graduate courses (e.g., Applied Behavior Analysis, Special Education in the Mainstream, Critical Issues in Counseling, etc.) in which he has presented information on CBT. He also acquired his state license as a psychologist in 1994 so he could continue his private practice work consisting entirely of providing educational, transitional, and rehabilitative services on behalf of individuals with disabilities, their families and the agencies that serve them. In this capacity, he has continued using CBT methods, both in clinical applications as well as in consultation with others that are serving the individuals with whom he works. Additionally, he has supervised Master's and Doctoral level pre-service counselors, as well as post-doctoral candidates working towards licensure as psychologists in one of the Northeastern states where this study took place. CBT methods have been among the treatment approaches covered in these forms of supervision.

***Student investigator/researcher.*** The student investigator received her training and supervision in CBT as part of her Masters program in Counselor Education. Drs. Muyhi

Shakoor, Jeremiah Donigian, and David Kendall provided instruction on the modality of CBT and supervision of her interventions both within classes and at her practicum and internship settings. She received a total of 600 hours of supervised clinical practice working with young adults, adolescents, and children. Prior to coming to the university where this study took place to pursue her PhD., she also used CBT techniques continually with students during her 16 years as a school counselor.

Additionally, she received instruction and supervised experience in training graduate students to use CBT during her 10 years as a Lecturer in the Counselor Education Department at the State University of New York College at Brockport. As part of the Counseling Concepts course, she provided CBT instruction to Masters-level students and supervised their application of this modality through classroom exercises, as well as during the students' practicum and internship experiences. During her employment, she received supervision in these areas from Drs. Muihi Shakoor and Susan Seem.

***EFT consultant:*** The EFT consultant received her Masters in Social Work in 1982 and is a licensed social worker in the state in which the study occurred. As an adjunct in the Social Work department at the university, she has educated college students on complimentary and alternative interventions and uses EFT in her practice with clients. Additionally, she has coordinated EFT training classes for state social workers to obtain continuing education credits, as well as EFT certification.

**Securing and training graduate students to deliver interventions.** Graduate students enrolled in counseling psychology and counselor education, school psychology, and social work programs at a large Northeastern research university delivered the intervention sessions to the study participants. From August 26, 2013 to September 13, 2013, upon agreement from key

faculty in these programs, the student investigator presented the opportunity to assist with the study to these graduate students. Through small group presentations and listserv announcements, they were informed of the study and the expectations for graduate student involvement in the study, as outlined in the *Research on Gifted Students Experiencing Stress and Anxiety* independent study outline (Appendix L).

Any graduate student interested in providing the student intervention sessions to the study participants signed his/her intent to participate (Appendix M) by September 26, 2013. He/she was then randomly assigned to either a CBT or EFT training group. Based on funding received from the Association of Comprehensive Energy Psychology (ACEP), graduate students assisting with the study received a total of \$300 compensation at the completion of the study. Additionally, the graduate students earned three credits for their participation and worked in the study through an independent graduate course titled, *Research on Gifted Students Experiencing Stress and Anxiety*, which they registered for by mid-September 2013. The instructor of record for this course was the student researcher's advisor and the student researcher was the student co-instructor. The objectives, activities, and expectations/evaluation for the course were outlined in Appendix L. All participating graduate students completed their training in ethical research practices (i. e. CITI) by September 30, 2013.

On September 27, 2013, graduate students ( $n = 11$ ) involved in the study received a three-hour training session in which they first were given instruction in the unique characteristics and needs of gifted children and adolescents. The student researcher covered this information as outlined in Appendix N. The graduate students then received training in their randomly assigned protocols. This initial training session was followed by 4 two-hour sessions in which the

graduate students worked in dyads through role-plays to practice the modalities in which they were trained.

**Intervention modalities used.** CBT assists clients to cognitively reframe their interpretations and neutralize their psychological and emotional responses to present stimuli through awareness building and systematic desensitization processes (Corey, 2005). With repeated practice, successful use of CBT is achieved when the individual no longer experiences anxiety related to the original trigger. EFT utilizes similar CBT techniques, while also teaching the participant to stimulate protocol-identified acupoints combined with key phrases from the participant's assessment of his/her issues (Craig, 2011; Feinstein 2004) to mitigate the anxiety.

A brief form of CBT based on the Coping Cat (Kendall & Hedtke, 2006) and the C.A.T. Project (Kendall, Choudhury, Hudson, & Webb, 2002) for children was used as the CBT protocol for this study. The CBT Relaxation Techniques (Kendall et al., 2002), FEAR Intervention Strategy (Kendall et al., 2002; Kendall & Hedtke, 2006), and Thinking Traps (Kendall et al., 2002) are part of the CBT protocol and were used as take-home review sheets for the study participants. The EFT protocol (Appendix K) outlined by the Association for Comprehensive Energy Psychology (ACEP) (n.d.) and Craig (2011) was utilized for the EFT group and study participants were provided with the EFT Guide Sheet (Appendix O) as their take-home protocol review sheet. No graduate student was allowed to begin intervention sessions with his/her assigned study participants until all identified training (i.e. CITI, gifted characteristics and needs, and either CBT or EFT) was complete.

**Delivery of intervention sessions.** Intervention sessions with study participants began November 1, 2013 and ended February 7, 2014. Study participants in both the CBT and EFT groups received regular, individual intervention sessions from their assigned graduate student for

three sessions. Sessions occurred outside of the participant's regular school day. Most individual sessions occurred not less than one week or greater than 2 weeks apart, except for a few occasions where rescheduling was necessary due to weather conditions, school holidays, or participant illness. Each graduate student was responsible for scheduling his/her participants' sessions with each participant and the participant's parent/guardian. Individual sessions took place at the Northeastern university at which the study originated, unless otherwise requested by the school and/or the study participants and his/her parents. The intervention sessions occurred at a time mutually agreed upon by the graduate student, study participant, and participant's parent/guardian.

Some schools and/or participants and their parents/guardians requested that the intervention sessions be provided at their school, instead of at the university, to minimize traveling inconvenience to the interested students and their parents/guardians. When this occurred, the school provided private meeting rooms for the graduate students to meet with their assigned study participants outside of their class schedule. Each graduate student was responsible for scheduling their participant's sessions with the participant and his/her parent/guardian.

At the first individual session, the assigned graduate student shared the appropriate intervention protocol with the study participant. Study participants' parents/guardians also received a copy of the appropriate protocol. The graduate student and study participant then followed the steps outlined in the respective protocols over the period of the three intervention sessions. If a study participant missed a session, the graduate student contacted the participant and his/her parent/guardian to reschedule the appointment for the earliest available time. Upon completion of the study participants' third individual CBT or EFT session, the assigned graduate

student administered the final RCMAS-2. The student research assistant scored these RCMAS-2s within one week of their completion.

The control group received no intervention throughout the duration of the delivery of the individual CBT and EFT sessions. Upon completion of all individual CBT and EFT sessions, the student investigator met with the wait-listed control group to administer the second RCMAS-2. This meeting occurred at the participants' school outside of the regular school day. Upon completion of this administration, these participants were offered an EFT group intervention session using the EFT protocol in Appendix K.

### **Fidelity of Intervention Delivery**

Fidelity of the intervention protocols was maintained as follows to mitigate statistical construct validity threats of unreliability of both measure and intervention implementation:

- Graduate students delivering intervention sessions in the proposed study consistently used their assigned intervention protocol.
- The EFT trainer, the PI, and/or the student investigator monitored fidelity through reviews of regular session briefs (Appendix P), which were completed by the graduate students after each session. Session briefs were delivered through a secure server or hand delivered to the student investigator to protect participant confidentiality.
- The student investigator reviewed 30% of the randomly selected audiotapes from the individual intervention sessions. Each graduate student audiotaped at least the first assigned session with each of his/her participants and provided them to the student investigator. The student investigator assigned a number to each audiotape and a random number generator was used to select the audiotapes to be reviewed. At least one



audiotape from each graduate student was reviewed. Audiotapes were reviewed within 2 weeks of the session in which they were recorded.

### **Analysis Procedures**

Descriptive statistics, t-tests, and 2x3 between-groups ANOVAs, were used to analyze research question one and assess differences between gender and school type/level groups, as well as normed means. Research question 2 was analyzed using a one-way between-groups ANCOVA to assess outcome differences across treatment groups on post treatment RCMAS-2 TOT scores, using the initial RCMAS-2 as the covariate. Incorporating a pretest and using ANCOVA served to decrease error variance and thereby increase power, as did using a more homogeneous group (Shadish et al., 2002) (i.e. gifted students versus all students).

This study used random assignment and treated intervention groups equally (i.e. used the same research design for all groups under similar study conditions) to maintain significant internal validity and reduce threats of selection bias, maturation, history, and regression as recommended by Shadish et al. (2002) to better enhance the likelihood that any differences seen were due to chance. Additionally, as the same assessment (i.e. the RCMAS-2) was administered over the same time period to the CBT, EFT, and control groups, pretesting effects and instrumentation threats were better regulated to most likely having occurred based on chance, thereby allowing a better assessment of group outcome differences. Finally, to guard against fishing and error rate problems, both of which are threats to statistical construct validity, a Bonferroni correction has been used where appropriate in the statistical calculations and all study results are reported (Shadish et al., 2002).

## **Chapter 4**

### **Results**

The issue of anxiety and high potential students has yet to be fully understood and research has been limited. Additional research is needed to more fully evaluate the relationship between anxiety and gifted youth, as well as investigate effective interventions for those affected. This study investigated differences in the levels of anxiety experienced by gifted youth, and used a randomized, controlled design to compare CBT versus EFT treatment effectiveness for those gifted youth, grades 6-12, identified as experiencing moderate to high levels of anxiety on the pre treatment RCMAS-2. This chapter addresses how schools collaborating in the recruitment process identified their high ability students, and then summarizes the data collected and findings as they relate to the two research questions:

- 1) How did the anxiety of gifted students, as measured by pre treatment RCMAS-2 scores, differ by gender and school type/level, as well as compared to the RCMAS-2 normed sample?
- 2) How did CBT, EFT, and control group outcomes differ for gifted students, grades 6-12, as measured post treatment RCMAS-2 anxiety scores?

#### **Gifted Identification Measures Used by Schools**

Research (Hopko et al., 2005) has shown that anxiety negatively affects performance on IQ scales, suggesting that limiting gifted identification solely to IQ scores had the potential to exclude some of the students this study was designed to assess. Therefore, for the purposes of this study, giftedness was defined more broadly as discussed in Chapter 3.

Ten schools from two Northeastern states collaborated in the participant recruitment process for this study, including two private middle schools, four public middle schools, and four

Table 1.

*Gifted Identification Measures by School*

School	Screening Test	Interest Interview/ Student Input	Parent Input	Teacher Input	Report Card	Standardized Test Scores	Rating Scale for Gifted Students	IQ Test	Other
Sch1	X	X	X	X	X	X	X		TP
Sch2	X	X	X	X	X	X	X		TP
Sch3*		X	X	X	X	X**		X**	
Sch4	X			X		X			TP
Sch5	X	X	X	X				X**	
Sch6* <sup>a</sup>		X	X	X	X	X			TP
Sch7				X	X	X			
Sch8		X		X	X				
Sch9		X	X	X		X	X		
Sch10			X	X				X	CWS

*Note.* \* = Allowances made for twice exceptional students; \*\* = If student has it/not required; <sup>a</sup> = Sch 6 also allows Peer Nomination; TP = Trial Program; CWS = Child's Work Sample

public high schools. Students fitting the criteria outlined in Chapter 3 were referred to as gifted or high ability, depending on the school. The schools addressed these students' needs in one of three ways – 1) advanced placement classes, 2) enrichment programs, and/or 3) gifted programs that combined accelerated curriculum with enrichment experiences. The identification measures for these school programs are outlined in Table 1. All participants in this study met the broadly defined definition of gifted as recommended by Renzulli, Reis, and Smith (1981) and were within the top 15-20% of their peer groups academically.

### **School Type and Levels**

The sample for this study did not contain any participants from private high schools; school type and school level were therefore confounded. Thus, a single factor (i.e. school typelevel) with three possible values was created. These values included: public middle school (PublicMiddle), public high school (PublicHigh), and private middle school (PrivateMiddle) with corresponding grades levels of 6-8, 9-12, and 6-8 respectively. These school type/level factors are also referred to as school setting within this study.

### **Differences in Anxiety Levels**

Using the pre treatment RCMAS-2 scores, the anxiety levels of the participants were examined. RCMAS-2 scores are reported as T-scores and measure anxiety levels in children and adolescents. RCMAS-2 scores of 60 or lower are considered in the normal to low range (i.e. anxiety is no more problematic than for most students), 61-70 are considered in the moderate range (i.e. anxiety is moderately problematic), and 71 or higher is considered in the high range (i.e. anxiety is extremely problematic). Respondents scoring lower than 40 are unusually anxiety free. Of the 153 gifted students (62 males and 91 females) in the study, 41.18% ( $n = 63$ ) gifted students scored in the moderate ( $n = 46$ ) to high ( $n = 17$ ) range for anxiety. Reynolds and

Richmond (2008) report “each set of [RCMAS-2] items is sufficiently independent to warrant separate interpretation, follow-up inquiry, and relative comparison across scales” (p. 17). Total (TOT) and physiological (PHY), worry (WOR), and social (SOC) subscale anxiety scores were examined. PHY scale assesses anxiety expressed somatically, including headaches, stomachaches, sleep difficulties, and fatigue. The WOR subscale measures anxious thoughts of a generalized or vague nature, including fears about being hurt or emotionally isolated and oversensitivities to environmental pressures. The SOC scale evaluates anxiety in social and performance situations and is focused on self in relation to others (Reynolds & Richmond, 2008).

Differences between groups, and between the gifted sample and RCMAS-2 norms, on the pre treatment RCMAS-2 full scale (TOT) and each sub-scale (PHY, WOR, SOC) were examined. A crosstabs analysis showed gender was not distributed equally across school typelevel,  $\chi^2(2, N = 153) = 8.35, p = .02$ ; thus, 2x3 ANOVAs were used to isolate the main effects of gender and school typelevel on anxiety. Subgroup anxiety scores were compared to RCMAS-2 norms using t-tests.

### **Total Anxiety**

A 2x3 ANOVA was computed on pre treatment RCMAS-2 TOT scale scores with gender and school typelevel and the interaction (gender\*school typelevel). The interaction term was not significant ( $F [1, 147] = 1.76, p = .173$ ) and was removed from the model. Levene’s test showed equality of variance ( $p = .363$ ) for the resulting 2x3 model. Gender was a significant factor with medium effect size ( $F [1, 149] = 13.52, p < .001, \eta^2 = .08$ ) on pre treatment TOT anxiety scores. Female students ( $n = 91, M = 55.22, SD = 11.04$ ) had significantly higher scores on TOT anxiety pre treatment than males ( $n = 62, M = 46.58, SD = 11.54$ ) across all school type/levels.

School type/level was a significant factor ( $F [2, 149] = 21.41, p < .001, \eta_2 = .23$ ) with a large effect size. A Bonferroni-corrected  $\alpha$  of .017 was used to maintain a group error rate of .05. Post hoc analysis for school type/level showed that students in the PrivateMiddle group ( $n = 58, M = 44.24, SD = 9.72$ ) scored significantly lower for TOT anxiety pre treatment than PublicMiddle ( $n = 43, M = 52.88, SD = 10.29, p < .001$ ) and PublicHigh ( $n = 52, M = 59.10, SD = 10.75, p < .001$ ). Students in the PublicMiddle group scored significantly lower for TOT anxiety pre treatment than students in the PublicHigh group ( $p < .001$ ).

**Normed sample comparison.** Participants' pretreatment TOT anxiety scores were compared to the RCMAS-2 normed sample using one-sample t-tests for each gender and each school type/level. A Bonferroni-corrected  $\alpha$  of .01 was used to maintain a group error rate of .05. Females ( $M = 55.22, SD = 11.04; t [1, 90] = 4.51, p < .001$ ) and PublicHigh gifted students ( $M = 59.10, SD = 10.75; t [2, 51] = 6.10, p < .001$ ) were found to have significantly higher TOT anxiety scores than the normed sample. Students in the PrivateMiddle group had significantly lower TOT anxiety scores, ( $M = 44.24, SD = 9.72; t [2, 57] = -4.51, p < .001$ ). Males ( $M = 46.58, SD = 11.55; t [1, 61] = -2.33, p = .023$ ) and PublicMiddle students ( $M = 52.88, SD = 10.29; t [2, 42] = 1.84, p = .073$ ) had no significant difference from the normed sample.

### **Physiological Anxiety**

A 2x3 ANOVA was computed on pre treatment RCMAS-2 PHY subscale scores with gender and school type/level and the interaction (gender\*school type/level). The interaction term was not significant ( $F [1, 147] = 1.55, p = .215$ ) and was removed from the model. Levene's test showed equality of variance ( $p = .296$ ) for the resulting 2x3 model. Gender was a significant factor with medium effect size ( $F [1, 149] = 11.74, p = .001, \eta_2 = .07$ ) on pre treatment PHY anxiety scores. Female students ( $n = 91, M = 53.47, SD = 10.95$ ) had significantly higher scores

on PHY anxiety pre treatment than males ( $n = 62, M = 45.84, SD = 10.48$ ) across all school type/levels.

School typelevel was also a significant factor ( $F [2, 149] = 19.34, p < .001, \eta_2 = .23$ ) with a large effect size. A Bonferroni-corrected  $\alpha$  of .017 was used to maintain a group error rate of .05. Post hoc analysis for school type/level showed that students in the PrivateMiddle group ( $n = 58, M = 44.10, SD = 9.74$ ) scored significantly lower for PHY anxiety pre treatment than PublicMiddle ( $n = 43, M = 49.95, SD = 9.81, p = .007$ ) and PublicHigh ( $n = 52, M = 57.73, SD = 9.98, p < .001$ ) groups. Students in the PublicMiddle group scored significantly lower for PHY anxiety pre treatment than students in the PublicHigh group, ( $p < .001$ ).

**Normed sample comparison.** Participants' pretreatment PHY anxiety scores were compared to the RCMAS-2 normed sample using one-sample t-tests for each gender and each school type/level. A Bonferroni-corrected  $\alpha$  of .01 was used to maintain a group error rate of .05. Females ( $M = 53.47, SD = 10.95; t [1, 90] = 3.02, p = .003$ ) and PublicHigh students ( $M = 57.73, SD = 9.98; t [2, 51] = 5.59, p < .001$ ) were found to have significantly higher PHY anxiety scores than the normed sample. Males ( $M = 45.84, SD = 10.48; t [1, 61] = -3.13, p = .003$ ) and students in the PrivateMiddle group ( $M = 44.10, SD = 9.74; t [2, 57] = -4.61, p < .001$ ) had significantly lower PHY anxiety scores. PublicMiddle students ( $M = 49.95, SD = 9.81; t [2, 42] = 1.84, p = .075$ ) had no significant difference from the normed sample.

### **Worry Anxiety**

A 2x3 ANOVA was computed on pre treatment RCMAS-2 WOR scale scores with gender and school typelevel and the interaction (gender\*school typelevel). The interaction term was not significant ( $F [1, 147] = .96, p = .387$ ) and was removed from the model. Levene's test showed equality of variance ( $p = .098$ ) for the resulting 2x3 model. Gender was a significant

factor with medium effect size ( $F [1, 149] = 11.34, p = .001, \eta_2 = .07$ ) on pre treatment WOR anxiety scores. Female students ( $n = 91, M = 57.19, SD = 11.18$ ) had significantly higher scores on WOR anxiety pre treatment than males ( $n = 62, M = 48.73, SD = 12.52$ ) across all school type/levels.

School typelevel was a significant factor ( $F [2, 149] = 19.47, p < .001, \eta_2 = .21$ ) with a large effect size. A Bonferroni-corrected  $\alpha$  of .01 was used to maintain a group error rate of .05. Post hoc analysis for school type/level showed that students in the Private Middle group ( $n = 58, M = 46.29, SD = 10.73$ ) scored significantly lower for WOR anxiety pre treatment than PublicMiddle ( $n = 43, M = 55.02, SD = 10.18, p < .001$ ) and PublicHigh ( $n = 52, M = 61.08, SD = 11.23, p < .001$ ) groups. Students in the Public Middle group scored significantly lower for WOR anxiety pre treatment than students in the Public High group ( $p = .015$ ).

**Normed sample comparison.** Participants' pretreatment WOR anxiety scores were compared to the RCMAS-2 normed sample using one-sample t-tests for each gender and each school type/level. A Bonferroni-corrected  $\alpha$  of .01 was used to maintain a group error rate of .05. Females ( $M = 57.19, SD = 11.18; t [1, 90] = 6.13, p < .001$ ), PublicHigh students ( $M = 61.08, SD = 11.23; t [2, 51] = 7.11, p < .001$ ), and PublicMiddle students ( $M = 55.02, SD = 10.18; t [2, 42] = 3.24, p = .002$ ) were found to have significantly higher WOR anxiety scores than the normed sample. Students in the PrivateMiddle group had significantly lower WOR anxiety scores, ( $M = 46.26, SD = 10.73; t [2, 57] = -2.66, p = .010$ ). Males ( $M = 48.73, SD = 12.52; t [1, 61] = -.80, p = .43$ ) had no significant difference from the normed sample.

### **Social Anxiety**

A 2x3 ANOVA was computed on pre treatment RCMAS-2 SOC scale scores with gender and school typelevel and the interaction (gender\*school typelevel). The interaction term was



significant ( $F [1, 147] = 3.23, p = .040$ ), making main effect interpretations more difficult. Thus, to conduct post hoc tests, a new variable (gender\*schooltypelev interaction) was computed with six values: a) FemalePublicMiddle b) FemalePublicHigh, c) FemalePrivateMiddle, d) MalePublicMiddle, e) MalePublicHigh, and f) MalePrivateMiddle. A one-way ANOVA against SOCinitial was then conducted.

Gender\*schooltypelev interaction was a significant factor ( $F [5, 147] = 8.30, p < .001$ ). Levene's test showed equality of variance ( $p = .061$ ) for the resulting model. A Bonferroni-corrected  $\alpha$  of  $p = .003$  was used to maintain a group error rate of .05. Post hoc analysis showed that students in the FemalePrivateMiddle ( $n = 26, M = 45.96, SD = 9.30$ ) and MalePrivateMiddle ( $n = 32, M = 43.13, SD = 7.63$ ) scored significantly lower for SOC anxiety pre treatment than FemalePublicHigh ( $n = 36, M = 56.83, SD = 8.74, p < .001$ ). MalePrivateMiddle and MalePublicHigh ( $n = 16, M = 47.06, SD = 9.55$ ) scored lower than FemalePublicMiddle ( $n = 29, M = 50.79, SD = 9.69, p < .05$  for both), but did not meet the Bonferroni correction for significance. MalePublicMiddle ( $n = 14, M = 51.36, SD = 14.27$ ) did not score significantly different for any group.

**Normed sample comparison.** Participants' pretreatment SOC anxiety scores were compared to the RCMAS-2 normed sample using one-sample t-tests for each gender\*schooltypelev interaction value. A Bonferroni-corrected  $\alpha$  of .008 was used to maintain a group error rate of .05. Students in the FemalePublicHigh ( $M = 56.83, SD = 8.74; t [1, 35] = 4.69, p < .001$ ) were found to have significantly higher SOC anxiety scores than the normed sample. MalePrivateMiddle ( $M = 43.13, SD = 7.63; t [1, 31] = -5.10, p < .001$ ) had significantly lower SOC anxiety scores. FemalePrivateMiddle ( $M = 45.96, SD = 9.30; t [1, 25] = -2.21, p = .036$ ) was lower than the norm, but did not meet the Bonferroni correction for significance.

MalePublicMiddle ( $M = 51.36$ ,  $SD = 14.28$ ;  $t [1, 13] = .36$ ,  $p = .73$ ), FemalePublicMiddle ( $M = 50.79$ ,  $SD = 9.69$ ;  $t [1, 28] = .44$ ,  $p = .66$ ), MalePublicHigh ( $M = 47.06$ ,  $SD = 9.55$ ;  $t [1, 15] = -1.23$ ,  $p = .29$ ) had no significant difference from the normed sample.

### **Differences in Intervention Group Outcomes**

Participants scoring in the moderate to high range on the pre treatment RCMAS-2 were randomly assigned to one of three treatment groups: 1) CBT, 2) EFT, or 3) a wait-listed control group. Results of a one-way ANOVA on TOTin showed no significant differences pretreatment ( $F [2, 59] = .834$ ,  $p = .439$ ) between treatment groups: CBT ( $n = 21$ ,  $M = 63.81$ ,  $SD = 6.03$ ), EFT ( $n = 20$ ,  $M = 63.75$ ,  $SD = 6.73$ ), and Control ( $n = 21$ ,  $M = 61.62$ ,  $SD = 5.95$ ). Treatment outcomes were assessed using the RCMAS-2 post treatment (TOTf) scores. The independent variable was the type of treatment modality (i.e. CBT, EFT, or control) received by the participants. The dependent variable was the post treatment RCMAS- 2 total (TOTf) scores. Post treatment RCMAS-2 was administered to each participant after receiving three individual skill development sessions in the assigned modality. Pre treatment RCMAS-2 (TOTin) scores, administered before the intervention sessions, were used as a covariate to control for individual differences.

A one-way, between-groups ANCOVA was conducted to compare treatment effectiveness on anxiety levels in gifted students, grades 6 – 12. The ANCOVA was computed on post treatment RCMAS-2 TOTf scores with TOTin and intervention and the interaction (TOTin\*intervention). The interaction term was not significant ( $F [2, 56] = .094$ ,  $p = .911$ ) and was removed from the model. Preliminary checks were conducted to ensure that there was no violation of assumptions of normality, linearity, homogeneity of variances, homogeneity of variances, homogeneity of regression slopes, and reliable measurement of the covariate.

Levene's test showed equality of variance ( $p = .058$ ) for the resulting model. TOTin was a significant covariate ( $F [1, 58] = 17.47, p < .001, \eta_2 = .23$ ), explaining 23% of the variance in TOTf scores. Intervention was a significant factor ( $F [2, 58] = 4.186, p = .020, \eta_2 = .12$ ) with a large effect size.

During the post-hoc analysis, a Bonferroni-corrected  $\alpha$  of  $p = .016$  was used to maintain a group error rate of .05. Students in the EFT treatment group ( $n = 20, M = 52.163, SE = 1.42$ ) had significantly lower post treatment TOTf scores than students in the Control group ( $n = 21, M = 57.93, SE = 1.39, p = .005$ ). Post treatment TOTf scores for students in the CBT treatment group ( $n = 21, M = 54.82, SE = 1.38$ ) were lower than scores for students in the Control group and slightly higher than scores for students in the EFT group, but neither difference was significant ( $p = .12$  and  $p = .18$ , respectively).

## Chapter 5

### Discussion and Implications

This chapter presents a summary of the study and important conclusions drawn from the findings presented in Chapter 4. Implications, limitations, and directions for future research are also discussed.

The issue of anxiety and gifted students has yet to be fully understood and research has been limited. This study: a) examined the extent to which gifted youth experienced anxiety across gender and school setting, as well as compared to a normed population, and b) conducted a randomized, controlled investigation of CBT versus EFT treatment effectiveness for those gifted youth identified as experiencing moderate to high levels of anxiety based on their RCMAS-2 full scale (TOT) anxiety scores. Research questions included:

- 1) How did the anxiety of gifted students, as measured by their pre treatment RCMAS-2 scores, differ by gender and school type/level, as well as compared to a normed sample?
- 2) How did CBT, EFT, and control group outcomes differ for gifted students, grades 6-12, as measured their post treatment RCMAS-2 anxiety scores?

Hypotheses included that:

- The anxiety levels experienced by gifted students would differ by school type, school level, and gender,
- When compared to the control group, the participants in both the CBT and EFT groups would experience a reduction in anxiety, and
- Intervention outcomes for the EFT group would be at least equivalent to the CBT group.

## Study Summary

Anxiety creates a state of mental uneasiness or concern that causes physical and psychological discomfort. Extreme anxiety disrupts cognitive flow impeding concentration, unsettling behavior, interfering with perception, and interrupting information processing and creative endeavors. This study used the RCMAS-2 to investigate the anxiety levels of 153 gifted youth, grades 6 – 12, in both public and private school settings. The RCMAS-2 is one of the most extensively used anxiety scales for children (Silverman & Treffers, 2004), having adequate to excellent reliability and excellent validity. RCMAS-2 scores were reported as T-scores. RCMAS-2 scores of 60 or lower are considered in the normal to low range (i.e. anxiety is no more problematic than for most students), 61-70 are considered in the moderate range (i.e. anxiety is moderately problematic), and 71 or higher are considered in the high range (i.e. anxiety is extremely problematic). Respondents scoring lower than 40 are unusually anxiety free.

Total (TOT) anxiety scores, as well as physiological (PHY), worry (WOR), and social (SOC) subscale scores were examined. Each subscale has been shown to be sufficiently independent to merit separate interpretation (Reynolds & Richmond, 2008). The TOT anxiety score measures overall anxiety, while the subscales examine different aspects of anxiety.

The PHY subscale assesses anxiety expressed somatically, including headaches, stomachaches, sleep difficulties, and fatigue. Elevated scores on this subscale suggest that anxiety is experienced physiologically. The WOR subscale measures anxious thoughts of a generalized or vague nature, including fears about being hurt or emotionally isolated and oversensitivities to environmental pressures, as well as generalized fear or nervousness. Higher scores in this area indicate a high degree of internalization of anxiety and difficulty relieving the anxious feelings. The SOC scale evaluates anxiety in social and performance situations, focusing

on self in relation to others. Children with elevated scores on this subscale often feel unable to live up to high expectations and/or have fears of not being good or capable enough, as well as disappointing others (Reynolds & Richmond, 2008).

Past qualitative, clinical, and case studies (Amend, 2009; Baum & Olenchak, 2002; Daniels & Meckstroth, 2009; Fehm & Schmidt, 2006; Mendaglio, 2007; Moon, 2002; Peterson et al., 2009; Peterson et al., 2012; Rogers & Silverman, 1997; Silverman, 1993; Silverman & Conarton, 2005; Schuler, 2000, 2002; Tsui & Mazzocco, 2007) have suggested that gifted youth have a variety of unique characteristics and needs that make them more susceptible to anxiety. Past quantitative research (Bracken & Brown, 2006; Cross et al., 2004; Cross et al., 2008; Forsyth, 1987; Martin et al., 2010; Reynolds & Bradley, 1983; Richards et al., 2003; Scholwinski & Reynolds, 1985; Tong & Yewchuk, 1996) has been limited with conflicting results regarding the extent to which gifted youth experience anxiety. Only a few of the previous quantitative studies have examined the differences in anxiety levels by gender (Cross et al., 2008; Forsyth, 1987; Tong & Yewchuk, 1996) or discussed the potential effect of school setting (Cross et al., 2004) to help explain their outcomes. The present study contributes to the existing body of knowledge by examining anxiety among gifted students across gender and school setting, as well as comparing the treatment effectiveness of CBT and EFT. Results of the present study were mixed and revealed some intriguing patterns of anxiety related to gifted students that may help to better understand the conflicting findings in previous studies.

### **Differences in Anxiety Levels**

An interaction effect between gender and school setting was found for SOC anxiety scores, but not for TOT, PHY, or WOR. Results on the SOC subscale were reflective of what is already known regarding the increased importance of peer group referencing and self-to-other

comparisons during adolescence (Erikson, 1994; Santrock, 2012), especially for females. These results were also consistent with Cross et al. (2008) findings that gifted adolescents were not significantly different from general population peers relative to the level of their social discomfort.

### **Higher Anxiety Results**

When disaggregated by gender and school setting, results of the present study revealed that the levels of anxiety experienced by gifted students differed significantly based on gender and school setting. When considered by gender, gifted females in the present study had significantly higher scores on TOT, WOR, and PHY than gifted males across all school settings, especially in public high schools, as well as compared to the normed sample. This pattern continued related to SOC subscale scores for gifted female public high school students, as they scored significantly higher when compared to gifted male and female private middle school students, as well as the normed sample.

These TOT, PHY, and WOR results support previous quantitative findings of higher levels of anxiety for gifted females from studies that considered their results by gender (Forsyth, 1987; Martin, Burns, & Schonlau, 2010; Tong & Yewchuk, 1996). Of these studies, two (Forsyth, 1987; Tong & Yewchuk, 1996) utilized samples from public school settings, while the other (Martin et al., 2010) was a meta-analysis of quantitative studies, some of which occurred in public and others in private school settings. Further, findings related to the SOC subscale scores of high-ability females in this study coincide with an investigation by Cross, Speirs Neumeister, and Cassady (2007) indicating that gifted females tended to be more extrovertly oriented, while gifted males were more inclined towards introversion, suggesting that gifted females may more frequently engage in self-to-other comparisons. Higher SOC scores also support previous

research by Reis and Park (2001) that indicated gifted female adolescents had lower self-concepts and were more frequently influenced by teachers than gifted males.

When considered by school setting, gifted public high school students in the present study scored significantly higher than the general population normed sample on TOT anxiety scores, as well as PHY and WOR subscale scores. Overall, elevated WOR scores occurred most frequently. These results support previous assertions (Mendaglio, 2007; Peterson et al., 2009; Silverman, 1993) that gifted students experience higher levels of anxiety.

### **Lower Anxiety Results**

Conversely, in addition to scoring significantly lower than gifted females across all school settings, gifted males showed no significant differences on TOT or WOR and significantly lower PHY scores than the normed sample. Gifted middle school students in both private and public school settings had consistently lower anxiety scores than gifted public high school students across TOT, PHY, and WOR anxiety scores. When compared to the normed sample, gifted public middle school students showed no significant difference on TOT and PHY scores, but significantly higher scores on the WOR subscale, while gifted private middle school students showed significantly lower scores TOT, PHY, and WOR scales. Additionally, gifted male students in private school settings presented significantly lower anxiety scores than the normed sample on the SOC subscale. These findings correspond with previous quantitative studies (Bracken & Brown, 2006; Cross et al., 2004; Cross et al., 2008; Martin et al., 2010; Reynolds & Bradley, 1983; Richards et al., 2003; Scholwinski & Reynolds, 1985) that gifted youth showed no significant difference or significantly lower anxiety than general populations.

Cross et al. (2004) have posited that school setting may contribute to positive psychological development over time. Results of the present study suggest a similar conclusion



as the gifted students in the private middle school group had significantly lower anxiety when compared to gifted students in public school settings, as well as the normed sample. Factors contributing to lower levels of anxiety for gifted students in these settings need to be more fully investigated and should include an assessment of factors such as quantity and quality of resources and staff-to-student ratios, as well as the impact of homogeneous environment or groupings on anxiety levels.

Hébert (2011) and Moon (2002) suggest that traditional school environments can contribute to anxiety for gifted students due to lack of challenge or meaningful stimulation, a lack of understanding by school personnel about the unique needs and characteristics of the gifted child, and/or peers who do not value or are unsupportive of achievement. Further, traditional school settings often highlighted issues related to asynchronistic development, which involves the gifted student continually feeling mismatched in some way to his/her environment. Often their cognitive and talent development require greater stimulation for these students than typically occurs with age-related peers, while paradoxically their social and emotional needs best fit with youth who are of similar age chronologically (Silverman, 1993, 1996; Silverman & Conarton, 2005). Further research is needed to assess the extent to which more homogeneous environments, and factors like asynchronistic development, affect anxiety levels for gifted students.

### **Differences in Intervention Group Outcomes**

Attentional control theory (Eysenck et al., 2007) and stress response research (Sapolsky, 1996, 2003, 2004) indicate that anxiety is detrimental to cognitive functioning. Anxiety interferes with goal-directed attention and thinking, decreasing one's ability to concentrate, think clearly, access existing knowledge, and/or process new information (Blanchette & Richards,

2010; Eysenck et al., 2007). Without buffers to mitigate the stress response, individuals can develop increased anxiety, mood swings, and bursts of hyper-vigilance that negatively affect concentration and creative productivity (Sapolsky, 2003). The fight or flight response associated with anxiety has been shown to negatively impact one's ability to function cognitively (Banks, 2005; LeDoux, 2002; Sapolsky, 2004; Teicher et al., 2002), further hindering the divergent thinking processes associated with the gifted experience for affected youth (Silverman & Conarton, 2005). On a cellular, as well as psychological level, resources normally involved in supporting the cognitive processes are diverted to address the stress and anxiety experienced. If not effectively managed, the impact of anxiety can be significant for gifted students.

The unique characteristics of gifted students can be a source of strength that enhances their motivation and task commitment or anxiety that impedes their creative productivity and emotional well-being (Moon, 2007; Webb et al., 2005). According to Dabrowski's (1964) Theory of Positive Disintegration, anxiety can be an integral component to psychological growth and advanced development and can ultimately lead to the development of creativity, compassion, positive social capital, innovative problem solving, motivation for personal growth, and altruistic tendencies guided by morals and values given the right conditions and supports (Amend, 2009; Mendaglio, 2007). Developing effective strategies to manage anxiety and stress can be beneficial for all gifted students, especially those for whom anxiety has become problematic.

Left untreated, difficulty with anxiety in childhood can lead to long-term mental health concerns as adults (Herbert et al., 2009). Research has shown that the adverse effects of anxiety on performance can be reduced or eliminated with the utilization of effective resources (Eysenck, 2010). CBT is currently the gold standard of treatment for adolescent anxiety. However, researchers have noted that presently "a substantial proportion of the children and adolescents do

not respond to psychological and pharmacological interventions” (Muris & Broeren, 2008, p. 393). Clinical observation and quantitative EFT study outcomes have shown promise for the effective treatment of anxiety in adults, producing significant reductions of symptoms long-term with fewer required sessions than CBT (Feinstein, 2012). However, little research currently exists on its effectiveness with adolescents, nor does any study presently directly compare CBT and EFT using a randomized, controlled design. This study contributes to the existing research on treatment effectiveness of EFT compared to CBT on anxiety by 1) focusing on an adolescent population, 2) using research-based treatment protocols for both CBT and EFT, and 3) including a control group to more fully assess treatment outcomes.

Using a randomized, controlled research design, this study investigated the effectiveness of CBT and EFT treatment interventions for gifted students scoring in the moderate to high range for anxiety on the pre treatment RCMAS-2 TOT anxiety score. CBT assists clients to cognitively reframe their interpretations and neutralize their psychological and emotional responses to present stimuli through awareness building and systematic desensitization processes (Corey, 2005). Emotional freedom technique (EFT) utilizes similar CBT techniques, replacing the use of traditional CBT relaxation techniques with teaching the participant to stimulate protocol-identified acupoints combined with key phrases from the participant’s assessment of his/her issues (Craig, 2011; Feinstein 2004) to decrease anxiety. In this study, random assignment of study participants to treatment groups was used to support unbiased estimates of the average treatment effect (Rosenbaum, 1995).

According to Shadish et al. (2002), causal inference is better supported if treatment groups are equal at pretest and the cause (e.g. TOTin) covaries with the effect (e.g. TOTf). This study met these conditions through: 1) administration of the initial RCMAS-2 pretreatment and

2) permuted randomized assignment of participants based on RCMAS-2 TOT anxiety scores. Permuted randomization assisted with the mitigation of biased treatment group assignment by allowing for restricted distribution of participants, maintaining equity in the number of participants assigned to each group, and ensuring that the order in which groups were assigned each time was randomized to minimize assignment bias (Friedman et al., 1998). Additionally, a one-way between groups ANOVA on TOT<sub>in</sub> confirmed that groups were equal prior to treatment and a between-groups ANCOVA confirmed a strong covariance ( $\eta^2 = .23$ ) between TOT<sub>in</sub> and TOT<sub>f</sub>. These conditions suggest that it is highly probable that treatment outcomes in this study were the result of the type of treatment (e.g. CBT, EFT, control) received.

Between-groups ANCOVA analysis, with the pre treatment TOT anxiety score as a covariate, was used to assess differences in treatment outcomes. Results showed that 1) students in the EFT intervention group scored significantly lower than students in the control group; 2) students in the CBT intervention group scored lower than those in the control group, but did not meet the level needed for significance; and 3) the EFT and CBT outcome scores did not differ significantly.

The significant reduction in anxiety levels for the EFT intervention group is consistent with previous EFT studies (Church & Brooks, 2010; Church et al., 2012; Palmer-Hoffman & Brooks, 2011; Rowe, 2005) that have measured the impact of EFT on psychological distress. Further, it mirrors the findings of several studies (Church et al., 2012, Wells et al., 2003) using biophysical markers that indicated a physical reduction in stress. This study contributes to the growing body of research supporting the promise of EFT as an effective treatment modality.

## **Implications**

Results of this study indicated that levels of anxiety experienced by gifted students differ based on gender and school setting. Differences in anxiety scores for gifted students between middle and high school settings indicate that early training in effective stress and anxiety management strategies may be beneficial. Goal-oriented, strength-based, short-term interventions during middle school or earlier would allow gifted students to develop skills to build resiliency and utilize their unique skill sets to effectively manage anxiety long-term, as well as better maximize their talent potentials. As elevated anxiety scores occurred most frequently related to the PHY and WOR subscales, counseling focused on assisting gifted adolescents to identify their physical signs of stress, normalize the experience of stress and anxiety through education and discussion, and teach effective stress anxiety management strategies would be beneficial. Further study is needed to assess the differences between anxiety levels of gifted middle and high school students.

Results of this study also suggest that counseling support for gifted females, especially as they transition into and through high school, is important. Teaching them effective tools to assist with identifying both internal and external stressors contributing to their anxiety, managing conflicting roles and interests, and building confidence in their abilities and decision-making skills would be beneficial. Additionally, group counseling sessions can be used to increase resiliency and camaraderie as they address multiple tasks and roles while manifesting their potentials could be helpful. Further study is needed to investigate the differences seen in anxiety levels of gifted males and females, as well as contributing factors and gender differences in stress and anxiety management.

EFT demonstrated promise in effectively treating anxiety with relatively few sessions for gifted students in grades 6 -12. School counselors, psychologists, and social workers often have limited time and resources to effectively assist students struggling with anxiety and teach effective stress management strategies. EFT has the potential to provide an effective protocol to address anxiety and stress management in such settings. Further study is needed with larger sample sizes, including populations of both gifted and average ability students to assess generalizability. Assisting students to develop effective anxiety and stress management techniques early in their lives can support maximum development of talent potential and prevent persistent difficulties with impairment into adulthood.

Significant differences in anxiety levels experienced by gifted students in private versus public school settings suggest the need to more fully consider the benefits of homogeneous groupings, as well as more fully assess factors contributing to these differences.

### **Limitations**

Several limitations existed in this study. While broadly defining giftedness allowed for a more comprehensive sample of gifted and talented students, this study did not limit participation in this study to IQ scores and the results of this study are not differentiated based on degree of intellectual giftedness. The limited number of training sessions ( $n = 5$ ) for the graduate students delivering the interventions and intervention sessions ( $n = 3$ ) for each participant could have limited treatment outcomes. Future studies would benefit from having increased training periods and 10 -12 interventions sessions. As the RCMAS-2 was used both pre and post treatment and does not have a parallel form, test biasing is a concern; however, randomized assignment of participants helped to minimize this concern. Additionally, analyses completed and outcomes of the TOTf in the control group suggest that test biasing was not an issue in this study. However,

future studies should consider increased outcomes measures, as well as additional intervals to assess post treatment outcomes (e. g. one month, six months, and/or one year post treatment). A post hoc analysis of power using G\*power software found that the study was underpowered (38%), indicating that treatment effectiveness may have been under assessed; thus, additional studies should include larger sample sizes. Finally, the sample was limited to gifted students and not balanced by ethnicity, thus generalizability is limited.

### **Future Directions**

As follow-up to the present study, a qualitative study is currently underway to assess differences in gifted students' experiences of CBT and EFT interventions. Additionally, preparation of a template for a grant application to fund a more comprehensive study of CBT and EFT treatment effectiveness has been completed with a short-term goal of securing additional funding to replicate the present study using a larger sample size, increased length of trainings and intervention sessions, and expanded outcome measures. It is hoped that the present pilot study and follow-up study can be utilized to secure a long-term National Institute Mental Health (NIMH) grant in the future.

Results of this study indicate that further research related to anxiety and gifted students is warranted in several ways. Further investigation of gender, school setting, and age differences in anxiety experienced; contributing stressors; and stress and anxiety management would be beneficial. Additionally, a longitudinal study could be conducted to assess changes in anxiety levels for gifted students, especially females, as they transition through the middle and high school years. Results could contribute to development of better supports and may suggest programming considerations. Finally, further research to examine differences in anxiety levels

for gifted students in homogeneous versus heterogeneous groupings may reveal beneficial programming and curricular considerations to best meet the unique needs of gifted students.

Results of this pilot study also support further research related to treatment effectiveness that includes: a) a longer training period (e.g. 10-12 meetings including practice sessions), b) an increased number of treatment sessions, c) additional outcome measures, and d) a larger samples size that includes both gifted and average-ability students, to more fully assess generalizability of results seen in this study. Based on the length of treatment time usually required in traditional counseling modalities, 10 -12 individual treatment sessions per client would be ideal. To more comprehensively assess treatment outcomes, outcome measures should be expanded to include: a) the Social Phobia and Anxiety Inventory for Children (SPAI-C) in addition to the RCAMS-2, b) a parent report form, c) a teacher report form, and d) biophysical markers such as neuroimaging and cortisol level indicators. Finally, as imaging technology becomes more refined and advanced, further research should be conducted to more fully assess the mechanisms involved in acupoint stimulation during counseling.

## **Conclusion**

### **Anxiety and Gifted Students**

Results revealed that levels of anxiety experienced by gifted students differ based on gender and school setting. Overall, gifted public high school students scored significantly higher than the general population normed sample on TOT anxiety scores, as well as PHY and WOR subscale scores, with the WOR showing the greatest frequency. Gifted females had significantly higher scores on TOT, WOR, and PHY than gifted males across all school settings, as well as compared to the normed sample, especially in the public high school setting. In addition to scoring significantly lower than gifted females across all school settings, gifted males showed no



significant differences on TOT or WOR and significantly lower PHY scores than the general population normed sample. Gifted middle school students in both private and public school settings had consistently lower anxiety scores than gifted high school students across TOT, PHY, and WOR anxiety scores. When compared to the normed sample, gifted public middle school students showed no significant difference on TOT and PHY scores, but significantly higher scores on the WOR subscale, while gifted private middle school students showed significantly lower scores TOT, PHY, and WOR scales. Additionally, gifted male students in private school settings showed significantly lower anxiety scores than the normed sample on the SOC subscale.

### **CBT and EFT Intervention Effectiveness**

Research to clarify issues of anxiety for gifted students and provide appropriate proactive interventions are needed to assist gifted students negatively affected by anxiety to overcome these challenges and maximize their fullest talent potentials. The present study contributes to the existing body of knowledge by examining anxiety and gifted students across gender and school setting, as well as comparing the treatment effectiveness of CBT and EFT. Results of this study indicated that anxiety experienced by gifted students varied by gender and school setting, suggesting the importance of considering both when determining levels of need and support. Additionally, treatment outcome results of this study suggest that effective, short-term interventions are possible to enhance students' stress management skills and reduce anxiety. Excessively high caseloads of school counselors, psychologists, and social workers, as well as scheduling difficulties, limit the amount of time available for these professionals to provide individual counseling support long-term. More effective treatment interventions are needed to assist students to effectively manage their anxiety and develop the skills necessary to manage stress throughout their lives. EFT shows promise in providing effective stress management and

anxiety reduction for gifted students within a few sessions. Further, results of the CBT group suggest that students can also experience some reduction in anxiety using CBT techniques.

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## Appendix A

### Letter of Invitation for Schools/Districts

Dear \_\_\_\_\_,

Dr. Sally Reis, Vice Provost for Academic Affairs at UConn and leading expert on gifted youth, recommended contacting you based on your school/district's strong commitment to innovative programs in support of student excellence and optimal development. As researchers at the University of Connecticut Neag School Counseling Psychology and Gifted and Talented Education programs, we are writing to invite your school/district to participate in a research-based study investigating the levels of stress and anxiety experienced by gifted youth, as well as the effectiveness of stress intervention strategies for gifted youth in grades 6-12.

Stress is a reality of daily life with a range of possible effects, including catalyzing students to excel or limiting their potential due to resulting anxiety. Studies have shown that youth experiencing chronic stress and/or anxiety can have difficulty maintaining attention, processing information, and producing work. For some, this can even result in behavioral problems and/or school absenteeism. However, with the right tools, students can learn to effectively manage stress and anxiety, minimizing the negative impacts and helping them refocus on excelling. Effective stress management is an important part of assisting high-ability students to function well in schools and optimize their potentials. Your participation in this study will help researchers better understand the effects of stress on gifted students and identify effective stress management strategies that can be easily incorporated into their daily lives.

Should you agree to have your school/district participate in this study, your school(s) will be asked to:

- Identify a school contact person for the researcher to communicate with regarding the study details and follow-up
- Mail informational material provided by the researchers to gifted students and their parents/guardians to inform them of the study
- Provide space within the school for the researcher to meet with the students and their parents/guardians for an informational meeting about the study and to administer brief initial and final study assessments.

Students interested in participating in the study will be asked to:

- Attend an informational session with their parent(s) or guardian about the study (arrangements will be made for those interested in participating, but who cannot attend this meeting)
- Sign an assent form (or consent form if they are age 18) agreeing to participate in the study
- Take a brief initial assessment to determine their levels of stress/anxiety
  
- For those students scoring in the moderate to high range on the initial assessment:
  - Participate in one of three randomly-assigned interventions: cognitive-behavioral therapy (CBT), emotional freedom technique (EFT), or control group
  - For the CBT or EFT assigned students - Receive three individual skill development sessions at one of the University of Connecticut campus sites at a time convenient for the family and outside of the school day for the student
  - For the control group students - Attend a single group skill development session after the CBT and EFT participants have completed their individual sessions

- All participating CBT, EFT, and control group students - Complete a brief final post intervention assessment

Parents/Guardians interested in having their student participate in the study, will be asked to:

- Attend an informational session with their student about the study (arrangements will be made for those interested in participating, but who cannot attend this meeting)
- Sign a permission form allowing their student to participate in the study
- Transport their student to his/her skill development session(s) at an agreed-upon University of Connecticut site at a time convenient for the family and outside of the school day for the student

We look forward to speaking with you further about this exciting opportunity for your school/district to participate in this study. We will be following up with you shortly. In the meantime, we can be reached at the email addresses and phone numbers below should you have any additional questions. Thank you for your consideration and time.

Best Regards,

Dr. Orv C. Karan  
Professor and Program Coordinator of Counseling Program  
ORVILLE.KARAN@uconn.edu  
860-486-0207

Amy H. Gaesser, MS Ed, CAS, NCC  
Doctoral Graduate Assistant, Counseling and Gifted Education Programs  
amy.gaesser@uconn.edu  
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Department of Educational Psychology  
Neag School of Education – Unit 3064C  
University of Connecticut  
249 Glenbrook Road  
Storrs, CT 06269-3064

## Appendix B

### Letter of Invitation for Connecticut Association for the Gifted (CAG)

Dear \_\_\_\_\_,

Dr. Sally Reis, Vice Provost for Academic Affairs at UConn and leading on gifted youth, recommended contacting you based on your organization's strong commitment to innovative programs in support of student excellence and optimal development. As researchers at the University of Connecticut Neag School Counseling Psychology and Gifted and Talented Education programs, we are writing to invite your organization to participate in a research-based study investigating the levels of stress and anxiety experienced by gifted youth in grades 6 - 12, as well as the effectiveness of stress intervention strategies for gifted youth.

Stress is a reality of daily life with a range of possible effects, including catalyzing students to excel or limiting their potential due to resulting anxiety. Studies have shown that youth experiencing chronic stress and/or anxiety can have difficulty maintaining attention, processing information, and producing work. For some, this can even result in behavioral problems and/or school absenteeism. However, with the right tools, students can learn to effectively manage stress and anxiety, minimizing the negative impacts and helping them refocus on excelling. Effective stress management is an important part of assisting high-ability students to function well in schools and optimize their potentials. Your participation in this study will help researchers better understand the effects of stress on gifted students and identify effective stress management strategies that can be easily incorporated into their daily lives.

Should you agree to have your organization participate in this study, you will be asked to:

- Post the enclosed study announcement on the Connecticut Association for the Gifted website from September 15, 2013 through November 1, 2013

Students interested in participating in the study will be asked to:

- Attend an informational session with their parent(s) or guardian about the study (arrangements will be made for those interested in participating, but who cannot attend this meeting)
- Sign an assent form (or consent form if they are age 18) agreeing to participate in the study
- Take a brief initial assessment to determine their levels of stress/anxiety
- For those students scoring in the moderate to high range on the initial assessment:
  - Participate in one of three randomly-assigned interventions: Cognitive-Behavioral (CBT), Emotional Freedom Technique (EFT), or control group
  - For the CBT or EFT assigned students - Receive three individual skill development sessions at one of the University of Connecticut campus sites at a time convenient for the family and outside of the school day for the student

- For the control group students - Attend a single group skill development session after the CBT and EFT participants have completed their individual sessions
- All participating CBT, EFT, and control group students - Complete a brief final post intervention assessment

Parents/Guardians interested in having their student participate in the study, will be asked to:

- Attend an informational session with their student about the study (arrangements will be made for those interested in participating, but who cannot attend this meeting)
- Sign a permission form allowing their student to participate in the study
- Transport their student to his/her skill development session(s) at an agreed-upon University of Connecticut site at a time convenient for the family and outside of the school day for the student

We look forward to speaking with you further about this exciting opportunity for your organization to participate in this study. We will be following up with you shortly. In the meantime, we can be reached at the email addresses and phone numbers below should you have any additional questions. Thank you for your consideration and time.

Best Regards,

Dr. Orv C. Karan  
Professor and Program Coordinator of Counseling Program  
ORVILLE.KARAN@uconn.edu  
860-486-0207

Amy H. Gaesser, MS Ed, CAS, NCC  
Doctoral Graduate Assistant, Counseling and Gifted Education Programs  
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Department of Educational Psychology  
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University of Connecticut  
249 Glenbrook Road  
Storrs, CT 06269-3064

## Appendix C.1

Dear Parent or Guardian,

Enclosed you will find information about a study being conducted by the University of Connecticut Neag School of Education entitled *Addressing Stress Management for Gifted Children and Adolescents*. You and your child are invited to a meeting about the study on \_\_\_\_\_ at \_\_\_\_\_ at \_\_\_\_\_.

The purpose of this study is to gain a better understanding of the relationship between stress, anxiety, and gifted youth. Additionally, for children and adolescents experiencing moderate to high anxiety, this study will evaluate the effectiveness of two skill development programs to assist gifted students in managing stress and anxiety. Children participating in the skill development interventions will receive financial compensation for their participation.

This study is being conducted by Amy H. Gaesser, Doctoral Research Assistant, Counseling Psychology and Gifted Education Programs, under the direction of Dr. Orv C. Karan, Professor and Program Coordinator of Counseling Program.

If you cannot attend the informational meeting or you would like more time after the meeting to decide, you can review the forms at home with other family members, and/or call the principal investigator, Dr. Orv Karan, at 860-486-0207 or student investigator, Amy Gaesser, at 860-341-1190 to discuss the study further. If you then decide you would like your child to participate, you can either:

1. Have both you and your child sign the form(s) agreeing to participate and mail them back to:

Amy Gaesser  
Neag School of Education  
Department of Educational Psychology  
249 Glenbrook Road, Unit 3064C  
Storrs, CT 06269-3064  
OR

2. Return the signed form(s) to \_\_\_\_\_ located in Room \_\_\_\_\_.

Best Regards,  
Dr. Orv C. Karan  
Professor and Program Coordinator of Counseling Program  
ORVILLE.KARAN@uconn.edu  
860-486-0207

Amy H. Gaesser, MS Ed, CAS, NCC  
Doctoral Graduate Assistant, Counseling and Gifted Education Programs  
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Department of Educational Psychology  
Neag School of Education – Unit 3064C  
University of Connecticut  
249 Glenbrook Road  
Storrs, CT 06269-3064

## Appendix C.2

Dear Parent or Guardian,

Enclosed you will find information about a study being conducted by the University of Connecticut Neag School of Education entitled *Addressing Stress Management for Gifted Children and Adolescents*. This study is being conducted by Amy H. Gaesser, Doctoral Research Assistant, Counseling Psychology and Gifted Education Programs, under the direction of Dr. Orv C. Karan, Professor and Program Coordinator of Counseling Program.

You and your child are invited to a meet with student investigator, Amy H. Gaesser, at your school to discuss the study and answer any questions you may have. If you would like to schedule a meeting, please call her at 860-341-1190.

The purpose of this study is to gain a better understanding of the relationship between stress, anxiety, and gifted youth. Additionally, for children and adolescents experiencing moderate to high anxiety, this study will evaluate the effectiveness of two skill development interventions to assist gifted students in managing stress and anxiety. Children participating in the skill development interventions will receive financial compensation for their participation.

If you cannot attend an informational meeting or you would like more time after the meeting to decide, you can review the forms at home with other family members, and/or call the principal investigator, Dr. Orv Karan, at 860-486-0207 or student investigator, Amy Gaesser, at 860-341-1190 to discuss the study further.

If you then decide you would like your child to participate, please have you and your child sign the form(s) agreeing to participate. Place them in the enclosed pre-addressed and stamped envelope and mail them back to:

Amy Gaesser  
Neag School of Education  
Department of Educational Psychology  
249 Glenbrook Road, Unit 3064C  
Storrs, CT 06269-3064

Best Regards,  
Dr. Orv C. Karan  
Professor and Program Coordinator of Counseling Program  
ORVILLE.KARAN@uconn.edu  
860-486-0207

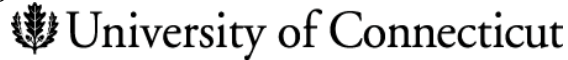
Amy H. Gaesser, MS Ed, CAS, NCC  
Doctoral Graduate Assistant, Counseling and Gifted Education Programs  
amy.gaesser@uconn.edu  
860-341-1190

Department of Educational Psychology  
Neag School of Education – Unit 3064C  
University of Connecticut  
249 Glenbrook Road  
Storrs, CT 06269-3064

## Appendix D.1

### Parent/Guardian Permission Form for Participation in a Research Study

**Principal Investigator:** Orv C. Karan, PhD



**Student Researcher:** Amy H. Gaesser, MS Ed, CAS

**Study Title:** Addressing Stress Management for Gifted Children and Adolescents

#### **Introduction**

Your child is invited to participate in a research study to address stress management for gifted students in grades 6 - 12. Your child is being invited to participate because he/she has been identified by the school as being a gifted student

This permission form will give you the information you will need to understand why this study is being done and why your child is being invited to participate. It will also describe what your child will be asked to do to participate and any known risks, inconveniences or discomforts that your child may have while participating. We encourage you to take some time to think this over and to discuss it with your child. We also encourage you to ask questions now and at any time. If you decide to give your child permission to participate, you will be asked to sign this form. If your child is between 12 – 17 years old, he/she will be asked to sign the assent line on this form. If your child is 10 or 11 years old, he/she will be asked to sign a separate assent form that is written at his/her age level. Your signatures will be a record of your permission to allow your child to participate and your child's agreement to participate. You will be given a copy of the form(s) you and your child sign.

#### **Why is this study being done?**

The issue of stress, anxiety and gifted students has yet to be fully understood and research has been limited. It is important for educators and mental health providers to better understand the unique characteristics of gifted youth, how they are affected by stress and anxiety, and effective stress management skills to assist them when needed.

Research suggests that gifted youth have a variety of unique academic, social, and emotional needs. These differences can be a source of strength that improves their motivation and task commitment or stress and anxiety that interferes with their emotional well-being and ability to be creative. Researchers have shown that stress makes it harder for people to learn, concentrate, be creative, and accurately judge situations. This can be especially frustrating for gifted students. To best support the talent development of our gifted children, we need to better understand and address the negative factors of stress and anxiety, as well as find effective stress management programs for those affected.



The purpose of this study is to gain a better understanding of the relationship between stress, anxiety, and gifted youth. Additionally, for children and adolescents experiencing moderate to high anxiety, this study will evaluate the effectiveness of two skill development programs to assist gifted students in managing stress and anxiety and focusing better on their talent development and interests. The two skill development programs under investigation are cognitive-behavioral therapy (CBT) and emotional freedom technique (EFT).

## **What are the study procedures? What will my child be asked to do?**

### **Initial Steps:**

You and your child are invited to attend an informational meeting to find out more about the study. The time and location of this meeting are listed on the invitation you received with this parent/guardian permission form sheet.

After the information is presented, you will be given some time to discuss the study with your child. If you decide you would like him/her to participate, you will be asked to sign the parent/guardian permission form attached at the end of this form. If your child is between 12 – 17 years old, he/she will be asked to sign the assent line on this parent/guardian permission form. If your child is 10 or 11 years old, he/she will be asked to sign the assent form that is written in more age-appropriate language.

### **Once Parent/Guardian Permission and Child Assent to Participate are Received:**

There are two parts to this research study. The first part will help researchers better understand stress and anxiety experienced by gifted students. Once you sign permission and your child signs assent, your child will be asked to complete a brief (10-15 minute) assessment to determine their level of anxiety.

The second part of the study will help researchers assess the effectiveness of the two skill development programs, CBT and EFT.

- **If your child's initial assessment scores show little to no anxiety**, he/she will not be asked to do anything further in the study. We will notify you by mail if this is the case.
- **If your child's initial assessment scores in the moderate to high range**, he/she will be randomly assigned to either: one of the two programs (i.e. CBT or EFT) to learn strategies to enhance his/her stress management or a control group.
  - **For students assigned to CBT or EFT** skill development sessions, the following will occur:
    - ✓ He/she will receive three individual sessions from a trained graduate counseling or psychology student at one of the University of Connecticut campus sites at a time convenient for the family and outside of the school day for the student. The same graduate student will work with your child throughout his/her three sessions.

- ✓ Each session will last 50 - 60 minutes. At the last session, 15-20 additional minutes will be needed to complete the final assessment. Ideally, sessions will occur between one and two weeks apart. The graduate student assigned to your child will work with you to schedule your child's session times.
  - ✓ You will be responsible for transporting your child to his/her CBT or EFT sessions. For your convenience, every effort will be made to choose a University of Connecticut campus site closest to you. The graduate student will work individually with your child during your child's skill development session. A waiting area will be provided for you during your child's skill session.
  - ✓ At the first session, your child will be given a copy of the skill development review sheet. The graduate student will give you a copy as well. Your child will be asked to use the review sheet at any point between sessions when he/she feels stressed or anxious to practice the new skill set. He/she will be encouraged to keep a journal to share with his/her graduate student of any questions, thoughts, or observations about his/her experience of using the new skill set.
  - ✓ During each session, the graduate student will help your child identify his/her stressors and teach him/her strategies to help him/her better manage them. The graduate student will introduce each new skill at a pace that best minimizes any sense of frustration or anxiety that your child may have at learning new skills. Your child can request a break or that the session end at any point.
  - ✓ To allow the researchers to check on how well the new skills are being taught, one of your child's sessions may be audiotaped. Your child's identity will be kept confidential. Audiotapes will be kept in a secure location and only reviewed by the researchers and/or trainers overseeing the study. The audiotapes will be destroyed at the completion of the study.
  - ✓ Your child will take a final brief assessment at the end of his/her last session.
  - ✓ Additionally, your child may be contacted by one of the researchers or their assistant after he/she has completed his/her skill development sessions and asked a set of questions related to what he/she found helpful about the strategies that were taught and what was not helpful to assist the researchers in better understanding which parts of the program were most effective for the students. The interviews will be audiotaped by the researcher and transcribed by Transcription Plus LLC. The content of the audiotapes and transcriptions will be kept confidential. A pseudonym will be used for your child's name and none of your child's identifying information will be attached to the audiotape or transcript. A pseudonym is a made up name. Your child will get to create his/her own pseudonym in this portion of the study.
- **Students assigned to the control group** will be asked to complete a final brief assessment after the CBT and EFT participants have completed their individual

sessions (approximately two – three months after the initial assessment). Your child will then be invited to participate in a single group skill development session to learn strategies to enhance his/her stress management skills.

### **What are the risks or inconveniences of the study?**

In this study, your child will learn stress management techniques to assist him/her with daily stressors he/she experience. It is expected that risks to your child will be low as no new stressors will be introduced and the skill sets that will be taught (i.e. CBT and EFT) have shown little risks in previous studies.

Your child may experience mild frustration or uncertainty as he/she learns new stress management skill sets. Should this occur, the graduate student teaching the skill set will spend some extra time in the session reviewing, encouraging, and reinforcing your child's efforts and skill development. Your child can request a break or end the session early at any time. All participants will also be provided with skill development review sheets to reinforce their understanding and learning between sessions and practice the new skills between sessions when he/she experiences stress or anxiety.

In the unlikely event that your child experiences increased stress or anxiety during the study and/or would like additional supports during or beyond the study, a practitioner referral list will also be provided.

Potential inconveniences that you and your child may experience include loss of free time while attending the skill development sessions and the inconvenience of travel time to the sessions. To minimize the travel time required, every effort will be made to schedule the skill development sessions at the University of Connecticut campus site closest to you.

### **What are the benefits of the study?**

Research has found that the negative effects of stress and anxiety on performance can be reduced or eliminated when those affected used additional resources. It is anticipated that your child will develop additional skills to more easily manage stress and anxiety in his/her daily lives. Other benefits may include being able to better focus on his/her talents and abilities and finding greater enjoyment in his/her activities and experiences.

Additionally, your child's participation in this study will allow researchers, educators, and mental health providers to better understand stress differences among gifted students, as well as consider what factors may contribute to the types of anxiety experienced by the various gifted youth. Through your child's participation, this study will hopefully provide further information about effective interventions to develop stress management skills, thereby reducing the negative

impact of stress and anxiety on gifted youth. Such findings would assist educators and mental health practitioners with better identification and proactive support of vulnerable youth, while providing policy makers with important information for program development.

### **Will my child receive payment for participation? Are there costs to participate?**

There are no costs to you and your child for participating in this study. Compensation for time and travel expenses will be provided for children participating in the CBT and EFT skill development groups and their parents as follows: \$10 at the first session, \$10 at the second session, and \$20 at the final session. Additional compensation is provided at the final session as the participants are asked to spend time completing the final assessment, in addition to attending their last skill development session.

### **How will my child's information be protected?**

The following steps will be used to protect the confidentiality of the data collected from your child:

- The researchers will keep all study records (including any codes to your child's data) locked in file cabinets within the researchers' offices.
- Research records will be labeled with a code. The code will be derived from the first three letters of your child's school district and a 3 digit code, the latter of which will reflect your child's sequential number in signing up for the study. For example, Sto003 would be the code for Jane Doe from Storrs District with 003 indicating that she was the third person from the Storrs District to sign up for the study. Should your child be included in the interview portion of the study, his/her pseudonym will be used as the code on his/her audiotape and resulting transcript; no identifying information will be attached.
- A master key that links names and codes will be maintained in a separate and secure location.
- The master key and audiotapes will be destroyed after 3 years. Study records may be kept indefinitely, but will be stripped of all identifiable information.
- All electronic files (e.g., database, spreadsheet, etc.) containing identifiable information will be password protected.
- Any computer hosting such files will also have password protection to prevent access by unauthorized users.
- Only the members of the research staff will have access to the passwords.
- Data that will be shared with others will be coded as described above to help protect your child's identity.
- At the conclusion of this study, the researchers may publish their findings. Information will be presented in summary format and your child will not be identified in any publications or presentations.

We will do our best to protect the confidentiality of the information we gather from your child, but we cannot guarantee 100% confidentiality. In certain situations, such as the disclosure of concerns related to child abuse or neglect, members of the research staff would be unable to maintain your child's confidentiality.

Should you decide to withdraw your child early from the study, all data collected up to the point of withdrawal would be kept and handled as noted in the bullets above.

You should also know that the UConn Institutional Review Board (IRB) and the Office of Research Compliance may inspect study records as part of its auditing program, but these reviews will only focus on the researchers and not on your child's responses or involvement. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

### **Can my child stop being in the study and what are my and my child's rights?**

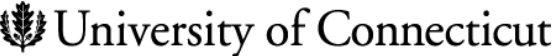
Your child does not have to be in this study if you do not want him/her to participate. If you give permission for your child to be in the study, but later change your mind, you may withdraw your child at any time. There are no penalties or consequences of any kind if you decide that you do not want your child to participate.

Should your child turn 18 during the course of his/her participation in this study, his/her desire to continue in the study will be reconfirmed by the researchers and he/she will be asked to sign a consent form to continue in the study. Your child's signature will be a record of his/her agreement to continue participating in the study. Your child will be given a copy of the consent form. The researchers will use the birthdate you indicate on the parent permission form below to determine if your child will turn 18 during the study.

### **Whom do I contact if I have questions about the study?**

Take as long as you like before you make a decision. We will be happy to answer any question you have about this study. If you have further questions about this study or if you have a research-related problem, you may contact the principal investigator, (Dr. Orv Karan, 860 486-0207) or the student researcher (Amy Gaesser, 860-341-1190). If you have any questions concerning your child's rights as a research participant, you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802.

Parent/Guardian Permission Form for Participation in a Research Study



**Principal Investigator:** Orv C. Karan, PhD  
**Student Researcher:** Amy H. Gaesser, MS Ed, CAS  
**Study Title:** Addressing Stress Management for Gifted Students

**Documentation of Permission:**

I have read this form and decided that I will give permission for my child to participate in the study described above. Its general purposes, the particulars of my child’s involvement and possible risks and inconveniences have been explained to my satisfaction. I understand that I can withdraw my child at any time. My signature also indicates that I have received a copy of this parent/guardian permission form. Please return this form to student researcher, Amy Gaesser, or the school person identified on your accompanying invitation letter within two weeks of the date received.

\_\_\_\_\_  
Child Signature:                                  Print Name:                                  Date:

\_\_\_\_\_  
Parent/Guardian Signature:                                  Print Name:                                  Date:

Relationship to Child (e.g. mother, father, guardian): \_\_\_\_\_

\_\_\_\_\_  
Signature of Person Obtaining Consent                                  Print Name:                                  Date:

\_\_\_\_\_  
Child’s Age and Birthdate                                  Child’s Grade                                  Child’s Gender

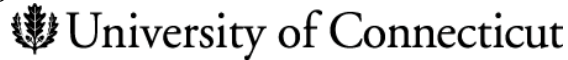
\_\_\_\_\_  
School \_\_\_\_\_ Child’s

\_\_\_\_\_  
Best Phone Number to Reach Child and/or Parent/Guardian at for Follow-up and Scheduling Purposes

## Appendix D.2

### Parent/Guardian Permission Form for Participation in a Research Study

**Principal Investigator:** Orv C. Karan, PhD



**Student Researcher:** Amy H. Gaesser, MS Ed, CAS

**Study Title:** Addressing Stress Management for Gifted Children and Adolescents

#### **Introduction**

Your child is invited to participate in a research study to address stress management for gifted students in grades 6 - 12. Your child is being invited to participate because he/she has been identified by the school as being a gifted student

This permission form will give you the information you will need to understand why this study is being done and why your child is being invited to participate. It will also describe what your child will be asked to do to participate and any known risks, inconveniences or discomforts that your child may have while participating. We encourage you to take some time to think this over and to discuss it with your child. We also encourage you to ask questions now and at any time. If you decide to give your child permission to participate, you will be asked to sign this form. If your child is between 12 – 17 years old, he/she will be asked to sign the assent line on this form. If your child is 10 or 11 years old, he/she will be asked to sign a separate assent form that is written at his/her age level. Your signatures will be a record of your permission to allow your child to participate and your child's agreement to participate. You will be given a copy of the form(s) you and your child sign.

#### **Why is this study being done?**

The issue of stress, anxiety and gifted students has yet to be fully understood and research has been limited. It is important for educators and mental health providers to better understand the unique characteristics of gifted youth, how they are affected by stress and anxiety, and effective stress management skills to assist them when needed.

Research suggests that gifted youth have a variety of unique academic, social, and emotional needs. These differences can be a source of strength that improves their motivation and task commitment or stress and anxiety that interferes with their emotional well-being and ability to be creative. Researchers have shown that stress makes it harder for people to learn, concentrate, be creative, and accurately judge situations. This can be especially frustrating for gifted students. To best support the talent development of our gifted children, we need to better understand and address the negative factors of stress and anxiety, as well as find effective stress management programs for those affected.

The purpose of this study is to gain a better understanding of the relationship between stress, anxiety, and gifted youth. Additionally, for children and adolescents experiencing moderate to high anxiety, this study will evaluate the effectiveness of two skill development programs to assist gifted students in managing stress and anxiety and focusing better on their talent development and interests. The two skill development programs under investigation are cognitive-behavioral therapy (CBT) and emotional freedom technique (EFT).

## **What are the study procedures? What will my child be asked to do?**

### **Initial Steps:**

You and your child are invited to attend an informational meeting with student investigator, Amy H. Gaesser, at your school to discuss the study and answer any questions you may have. If you would like to schedule a meeting, please call her at 860-341-1190.

After the information is presented, you will be given some time to discuss the study with your child. If you decide you would like him/her to participate, you will be asked to sign the parent/guardian permission form attached at the end of this form. If your child is between 12 – 17 years old, he/she will be asked to sign the assent line on this parent/guardian permission form. If your child is 10 or 11 years old, he/she will be asked to sign the assent form that is written in more age-appropriate language.

### **Once Parent/Guardian Permission and Child Assent to Participate are Received:**

There are two parts to this research study. The first part will help researchers better understand stress and anxiety experienced by gifted students. Once you sign permission and your child signs assent, your child will be asked to complete a brief (10-15 minute) assessment to determine their level of anxiety.

The second part of the study will help researchers assess the effectiveness of the two skill development programs, CBT and EFT.

- **If your child's initial assessment scores show little to no anxiety**, he/she will not be asked to do anything further in the study. We will notify you by mail if this is the case.
- **If your child's initial assessment scores in the moderate to high range**, he/she will be randomly assigned to either: one of the two programs (i.e. CBT or EFT) to learn strategies to enhance his/her stress management or a control group.
  - **For students assigned to CBT or EFT** skill development sessions, the following will occur:
    - ✓ He/she will receive three individual sessions from a trained University of Connecticut graduate counseling or psychology student at your child's school at a time convenient for the family and after the school day for the student. The same graduate student will work with your child throughout his/her three sessions.
    - ✓ Each session will last 50 - 60 minutes. At the last session, 15-20 additional minutes will be needed to complete the final assessment. Ideally, sessions



will occur between one and two weeks apart. The graduate student assigned to your child will work with you to schedule your child's session times.

- ✓ You will be responsible for transporting your child to his/her CBT or EFT sessions. The graduate student will work individually with your child during your child's skill development session. A waiting area will be provided for you during your child's skill session.
  - ✓ At the first session, your child will be given a copy of the skill development review sheet. The graduate student will give you a copy as well. Your child will be asked to use the review sheet at any point between sessions when he/she feels stressed or anxious to practice the new skill set. He/she will be encouraged to keep a journal to share with his/her graduate student of any questions, thoughts, or observations about his/her experience of using the new skill set.
  - ✓ During each session, the graduate student will help your child identify his/her stressors and teach him/her strategies to help him/her better manage them. The graduate student will introduce each new skill at a pace that best minimizes any sense of frustration or anxiety that your child may have at learning new skills. Your child can request a break or that the session end at any point.
  - ✓ To allow the researchers to check on how well the new skills are being taught, one of your child's sessions may be audiotaped. Your child's identity will be kept confidential. Audiotapes will be kept in a secure location and only reviewed by the researchers and/or trainers overseeing the study. The audiotapes will be destroyed at the completion of the study.
  - ✓ Your child will take a final brief assessment at the end of his/her last session.
  - ✓ Additionally, your child may be contacted by one of the researchers or their assistant after he/she has completed his/her skill development sessions and asked a set of questions related to what he/she found helpful about the strategies that were taught and what was not helpful to assist the researchers in better understanding which parts of the program were most effective for the students. The interviews will be audiotaped by the researcher and transcribed by Transcription Plus LLC. The content of the audiotapes and transcriptions will be kept confidential. A pseudonym will be used for your child's name and none of your child's identifying information will be attached to the audiotape or transcript. A pseudonym is a made up name. Your child will get to create his/her own pseudonym in this portion of the study.
- **Students assigned to the control group** will be asked to complete a final brief assessment after the CBT and EFT participants have completed their individual sessions (approximately two – three months after the initial assessment). Your child will then be invited to participate in a single group skill development session to learn strategies to enhance his/her stress management skills.

## **What are the risks or inconveniences of the study?**

In this study, your child will learn stress management techniques to assist him/her with daily stressors he/she experience. It is expected that risks to your child will be low as no new stressors will be introduced and the skill sets that will be taught (i.e. CBT and EFT) have shown little risks in previous studies.

Your child may experience mild frustration or uncertainty as he/she learns new stress management skill sets. Should this occur, the graduate student teaching the skill set will spend some extra time in the session reviewing, encouraging, and reinforcing your child's efforts and skill development. Your child can request a break or end the session early at any time. All participants will also be provided with skill development review sheets to reinforce their understanding and learning between sessions and practice the new skills between sessions when he/she experiences stress or anxiety.

In the unlikely event that your child experiences increased stress or anxiety during the study and/or would like additional supports during or beyond the study, a practitioner referral list will also be provided.

Potential inconveniences that you and your child may experience include loss of free time while attending the skill development sessions.

## **What are the benefits of the study?**

Research has found that the negative effects of stress and anxiety on performance can be reduced or eliminated when those affected used additional resources. It is anticipated that your child will develop additional skills to more easily manage stress and anxiety in his/her daily lives. Other benefits may include being able to better focus on his/her talents and abilities and finding greater enjoyment in his/her activities and experiences.

Additionally, your child's participation in this study will allow researchers, educators, and mental health providers to better understand stress differences among gifted students, as well as consider what factors may contribute to the types of anxiety experienced by the various gifted youth. Through your child's participation, this study will hopefully provide further information about effective interventions to develop stress management skills, thereby reducing the negative impact of stress and anxiety on gifted youth. Such findings would assist educators and mental health practitioners with better identification and proactive support of vulnerable youth, while providing policy makers with important information for program development.

## **Will my child receive payment for participation? Are there costs to participate?**

There are no costs to you and your child for participating in this study. Compensation for time and travel expenses will be provided for children participating in the CBT and EFT skill development groups and their parents as follows: \$10 at the first session, \$10 at the second session, and \$20 at the final session. Additional compensation is provided at the final session as the participants are asked to spend time completing the final assessment, in addition to attending their last skill development session.

### **How will my child's information be protected?**

The following steps will be used to protect the confidentiality of the data collected from your child:

- The researchers will keep all study records (including any codes to your child's data) locked in file cabinets within the researchers' offices.
- Research records will be labeled with a code. The code will be derived from the first three letters of your child's school district and a 3 digit code, the latter of which will reflect your child's sequential number in signing up for the study. For example, Sto003 would be the code for Jane Doe from Storrs District with 003 indicating that she was the third person from the Storrs District to sign up for the study. Should your child be included in the interview portion of the study, his/her pseudonym will be used as the code on his/her audiotape and resulting transcript; no identifying information will be attached.
- A master key that links names and codes will be maintained in a separate and secure location.
- The master key and audiotapes will be destroyed after 3 years. Study records may be kept indefinitely, but will be stripped of all identifiable information.
- All electronic files (e.g., database, spreadsheet, etc.) containing identifiable information will be password protected.
- Any computer hosting such files will also have password protection to prevent access by unauthorized users.
- Only the members of the research staff will have access to the passwords.
- Data that will be shared with others will be coded as described above to help protect your child's identity.
- At the conclusion of this study, the researchers may publish their findings. Information will be presented in summary format and your child will not be identified in any publications or presentations.

We will do our best to protect the confidentiality of the information we gather from your child, but we cannot guarantee 100% confidentiality. In certain situations, such as the disclosure of concerns related to child abuse or neglect, members of the research staff would be unable to maintain your child's confidentiality.

Should you decide to withdraw your child early from the study, all data collected up to the point of withdrawal would be kept and handled as noted in the bullets above.

You should also know that the UConn Institutional Review Board (IRB) and the Office of Research Compliance may inspect study records as part of its auditing program, but these reviews will only focus on the researchers and not on your child's responses or involvement. The IRB is a

group of people who review research studies to protect the rights and welfare of research participants.

### **Can my child stop being in the study and what are my and my child's rights?**

Your child does not have to be in this study if you do not want him/her to participate. If you give permission for your child to be in the study, but later change your mind, you may withdraw your child at any time. There are no penalties or consequences of any kind if you decide that you do not want your child to participate.

Should your child turn 18 during the course of his/her participation in this study, his/her desire to continue in the study will be reconfirmed by the researchers and he/she will be asked to sign a consent form to continue in the study. Your child's signature will be a record of his/her agreement to continue participating in the study. Your child will be given a copy of the consent form. The researchers will use the birthdate you indicate on the parent permission form below to determine if your child will turn 18 during the study.

### **Whom do I contact if I have questions about the study?**

Take as long as you like before you make a decision. We will be happy to answer any question you have about this study. If you have further questions about this study or if you have a research-related problem, you may contact the principal investigator, (Dr. Orv Karan, 860 486-0207) or the student researcher (Amy Gaesser, 860-341-1190). If you have any questions concerning your child's rights as a research participant, you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802.



**Appendix E**  
**Child Assent Form, Ages 10 -11**

**Project Title:** Addressing Stress Management for Gifted Children and Adolescents

**Principal Investigator:** Orv C. Karan, PhD

**Student Investigator:** Amy H. Gaesser, MS Ed, CAS

Your parents (or guardians) have talked to you about being part of a study to understand stress management for gifted students.

If you decide to be in the study you will do these things:

- 1) Fill out a questionnaire at the beginning and end of the study that asks you about things you do and how you feel in different situations.
- 2) You will meet 3 times with a research team member. Each meeting time will last 50 - 60 minutes. He/she will ask you about times when you felt stress or worry. There are no right or wrong answers. Everyone experiences stress and worry differently.
- 3) The team member will help you learn new skills to manage your stress and worry. You will spend your time with the team member talking about and practicing these new skills. The team member will coach you about how use new techniques to help you feel less stressed and worried. He/she will give you a review sheet of the new skills to take with you so that you can practice these skills whenever you want. He/she will also give your parent or guardian a copy of the review sheet. Your parent or guardian will be with you to help you learn these new skills.
- 4) You will receive a thank you for participating in these sessions to learn new skills. This thank you will include \$10 at your first meeting, \$10 at your second meeting and \$20 at the final meeting. The amount is a little more for your last meeting because you will be completing a final questionnaire, as well as practicing your new skills.

You may feel a little unsure when you first start to learn the skills. Your team member and parents/guardians can help you practice the new skills so they become easier. You will also spend time traveling to and from your 3 meetings with your team member.

You can ask questions about this study at any time.

You can decide not to be in this study, or later on, you can decide that you want to be taken out of it. Whatever you decide to do, no one will be angry with you.

Participant \_\_\_\_\_ Date \_\_\_\_\_

Researcher's Signature \_\_\_\_\_ Date \_\_\_\_\_

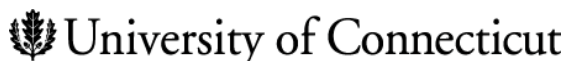
If Applicable, Reason why Participant did not sign: \_\_\_\_\_

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## Appendix F.1

### Consent Form for Students, Age 18

## Consent Form for Participation in a Research Study



**Principal Investigator:** Orv C. Karan, PhD

**Student Researcher:** Amy H. Gaesser, MS Ed, CAS

**Study Title:** Addressing Stress Management for Gifted Children and Adolescents

### Introduction

You are invited to participate in a research study to address stress management for gifted students in grades 6 - 12. You are being invited to participate because you have been identified by the school as being a gifted student.

This permission form will give you the information you will need to understand why this study is being done and why you are being invited to participate. It will also describe what you will be asked to do to participate and any known risks, inconveniences or discomforts that you may have while participating. We encourage you to take some time to think this over and to discuss it with your significant family members. We also encourage you to ask questions now and at any time. If you decide to consent to participate, you will be asked to sign this form. Your signature will be a record of your consent to participate. You will be given a copy of the form you sign.

### Why is this study being done?

The issue of stress, anxiety and gifted students has yet to be fully understood and research has been limited. It is important for educators and mental health providers to better understand the unique characteristics of gifted youth, how they are affected by stress and anxiety, and effective stress management skills to assist them when needed.

Research suggests that gifted youth have a variety of unique academic, social, and emotional needs. These differences can be a source of strength that improves their motivation and task commitment or stress and anxiety that interferes with their emotional well-being and ability to be creative. Researchers have shown that stress makes it harder for people to learn, concentrate, be creative, and accurately judge situations. This can be especially frustrating for gifted students. To best support the talent development of our gifted youth, we need to better understand and address the negative factors of stress and anxiety, as well as find effective stress management programs for those affected.

The purpose of this study is to gain a better understanding of the relationship between stress, anxiety, and gifted youth. Additionally, for children and adolescents experiencing moderate to

high anxiety, this study will evaluate the effectiveness of two skill development programs to assist gifted students in managing stress and anxiety and focusing better on their talent development and interests. The two skill development programs under investigation are cognitive-behavioral therapy (CBT) and emotional freedom technique (EFT).

## **What are the study procedures? What will I be asked to do?**

### **Initial Steps:**

You are invited to attend an informational meeting to find out more about the study. The time and location of this meeting are listed on the invitation you received with this consent form.

After the information is presented, you will be given some time to think about the study and ask questions. If you decide you would like to participate, you will be asked to sign the enclosed consent form.

### **Once You Consent to Participate:**

There are two parts to this research study. The first part will help researchers better understand stress and anxiety experienced by gifted students. Once you sign the consent form, you will be asked to complete a brief (10-15 minute) assessment to determine your level of anxiety.

The second part of the study will help researchers assess the effectiveness of two skill development programs, cognitive-behavioral therapy (CBT) and emotional freedom technique (EFT).

- **If your initial assessment score shows little to no anxiety**, you will not be asked to do anything further in the study. We will notify you by mail if this is the case.
- **If your initial assessment score is in the moderate to high range**, you will be randomly assigned to either: one of the two skill development programs (i.e. CBT or EFT) to increase your stress management skills or a control group.
  - **For students assigned to CBT or EFT** skill development sessions, the following will occur:
    - ✓ You will receive three individual skill development sessions from a trained graduate counseling or psychology student at one of the University of Connecticut campus sites at a time outside of the school day and convenient for you. The same graduate student will work with you throughout your three sessions.
    - ✓ Each session will last 50 - 60 minutes. At the last session, 15-20 additional minutes will be needed to complete the final assessment. Ideally, sessions will occur between one and two weeks apart. The graduate student assigned to you will work with you to schedule your session times.
    - ✓ You will be responsible for securing transportation to your CBT or EFT sessions. For your convenience, every effort will be made to choose a University of Connecticut campus site closest to you.



- ✓ At the first session, you will be given a copy of the skill development review sheet. You can share it with your parent and guardian if you so choose. You will be asked to use the review sheet at any point between sessions when you feel stressed or anxious so that you can practice the new skills you are learning. You will be encouraged to keep a journal to share with your graduate student of any questions, thoughts, or observations about your experience of using the new skill set.
  - ✓ During each session, the graduate student will help you identify your stressors and teach you strategies to help you better manage them. The graduate student will introduce each new skill at a pace that best minimizes any sense of frustration or anxiety that you may have at learning new skills. You can request a break or that the session end at any point.
  - ✓ To allow the researchers to check on how well the new skills are being taught, one of your sessions may be audiotaped. Your identity will be kept confidential. Audiotapes will be kept in a secure location and only reviewed by the researchers and/or trainers overseeing the study. The audiotapes will be destroyed at the completion of the study.
  - ✓ You will take a final brief assessment at the end of your last skill development session.
  - ✓ Additionally, you may be contacted by one of the researchers or their assistant after you have completed your skill development sessions and asked a set of questions related to what you found helpful about the strategies that were taught and what was not helpful to assist the researchers in better understanding which parts of the program were most effective for the students. The interviews will be audiotaped by the researcher and transcribed by Transcription Plus LLC. The content of the audiotapes and transcriptions will be kept confidential. A pseudonym will be used for your name and none of your identifying information will be attached to the audiotape or transcript. A pseudonym is a made up name. You will get to create your pseudonym in this portion of the study.
- **Students assigned to the control group** will be asked to complete a final brief assessment after the CBT and EFT participants have completed their individual sessions (approximately two – three months after the initial assessment). You will then be invited to participate in a single group skill development session to learn strategies to enhance your stress management skills.

### **What are the risks or inconveniences of the study?**

In this study, you will learn stress management techniques to assist you with daily stressors you experience. It is expected that risks to you will be low as no new stressors will be introduced and the skill sets that will be taught (i.e. CBT and EFT) have shown little risks in previous studies.

You may experience mild frustration or uncertainty as you learn new stress management skill sets. Should this occur, the graduate student teaching the skill set will spend some extra time in the session reviewing, encouraging, and reinforcing your efforts and skill

development. You can request a break or end the session early at any time. You will also be provided with skill development review sheets to reinforce your understanding and learning between sessions. You are encouraged to practice the new skills between sessions when you experience stress or anxiety.

In the unlikely event that you experience increased stress or anxiety during the study and/or would like additional supports during or beyond the study, a practitioner referral list will also be provided.

Potential inconveniences that you may experience include loss of free time while attending the skill development sessions and the inconvenience of travel time to the sessions. To minimize the travel time required, every effort will be made to schedule the skill development sessions at the University of Connecticut campus site closest to you.

### **What are the benefits of the study?**

Research has found that the negative effects of stress and anxiety on performance can be reduced or eliminated when those affected used additional resources. It is anticipated that you will develop additional skills to more easily manage stress and anxiety in your daily lives. Other benefits may include being able to better focus on your talents and abilities and finding greater enjoyment in your activities and experiences.

Additionally, your participation in this study will allow researchers, educators, and mental health providers to better understand stress differences among gifted students, as well as begin to consider what factors may contribute to the types of anxiety experienced by the various gifted youth. Through your participation, this study will hopefully provide further information about effective interventions to develop stress management skills, thereby reducing the negative impact of stress and anxiety on gifted youth. Such findings would assist educators and mental health practitioners with better identification and proactive support of vulnerable youth, while providing policy makers with important information for program development.

### **Will I receive payment for participation? Are there costs to participate?**

There are no costs to be in this study. Compensation for time and travel expenses will be provided to individuals participating in the CBT and EFT skill development groups as follows: \$10 at the first session, \$10 at the second session, and \$20 at the final session. Additional compensation is provided at the final session as the participants are asked to spend time completing the final assessment, in addition to attending their last skill development session.

### **How will my personal information be protected?**

The following procedures will be used to protect the confidentiality of the data collected from you:

- The researchers will keep all study records (including any codes to your data) locked in file cabinets within the researchers' offices.
- Research records will be labeled with a code. The code will be derived from the first three letters of your school district and a 3-digit code, the latter of which will reflect your sequential number in signing up for the study. For example, Sto003 would be the code for Jane Doe from Storrs District with 003 indicating that she was the third person from the Storrs District to sign up for the study. Should you be included in the interview portion of the study, your pseudonym will be used as the code on your audiotape and resulting transcript.
- A master key that links names and codes will be maintained in a separate and secure location.
- The master key and audiotapes will be destroyed after 3 years. Study records may be kept indefinitely, but will be stripped of all identifiable information.
- All electronic files (e.g., database, spreadsheet, etc.) containing identifiable information will be password protected.
- Any computer hosting such files will also have password protection to prevent access by unauthorized users.
- Only the members of the research staff will have access to the passwords.
- Data that will be shared with others will be coded as described above to help protect your identity.
- At the conclusion of this study, the researchers may publish their findings. Information will be presented in summary format and you will not be identified in any publications or presentations.

We will do our best to protect the confidentiality of the information we gather from you, but we cannot guarantee 100% confidentiality. In certain situations, such as the disclosure of concerns related to child abuse or neglect, members of the research staff would be unable to maintain your confidentiality.

Should you decide to withdraw early from the study, all data collected up to the point of withdrawal would be kept and handled as noted in the bullets above.

You should also know that the UConn Institutional Review Board (IRB) and the Office of Research Compliance may inspect study records as part of its auditing program, but these reviews will only focus on the researchers and not on your responses or involvement. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

### **Can I stop being in the study and what are my rights?**

You do not have to be in this study if you do not want to participate. If you give consent to be in the study, but later change your mind, you may withdraw at any time. There are no penalties or consequences of any kind if you decide that you do not want to participate.

### **Whom do I contact if I have questions about the study?**

Take as long as you like before you make a decision. We will be happy to answer any question you have about this study. If you have further questions about this study or if you have a research-

related problem, you may contact the principal investigator, (Dr. Orv Karan, 860 486-0207) or the student researcher (Amy Gaesser, 860-341-1190). If you have any questions concerning your rights as a research participant, you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802.

**Documentation of Consent:**

I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement and possible risks and inconveniences have been explained to my satisfaction. I understand that I can withdraw at any time. My signature also indicates that I have received a copy of this consent form. Please return this form to student researcher, Amy Gaesser, or the school person identified on your accompanying invitation letter within two weeks of the date received.

\_\_\_\_\_  
Participant Signature:                      Print Name:                      Date:

Relationship (only if not participant): \_\_\_\_\_

\_\_\_\_\_  
Signature of Person                      Print Name:                      Date:  
Obtaining Consent

\_\_\_\_\_  
Your Age                      Your Grade                      Your Gender

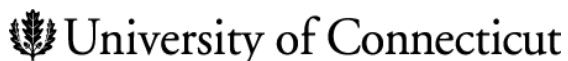
\_\_\_\_\_  
School                      Your

\_\_\_\_\_  
Best Phone Number to Reach You at for Follow-up and Scheduling Purposes

## Appendix F.2

### Consent Form for Students, Age 18

## Consent Form for Participation in a Research Study



**Principal Investigator:** Orv C. Karan, PhD

**Student Researcher:** Amy H. Gaesser, MS Ed, CAS

**Study Title:** Addressing Stress Management for Gifted Children and Adolescents

### Introduction

You are invited to participate in a research study to address stress management for gifted students in grades 6 - 12. You are being invited to participate because you have been identified by the school as being a gifted student.

This permission form will give you the information you will need to understand why this study is being done and why you are being invited to participate. It will also describe what you will be asked to do to participate and any known risks, inconveniences or discomforts that you may have while participating. We encourage you to take some time to think this over and to discuss it with your significant family members. We also encourage you to ask questions now and at any time. If you decide to consent to participate, you will be asked to sign this form. Your signature will be a record of your consent to participate. You will be given a copy of the form you sign.

### Why is this study being done?

The issue of stress, anxiety and gifted students has yet to be fully understood and research has been limited. It is important for educators and mental health providers to better understand the unique characteristics of gifted youth, how they are affected by stress and anxiety, and effective stress management skills to assist them when needed.

Research suggests that gifted youth have a variety of unique academic, social, and emotional needs. These differences can be a source of strength that improves their motivation and task commitment or stress and anxiety that interferes with their emotional well-being and ability to be creative. Researchers have shown that stress makes it harder for people to learn, concentrate, be creative, and accurately judge situations. This can be especially frustrating for gifted students. To best support the talent development of our gifted youth, we need to better understand and address the negative factors of stress and anxiety, as well as find effective stress management programs for those affected.

The purpose of this study is to gain a better understanding of the relationship between stress, anxiety, and gifted youth. Additionally, for children and adolescents experiencing moderate to

high anxiety, this study will evaluate the effectiveness of two skill development programs to assist gifted students in managing stress and anxiety and focusing better on their talent development and interests. The two skill development programs under investigation are cognitive-behavioral therapy (CBT) and emotional freedom technique (EFT).

## **What are the study procedures? What will I be asked to do?**

### **Initial Steps:**

You are invited to attend an informational meeting with student investigator, Amy Gaesser, at your school to discuss the study and answer any questions you may have. If you would like to schedule a meeting, please call her at 860-341-1190.

After the information is presented, you will be given some time to think about the study and ask questions. If you decide you would like to participate, you will be asked to sign the enclosed consent form.

### **Once You Consent to Participate:**

There are two parts to this research study. The first part will help researchers better understand stress and anxiety experienced by gifted students. Once you sign the consent form, you will be asked to complete a brief (10-15 minute) assessment to determine your level of anxiety.

The second part of the study will help researchers assess the effectiveness of two skill development programs, cognitive-behavioral therapy (CBT) and emotional freedom technique (EFT).

- **If your initial assessment score shows little to no anxiety**, you will not be asked to do anything further in the study. We will notify you by mail if this is the case.
- **If your initial assessment score is in the moderate to high range**, you will be randomly assigned to either: one of the two skill development programs (i.e. CBT or EFT) to increase your stress management skills or a control group.
  - **For students assigned to CBT or EFT** skill development sessions, the following will occur:
    - ✓ You will receive three individual skill development sessions from a trained University of Connecticut graduate counseling or psychology student at your school at a time after the school day and convenient for you. The same graduate student will work with you throughout your three sessions.
    - ✓ Each session will last 50 - 60 minutes. At the last session, 15-20 additional minutes will be needed to complete the final assessment. Ideally, sessions will occur between one and two weeks apart. The graduate student assigned to you will work with you to schedule your session times.
    - ✓ You will be responsible for securing transportation to your CBT or EFT sessions.

- ✓ At the first session, you will be given a copy of the skill development review sheet. You can share it with your parent and guardian if you so choose. You will be asked to use the review sheet at any point between sessions when you feel stressed or anxious so that you can practice the new skills you are learning. You will be encouraged to keep a journal to share with your graduate student of any questions, thoughts, or observations about your experience of using the new skill set.
  - ✓ During each session, the graduate student will help you identify your stressors and teach you strategies to help you better manage them. The graduate student will introduce each new skill at a pace that best minimizes any sense of frustration or anxiety that you may have at learning new skills. You can request a break or that the session end at any point.
  - ✓ To allow the researchers to check on how well the new skills are being taught, one of your sessions may be audiotaped. Your identity will be kept confidential. Audiotapes will be kept in a secure location and only reviewed by the researchers and/or trainers overseeing the study. The audiotapes will be destroyed at the completion of the study.
  - ✓ You will take a final brief assessment at the end of your last skill development session.
  - ✓ Additionally, you may be contacted by one of the researchers or their assistant after you have completed your skill development sessions and asked a set of questions related to what you found helpful about the strategies that were taught and what was not helpful to assist the researchers in better understanding which parts of the program were most effective for the students. The interviews will be audiotaped by the researcher and transcribed by Transcription Plus LLC. The content of the audiotapes and transcriptions will be kept confidential. A pseudonym will be used for your name and none of your identifying information will be attached to the audiotape or transcript. A pseudonym is a made up name. You will get to create your pseudonym in this portion of the study.
- **Students assigned to the control group** will be asked to complete a final brief assessment after the CBT and EFT participants have completed their individual sessions (approximately two – three months after the initial assessment). You will then be invited to participate in a single group skill development session to learn strategies to enhance your stress management skills.

### **What are the risks or inconveniences of the study?**

In this study, you will learn stress management techniques to assist you with daily stressors you experience. It is expected that risks to you will be low as no new stressors will be introduced and the skill sets that will be taught (i.e. CBT and EFT) have shown little risks in previous studies.

You may experience mild frustration or uncertainty as you learn new stress management skill sets. Should this occur, the graduate student teaching the skill set will spend some extra time in the session reviewing, encouraging, and reinforcing your efforts and skill

development. You can request a break or end the session early at any time. You will also be provided with skill development review sheets to reinforce your understanding and learning between sessions. You are encouraged to practice the new skills between sessions when you experience stress or anxiety.

In the unlikely event that you experience increased stress or anxiety during the study and/or would like additional supports during or beyond the study, a practitioner referral list will also be provided.

Potential inconveniences that you may experience include loss of free time while attending the skill development sessions.

### **What are the benefits of the study?**

Research has found that the negative effects of stress and anxiety on performance can be reduced or eliminated when those affected used additional resources. It is anticipated that you will develop additional skills to more easily manage stress and anxiety in your daily lives. Other benefits may include being able to better focus on your talents and abilities and finding greater enjoyment in your activities and experiences.

Additionally, your participation in this study will allow researchers, educators, and mental health providers to better understand stress differences among gifted students, as well as begin to consider what factors may contribute to the types of anxiety experienced by the various gifted youth. Through your participation, this study will hopefully provide further information about effective interventions to develop stress management skills, thereby reducing the negative impact of stress and anxiety on gifted youth. Such findings would assist educators and mental health practitioners with better identification and proactive support of vulnerable youth, while providing policy makers with important information for program development.

### **Will I receive payment for participation? Are there costs to participate?**

There are no costs to participate in this study, other than travel expenses. Compensation for time and travel expenses will be provided for individuals participating in the CBT and EFT skill development groups as follows: \$10 at the first session, \$10 at the second session, and \$20 at the final session. Additional compensation is provided at the final session as the participants are asked to spend time completing the final assessment, in addition to attending their last skill development session.

### **How will my personal information be protected?**

The following procedures will be used to protect the confidentiality of the data collected from you:



- The researchers will keep all study records (including any codes to your data) locked in file cabinets within the researchers' offices.
- Research records will be labeled with a code. The code will be derived from the first three letters of your school district and a 3-digit code, the latter of which will reflect your sequential number in signing up for the study. For example, Sto003 would be the code for Jane Doe from Storrs District with 003 indicating that she was the third person from the Storrs District to sign up for the study. Should you be included in the interview portion of the study, your pseudonym will be used as the code on your audiotape and resulting transcript.
- A master key that links names and codes will be maintained in a separate and secure location.
- The master key and audiotapes will be destroyed after 3 years. Study records may be kept indefinitely, but will be stripped of all identifiable information.
- All electronic files (e.g., database, spreadsheet, etc.) containing identifiable information will be password protected.
- Any computer hosting such files will also have password protection to prevent access by unauthorized users.
- Only the members of the research staff will have access to the passwords.
- Data that will be shared with others will be coded as described above to help protect your identity.
- At the conclusion of this study, the researchers may publish their findings. Information will be presented in summary format and you will not be identified in any publications or presentations.

We will do our best to protect the confidentiality of the information we gather from you, but we cannot guarantee 100% confidentiality. In certain situations, such as the disclosure of concerns related to child abuse or neglect, members of the research staff would be unable to maintain your confidentiality.

Should you decide to withdraw early from the study, all data collected up to the point of withdrawal would be kept and handled as noted in the bullets above.

You should also know that the UConn Institutional Review Board (IRB) and the Office of Research Compliance may inspect study records as part of its auditing program, but these reviews will only focus on the researchers and not on your responses or involvement. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

### **Can I stop being in the study and what are my rights?**

You do not have to be in this study if you do not want to participate. If you give consent to be in the study, but later change your mind, you may withdraw at any time. There are no penalties or consequences of any kind if you decide that you do not want to participate.

### **Whom do I contact if I have questions about the study?**

Take as long as you like before you make a decision. We will be happy to answer any question you have about this study. If you have further questions about this study or if you have a research-

related problem, you may contact the principal investigator, (Dr. Orv Karan, 860 486-0207) or the student researcher (Amy Gaesser, 860-341-1190). If you have any questions concerning your rights as a research participant, you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802

**Documentation of Consent:**

I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement and possible risks and inconveniences have been explained to my satisfaction. I understand that I can withdraw at any time. My signature also indicates that I have received a copy of this consent form. Please return this form to student researcher, Amy Gaesser, or the school person identified on your accompanying invitation letter within two weeks of the date received.

\_\_\_\_\_  
Participant Signature:

\_\_\_\_\_  
Print Name:

\_\_\_\_\_  
Date:

Relationship (only if not participant): \_\_\_\_\_

\_\_\_\_\_  
Signature of Person  
Obtaining Consent

\_\_\_\_\_  
Print Name:

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Your Age

\_\_\_\_\_  
Your Grade

\_\_\_\_\_  
Your Gender

\_\_\_\_\_  
School \_\_\_\_\_ Your

\_\_\_\_\_  
Best Phone Number to Reach You at for Follow-up and Scheduling Purposes

## Appendix G

### **Sample Letter for Connecticut Association for the Gifted to Indicate Agreement to Post Study Announcement on Their Website**

Date

Dear Dr. Karan and Ms. Gaesser,

We have received and read all the material you sent regarding the study you are conducting on the addressing stress management for gifted children and adolescents.

We understand that we will be asked to:

- Post the study announcement you provided on the Connecticut Association for the Gifted website from September 15, 2013 through November 1, 2013

Please accept this letter indicating our desire to assist with this study by posting your informational announcement. We look forward to working together.

Sincerely,

## Appendix H

### Connecticut Association for the Gifted Newsletter Announcement

University of Connecticut  
Neag School of Education

## Gifted Students, Grades 6 – 12, Wanted for a Research Study

UPDATE: Funding has recently been received for this study and financial compensation will now be provided for students participating in the skill development interventions. See below for details.

### *Addressing Stress Management for Gifted Children and Adolescents*

Research suggests that gifted youth have a variety of unique academic, social, and emotional needs. These differences can be a source of strength that enhances their motivation and task commitment or stress and anxiety that impedes their creative productivity and emotional well-being. Previous studies have shown that cognitive resources of those negatively affected by stress and anxieties are diverted away from information processing, concentration and creative endeavors. This can sometimes lead to a lack of concentration, difficulties controlling behavior, and/or interference with perception; thereby frustrating the optimal functioning of gifted students. Supporting the talent growth and development of our gifted children requires that we better understand and address the negative factors of stress and anxiety, as well as find effective stress management programs for those affected.

The purpose of this study is to gain a more comprehensive understanding of the relationship between stress, anxiety, and gifted youth. Additionally, for children and adolescents experiencing moderate to high anxiety, this study will evaluate the effectiveness of two skill development interventions to assist gifted students in managing stress and anxiety.

There are two parts to this research study. The first part will help researchers better understand stress and anxiety experienced by gifted students. Once you sign permission and your child signs assent (or if age 18, a consent form), your child will be asked to complete a brief (10-15 minute) assessment to determine their level of anxiety.

The second part of the study will help researchers assess the effectiveness of two skill development programs, cognitive-behavioral therapy (CBT) and emotional freedom technique (EFT.)

- If your child’s initial assessment scores show little to no anxiety, he/she will not be asked to do anything further in the study.
- If your child’s initial assessment scores fall in the moderate to high range, he/she will:
  - Participate in one of three randomly-assigned groups: one of two skill development interventions (CBT or EFT) or a control group
  - For the CBT or EFT assigned students – Participate in three individual skill development sessions at one of the University of Connecticut campus sites at a time convenient for your family and outside of the school day for your child
  - For the control group students - Attend a single group skill development session after the CBT and EFT participants have completed their individual sessions
  - All participating CBT, EFT, and control group students - Complete a brief final post intervention assessment
  - For CBT and EFT participants, once your child has completed his/her three skill development sessions, your child may also be asked a set of questions related to what he/she found helpful about the strategies that were taught and what was not helpful to assist the researchers in better understanding which aspects of the program were most effective for the students. The interview can take place either in person at one of the university locations or over the phone, whichever your child and you prefer. The interview would be audiotaped to help the researcher remember all of the information your child shares.

You will be asked to:

- Sign a permission form allowing your child to participate in the study
- Transport your child to his/her skill development session(s) at an agreed-upon University of Connecticut site at a time convenient for your family and outside of the school day for your child. Every attempt will be made to use the University of Connecticut site closest to you.

There is no cost to participate in this study. Compensation for time and travel expenses will be provided for children participating in the CBT and EFT skill development groups and their parents as follows: \$10 at the first session, \$10 at the second session, and \$20 at the final session. Additional compensation is provided at the final session as the participants are asked to spend time completing the final assessment, in addition to attending their last skill development session.

For more information email Amy H. Gaesser, Doctoral Research Assistant, Counseling Psychology and Gifted Education Programs, at amy.gaesser@uconn.edu or call her at 860-341-1190 by October 30, 2013. This research is being conducted under the direction of Dr. Orv C. Karan, Professor and Program Coordinator of Counseling Program.

**Appendix I**

**SAMPLE LETTER FOR SCHOOL ADMINISTRATORS TO INDICATE  
STUDY PARTICIPATION FOR THEIR SCHOOLS**

Date

Dear Dr. Karan and Ms. Gaesser,

I have received and read all the material you sent regarding the study you are conducting on addressing stress management for gifted children and adolescents.

I understand that we will be asked to:

- Identify a school contact person for the researcher(s) to communicate with regarding the study details and follow-up
- Mail informational letters provided by the researchers to gifted students and their parents/guardians to inform them of the study
- Provide space within the school for the researcher(s) to meet with the students and their parents/guardians for an informational meeting about the study and to administer brief initial and final study assessments

Please accept this letter indicating my desire to have \_\_\_\_\_  
*(District/School Name)*

participate in this study. \_\_\_\_\_  
*(school designee and contact information here)*

will be working with you to coordinate the mailing and informational meeting time and place. We look forward to working together.

Sincerely,

## Appendix J

### Student Notification of Not Being Eligible to Continue in Study

Dear Student and Parent/Guardian,

Thank you for participating in the initial assessment for the study, *Addressing Stress Management for Gifted Children and Adolescents*. The score you received on the assessment fell in the normal to low range for anxiety, indicating that you are not a candidate to continue in the next phase of the study. We appreciate your time and involvement.

Should you have any questions, please feel free to contact the principal investigator, Dr. Orv Karan, at 860-486-0207 or student investigator, Amy Gaesser, at 860-341-1190.

Best Regards,

Dr. Orv C. Karan  
Professor and Program Coordinator of Counseling Program  
ORVILLE.KARAN@uconn.edu  
860-486-0207

Amy H. Gaesser, MS Ed, CAS, NCC  
Doctoral Graduate Assistant, Counseling and Gifted Education Programs  
amy.gaesser@uconn.edu  
860-341-1190

Department of Educational Psychology  
Neag School of Education – Unit 3064C  
University of Connecticut  
249 Glenbrook Road  
Storrs, CT 06269-3064

## Appendix K

### **The Association for Comprehensive Energy Psychology (ACEP) Recommended Emotional Freedom Technique (EFT) Protocol for Research Purposes**

NOTE: The ACEP EFT Research Protocol (n.d.) has been selected from shortcuts recommended by Gary Craig (2011) in his book, *The EFT Manual*.

Have a session brief form ready each time you meet with a participant to record the title and reminder phrases he/she identifies, as well as to record his/her reported SUDS ratings throughout.

#### **Step 1 Objective: Rapport Building**

Begin initial session with the steps outlined in Rapport Building Tips (Appendix Q). Educate the adolescent on the impact of stress and anxiety using the following script:

##### How Stress/Anxiety Affects the Body:

*Your reactions to stress are partly determined by the sensitivity of your sympathetic nervous system. This system produces a “fight or flight” reaction in response to stress and excitement, speeding up and heightening your pulse rate, respiration, muscle tension, and blood circulation — getting you ready for action [and negatively impacting your thinking processes]. It’s a totally normal process. If you feel a lot of stress [or anxiety] in your life, your sympathetic nervous system may always be ready to react, putting you in a state of constant tension. In this mode, you tend to react to small stresses the same way you would react to real emergencies. If you have a lot of reactions (fight or flight reactions) that deplete your energy reserves, they can cause a downward spiral that can lead to tiredness [and difficulty thinking clearly]. But, you CAN break this cycle! Here’s one way how: (Kendall et al., 2002, p. 18)*

*The following EFT technique can decrease the negative impacts of the fight or flight response (Feinstein, 2004, 2005). You may notice a sense of relief, find yourself being less reactive, and/or your body feeling less stressed overall. You may find yourself no longer reacting to situations that used to make you anxious.*

#### **Step 2 Objective: Identify the Issue/Incident/Aspects**

For Session 1-3: Have the adolescent choose an incident/issue/aspect that he/she wants to work on related to stress or anxiety.

Ask the adolescent to tell you about a time when he/she experienced stress or anxiety. Discuss with the adolescent that stress/anxiety can sometimes be experienced as an emotion, thought, or physical sensation or combination. Assist the adolescent in identifying his/her indicators (emotions/thoughts/physical sensations) of stress/anxiety. For example, “There was this time that I felt panic when I saw a spider in the bathroom” or “Getting on the school bus makes me sick to my stomach”. \*\*



### **Step 3 Objective: Determining Title and Reminder Phrase**

Using the adolescent's words, assign a concise title to the incident and the emotions, thoughts, or physical sensations involved. **Write the title and reminder phrase on the adolescent's session brief form.** The phrase will be used for the setup statement and the reminder phrase that follows.

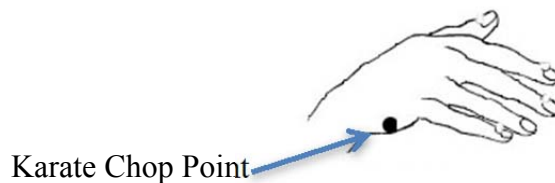
Example of a title: "The panic I felt when I saw a spider in the bathroom" or "Feeling sick to my stomach when I have to get on the school bus".

### **Step 4 Objective: Subject Rates His/Her Level of Distress**

On a 0-10 Subjective Units of Distress Scale (SUDS), 0 equals no anxiety experienced and 10 the highest that the adolescent ever experienced regarding this issue. Ask the adolescent to put his/her attention on the incident/aspect. And then ask: "What is your level of distress ***right now*** as you think about this?" **Make a written note on the session brief form of the reported first SUDS rating.**

### **Step 5 Objective: Learn the Set-up**

Tap on the karate chop point, while saying: "Even though I felt this (title), I deeply and completely accept myself." The graduate student demonstrates on him/herself and the adolescent taps on his/her karate chop point, following the graduate student. The adolescent should be told, "Tap along with me." Example of title, "Even though I felt this panic when I saw a spider in the bathroom, I deeply and completely accept myself." Repeat the sequence 3 times with repeating the phrasing.



### **Step 6 Objective: Learn the EFT Tapping Sequence**

Following the Setup, the adolescent should then tap about 7 times (anywhere from 5 to 9) using the balls of the fingertips of his/her index and middle fingers on each specified location while repeating "this.... (title)" to act as a reminder phrase to keep the subject focused on the problem.

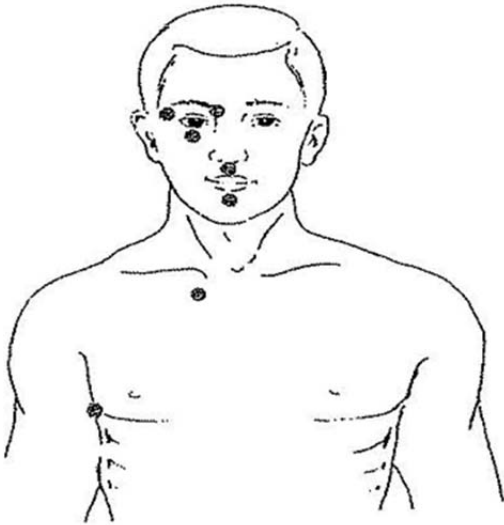
During an ongoing session, the adolescent does not need to be told how many times to tap, as it could be difficult for the subject to focus on the problem and count the number of taps. The graduate student demonstrates on him/herself and the adolescent taps on him/herself, following the graduate student's lead. The adolescent should be told, "Tap along with me." (When homework is assigned to the adolescent, then he/she needs to be taught how many times to tap and given an EFT guide sheet to use as a template in remembering the process. The EFT guide sheet should also be explained to the parent/guardian.)

Tap about 7 times on each of the following acupressure points, while repeating “this (title)” to act as a reminder phrase at each point:

Note: Tap with either hand on either side of the body (see diagram below).

- 1) **Eye** (at the inner edge of either eyebrow)
- 2) **Side of eye** (on the bony area beside either eye)
- 3) **Under eye** (on the orbital bone under the center of either eye)
- 4) **Under nose** (halfway between nose and upper lip)
- 5) **Chin** (halfway between lower lip and point of chin)
- 6) **Collarbone** From the collarbone, find the U-shaped notch (about where a man ties his tie). From the notch move right or left approximately 2" to a small depression, immediately below the collarbone.
- 7) **Under arm** (under the arm on either side of the body, halfway between the front and back of the body, usually right on the seam of one's shirt or about 4" below either armpit)
- 8) **Thumb** (With the palm facing down, on the lower edge of thumb, beside the fingernail)
- 9) **Index finger** (With the palm facing down, on the lower edge of index finger beside the fingernail)
- 10) **Middle Finger** (With the palm facing down, on the lower edge of middle finger beside the fingernail)
- 11) **Little Finger** (With the palm facing down, on the lower edge of little finger beside the fingernail)

### Diagram of Tapping Points



Images used with permission of Dawson Church, PhD. Soul Medicine Institute

### Step 7 Objective: Assess Progress

Re-assess the Subjective Units of Distress (SUDS). Ask the adolescent to think about the incident again and rate his/her level of distress on a scale from 0 to 10. **Make a written note of the adolescent’s consecutive SUDS ratings on the session brief form.**

- a) If the SUDS is the **same** or **higher**, repeat steps 5, 6, and 7 up to five times. If SUDS does not drop after 5 rounds, move to another incident or aspect.
- b) If SUDS is **lower**, repeat steps 5, 6 and 7, using the following modifications.
  - 1) At Step 5, change the setup phrase to “even though I STILL have SOME of this (title), I deeply and completely accept myself.”
  - 2) At Step 6, change the reminder phrase to “REMAINING (title)” at each point tapped.
- c) If SUDS drops to zero prior to the end of the session (see step 7), then have adolescent select another incident or aspect related to the original issue (i.e., fear of spiders). Or continue tapping on the original incident or aspect even if no related aspect is offered, as doing so will solidify the progress made.

### **Step 8 Objective: Fine Tune the EFT Intervention**

Even if an adolescent shows very good progress and reaches a SUDS level of “0” on all incidents/issues/aspects, continue seeing the adolescent for his/her 3 consecutive sessions. As described in step 7, have adolescent continue tapping on incidents/issues/aspects, even if he/she already reached a “0” on the initial incidents/issues/aspects. The extra tapping should help consolidate the gains that the adolescent has made.

If SUDS drops to zero on the initial memory of a specific incident, ask the adolescent to tell you about another time when he/she experienced this issue and the emotions involved.

Now work on this specific incident in the same way that you worked on the initial incident. Proceed through as many specific incidents as session time allows.

### **Sessions 2 and 3:**

Begin each consecutive session by reviewing any homework assignment, including what new self-knowledge the adolescent has gained and where he/she felt successful and/or not successful using the EFT protocol. Then, repeat steps 2-8 using newly identified phrasing and/or incidents/aspects. Record each newly identified incident or aspect on the session brief, including the identified title/phrasing and consecutive SUDS ratings for each as outlined in the protocol.

**\*\*NOTE:** If a particular adolescent does not have any specific incident to work on (or does not have enough incidents to work on), you can turn to one or more specific aspects. At the beginning of the session, have the adolescent specify as many aspects associated with his/her stress/anxiety as he/she can. Write each aspect that is identified on the back of the session brief and have the subject divide the list into aspects that involve high anxiety versus low anxiety. You can then have the adolescent pick which aspect he/she wants to work on (one at a time) during the progression of the EFT intervention.

### **Homework Assignments:**

Between each session, instruct the adolescent to keep a journal of stress or anxiety-provoking issues, incidents, or aspects he/she experiences between sessions. Review the Client EFT Guide sheet with him/her, highlighting the items he/she should record in his/her journal. Have the adolescent to use the guide sheet to practice his/her EFT skills whenever he/she experiences anxiety between sessions. Normalize that all new skills take time to learn and that he/she should focus on making progress by practicing versus doing each step perfectly.

### **Final Session Wrap-up**

Take time to focus on the progress made and what the student has done well. Identify next steps for the adolescent to take in order to continue to reinforce and build on his developing skills.

If the adolescent is agreeable, meet with the adolescent and parent/guardian at the end of the session to review progress made and share the stress/anxiety management strategies developed, as well as the adolescent's identified next steps.

Source: Association for Comprehensive Energy Psychology (n.d.). *The ACEP Recommended EFT Research Protocol*. Retrieved from <http://energypsych.org/displaycommon.cfm?an=1&subarticlenbr=132>

## **Appendix L**

### **INDEPENDENT STUDY OUTLINE**

#### **EPSY 5199 section 007 – Independent Study - Research on Gifted Students Experiencing Stress and Anxiety**

**Instructor: Professor: Orv C. Karan, PhD**  
**Orv.Karan@uconn.edu**  
**Fall Semester 2013 – TBA**  
**860-486-0207**

**Co-Instructor: Amy. H. Gaesser, MS Ed, CAS, NCC**  
**amy.gaesser@uconn.edu**  
**860-341-1190**

#### **OVERVIEW/DESCRIPTION**

This research independent study is designed to assist students in gaining a deeper understanding the unique social, emotional, and academic needs of gifted students and the stressors and anxieties they experience, as well as the effectiveness of two potential skill development programs.

The issue of stress, anxiety and gifted students has yet to be fully understood and research has been limited. It is important for educators and mental health providers to better understand the unique attributes of gifted youth, how they are affected by stress and anxiety, and effective stress management skills to assist them when needed.

Research suggests that gifted youth have a variety of unique academic, social, and emotional needs. These differences can be a source of strength that enhances their motivation and task commitment or stress and anxiety that impedes their creative productivity and emotional well-being. Previous studies have shown that cognitive resources of those negatively affected by stress and anxieties are diverted away from information processing, concentration and creative endeavors. This can sometimes lead to a lack of concentration, difficulties controlling behavior, and/or interference with perception, thereby frustrating the optimal functioning of gifted students. Supporting the talent growth and development of our gifted children requires that we better understand and address the negative factors of stress and anxiety, as well as find effective stress management programs for those affected.

In this course, you will gain a comprehensive understanding of the relationship between stress, anxiety, and gifted youth. Additionally, you will be trained in and gain skills in delivering one of two skill development programs for children and adolescents experiencing moderate to high anxiety to assist researchers in evaluating the effectiveness of the two stress management skill development programs.

## COURSE OBJECTIVES

The student will:

1. Gain knowledge in the unique characteristics and academic, social, and emotional needs of gifted students
2. Augment skills in individual counseling by providing 3 individual skill development sessions to 3 – 5 randomly assigned gifted youth from grades 6 – 12 (i.e. a total of 9-15 individual sessions)
3. Learn skills in one of two randomly assigned skill development programs – cognitive-behavioral therapy (CBT) or emotional freedom technique (EFT)

## COURSE ACTIVITIES/REQUIREMENTS

**Attend Course Overview Meeting:** All course participants will attend an informational meeting to receive an overview of the research study, *Addressing Stress Management for Gifted Students*. Students will be invited to participate in the research project by registering for *Research on Gifted Students Experiencing Stress and Anxiety* and completing the course requirements, including providing skill development sessions for 3-5 randomly assigned study participants. Interested students will **register for EPSY 5199 section 007 - Research on Gifted Students Experiencing Stress and Anxiety by September 6, 2013. Speak with or email Amy Gaesser for a permission to register number.**

**Complete CITI Training by September 13, 2013:** All course participants are expected to complete CITI training.

The following is taken directly from the IRB website <http://www.irb.uconn.edu/training.html#h2> :

*All Investigators and "Key Personnel" who are "engaged in" research with living human beings, human tissue samples or identifiable private information, are required to take the CITI Training Program.*

*Key Personnel who are "engaged in research with human subjects" are UConn faculty, staff or students who:*

- *enroll individuals,*
- *obtain subjects' informed consent by doing more than handing out or collecting forms or telling subjects how to get in touch with the Investigators;*
- *intervene or interact with subjects by performing invasive (e.g., drawing blood) or non-invasive (e.g., survey) procedures on them,*
- *collect data directly from or follow-up directly with participants*
- *collect identifiable private information from participants or*
- *have access to information that links participants' names or other identifiers with their data, or*
- *act as authoritative representatives for the investigators.*

There are two basic CITI Courses: Group 1 - basic Biomedical Research course and Group 2 - basic Social and Behavioral Science. For the purpose of this class and the corresponding research course you will be participating in, **you are asked to complete Group 2 - the basic Social and Behavioral Science training. Go to <https://www.citiprogram.org/Default.asp?> to register and complete the training. Please note that the Responsible Conduct of Research Courses DO NOT satisfy the human subjects training requirement. Make sure to complete the group entitled the Social/Behavioral Research, Basic Course NOT the one entitled Social and Behavioral Responsible Conduct of Research, Basic Course.**

The CITI Social/Behavioral Research, Basic Course will ask you to complete 17 modules in total. Each module will include text to read and sometimes video to watch. You will then complete a brief online quiz on the material from each module, which you have to pass before you can move onto the next module. Each module results can be saved. You do not have to complete all 17 modules in one sitting. You should **plan approximately 6 hours total to complete all 17 modules**. Once completed, please print a completion report and return it to Amy Gaesser. **Completion of your CITI training is due by September 13<sup>th</sup>.**

If you have previously completed CITI training within the last three years, you do not need to redo the training. Simply print a completion certificate and turn it in to Amy Gaesser by September 13<sup>th</sup>.

**Attend 3-Hour Protocol Training:** You will receive a three-hour training session consisting of the unique characteristics and needs of gifted children and adolescents, as well as the skill development protocol to which you have been randomly assigned. No graduate student will be allowed to begin skill development sessions with his/her assigned study participants until all identified training (i.e. CITI, gifted characteristics and needs, and either CBT or EFT protocol) is complete. You are expected to **complete your training requirements by September 30, 2013.**

**Provide Three 50-60 Minute Skill Development Sessions per Assigned Participant:** Your knowledge gained in the trainings will be reinforced through your skill development sessions with your assigned students. You will be assigned 3 – 5 gifted students from grades 6 – 12. Once you have completed the training process, you will begin meeting with your students.

Skill development sessions with your students will begin no sooner than September 30, 2013 nor end any later than January 30, 2014. You will meet with each assigned student for three 50-60 minute sessions to deliver skill development training based on your assigned protocol. Ideally, the individual sessions should occur not less than one week or greater than two weeks apart. All individual sessions will occur at the University of Connecticut or one of its regional sites based on the proximity for the student and his/her parent/guardian. They will occur at a mutually agreed upon time by the study participant and where appropriate, the participant's parent/guardian, as well as you. You will be responsible for scheduling all of the sessions with the participant, and/or where appropriate his/her parent/guardian. Please understand flexibility will be needed, as the sessions have to occur outside of the school day at a convenient for the student and his/her parent/guardian (e.g. most probably late afternoons, evenings, and weekends).

It is anticipated that most of the final skill development sessions with your study participants will be completed by Monday, December 16, 2013. However, in a few instances through no fault of the graduate students involved, final skill development sessions may not be completed until as late as January 30, 2014 due to study participant entry later in the Fall semester. Should the latter situation occur, graduate students delivering skill development sessions after December 16<sup>th</sup> will be given an incomplete for the class. This incomplete will be revised by the course instructor to the grade earned within one week of the graduate student completing the final skill development session with his/her last study participant.

At the first individual session, you will share the assigned skill development protocol with the student. Parents/Guardians should also receive a copy of the assigned protocol from you as well. In each of the three sessions, you will be following the assigned skill development protocol. Should a study participant miss a session, you will need to contact the student, and his/her parent/guardian where appropriate, to reschedule the appointment for the earliest available time.

Upon completion of each student's third session, you will have each student complete a brief final assessment provided by the researchers.

**Complete and Submit Session Briefs:** At the end of each student's session, you will complete a short session brief form to assist researchers with monitoring protocol fidelity. These forms need to be completed and submitted to Amy Gaesser within 24 hours of the session completion.

**Audiotape One Session per Assigned Participant:** To assist the researchers with monitoring protocol fidelity, you will also be asked to audiotape one randomly chosen session for each of you students. The audiotape should be submitted to Amy Gaesser within 24 hours of the session completion. The instructors and/or protocol trainers will review audiotapes within one week.

**Consult with Researcher and/or Trainer as Needed:** In addition to scheduled meetings and trainings, you should consult with the instructors and/or protocol trainers at any point should you have any questions or concerns related to this course and/or the skill development sessions with your assigned students. Both instructors can be reached at the contact information at the beginning of this independent study outline.

### **COURSE ASSESSMENTS & GRADING**

You will be evaluated within the course based on the following 6 items:

1. On-time completion of your CITI training (10% of grade)
2. Participation in classroom discussions on the unique characteristics and academic, social, and emotional needs of gifted students (10% of grade)
3. Participation in classroom discussions and role plays applying the assigned skill development protocols (10% of grade)
4. Completion of all individual skill development sessions with all of your assigned students in a timely and professional manner (40% of grade)



5. On-time completion and submission of all session briefs (i.e. within 24 hours of each session ending) (20% of grade)
6. On-time completion and submission of one audiotape per assigned student (i.e. within 24 hours of assigned session ending) (10% of grade)

Grading criterion for items 1, 2, 3, and 6 are:

- 0 – Did not satisfactorily meet requirement
- 1 – Satisfactorily met basic requirement

Grading criterion for items 4 and 5 are:

- 0 – Did not satisfactorily meet requirement
- 1 – Satisfactorily met basic requirement
- 2 – Met requirement in highly professional manner

The criterion score received for each would be multiplied by the corresponding percentage assigned to the item and these six numbers would be totaled to arrive at a final score. This score would then be divided by the total possible to calculate the student's final course grade.

**IMPORTANT COURSE DATES:**

August 26 – September 6	Course Overview Meetings
September 6	<b>Last Day for EPSY 5199 Registration</b>
September 13	<b>CITI Completion Reports Due</b>
September 9 – September 23	Complete 3-Hour Training Requirement
September 30	Begin Skill Development Sessions with Assigned Students  <b>(Complete and Submit Session Brief After Each Session)</b>  <b>(Complete and Submit Audiotape of Assigned Session)</b>
November 15	Last Individual Students Assigned
November 30	Last Individual Student Session Begun

December 9 – January 30	Final Sessions with All Assigned Students Completed (Note: It is OK to complete final sessions earlier based on when your study participants were assigned and provided session spacing guidelines were followed.)
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## Appendix M

### Graduate Student Agreement to Participate

After speaking with Dr. Orv Karan and/or Amy Gaesser and reviewing the independent study outline for *Research on Children Experiencing Stress and Anxiety*, I agree to join the research team for the study, *Addressing Stress Management for Gifted Children and Adolescents*.

I agree to:

- 1) Complete my CITI Training and provide Amy Gaesser with documentation of completion by September 13, 2013.
- 2) Be randomly assigned to training in either the cognitive-behavioral therapy (CBT) or emotional freedom technique (EFT) skill development programs
- 3) Attend the three-hour training on the unique characteristics and needs of gifted students and my assigned skill development program
- 4) Be responsible for communicating with my assigned study participants, and where appropriate their parents/guardians, to schedule the skill development sessions for all of my assigned participants
- 5) Complete 3 individual skill development sessions for each of my assigned study participants by January 30, 2014
- 6) Complete and submit to Amy Gaesser or designated research team member my session briefs for each of the individual participant sessions (using the form provided) within 24 hours of completing session
- 7) Complete and submit to either Amy Gaesser or designated research team member one audiotape of one session as assigned for each of my study participants
- 8) I understand that it is anticipated that most of the final skill development sessions with the study participants will be completed by Monday, December 16, 2013. However, in a few instances through no fault of the graduate students involved, final skill development sessions may not be completed until as late as January 30, 2014 due to study participant entry later in the Fall semester. Should the latter situation occur, I understand that graduate students delivering skill development sessions after December 16<sup>th</sup> will be given an incomplete for the class. This incomplete will be revised by the course instructor to the grade earned within one week of the graduate student completing the final skill development session with his/her last study participant.

Graduate Student's Name (please print) \_\_\_\_\_

Graduate Student Signature \_\_\_\_\_

Date \_\_\_\_\_

In order to assist the course instructors with the assignment of study participants to you, please circle which University of Connecticut campus you are in closest proximity to and/or frequent for attend classes, etc.

Storrs

Avery Point

Greater Hartford

Stamford

Torrington

Waterbury

Please note: Effort will be made to assign you study participants closest to your location. However, this might not always be possible and you may be required to travel to a site in closest proximity to your assigned participants.

## Appendix N

### Unique Characteristics and Needs of Gifted Youth

#### Introduction

Differences can be a source of strength that enhances gifted students' motivation and task commitment or anxiety that impedes their creative productivity and emotional well-being (Moon, 2007; Webb et al., 2005). The issue of anxiety and gifted students has yet to be fully understood and research has been limited. It is important for educators and mental health providers to recognize the unique attributes of gifted youth, and be able to distinguish a child who is experiencing anxiety to the point of impairment versus one ardently pursuing a passion.

#### Mixed Messages

Giftedness not always welcomed or understood by society

- Sense of value placed on being smart, while paradoxically that asking too many questions/talking too much about topic is annoying
- Myth - Gifted will be OK no matter what situation they are in

#### Divergent Thinking/Higher Level Thinking Skills /Intense Focus

- Ability to see many aspects and variables of situations at once (Webb et al., 2005)
- Need for deeper meaning in the things they study and do (Silverman & Conarton, 2005).
- Love to question and discuss deeply than age mates
- More likely to question inconsistencies
- Insatiable quest for knowledge, lasered pursuit of understanding and precise answers, or a drive to develop multipotentiality
- Deep thinkers often experienced higher levels of idealism and moral concern (Silverman & Conarton, 2005)
- Young gifted children, who have not yet mastered a sense of firm boundaries or healthy limitations, experienced greater feelings of responsibility to make a difference, thereby increasing their angst and guilt (Webb et al., 2005)
- World issues like homelessness or interpersonal concerns such as an upset friend or family member can create excessive worry and/or lost sleep, contributing to anxiety

#### Multipotentiality

- Having interest in and being good at multiple things
- Drawn to several things at once
- Over-extension (Peterson, Duncan, & Canady, 2009)

#### School

- Lack of meaningful stimulation and challenge
- Lack of understanding by school personnel
  - Can all lead to increased internal discord (Hébert, 2011; Moon, 2002)
- Bullying from peers when they attempt to meet high expectations (Silverman, 1993)
- Heightens asynchrony

### **Asynchronistic Development** (Moon, 2007; Silverman, 1993; Silverman & Conarton, 2005)

- Loneliness (Silverman, 1993)
- “Advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm” (Silverman, 1996, p. 4).
- Ability to see the nuances, gray areas, exceptions, and complex interrelationships
  - Can contribute to sense of being out of sync with those around them

### **Perfectionism** (Rogers & Silverman, 1997; Schuler, 2000, 2002)

- Elevated Performance Concerns (Fehm & Schmidt, 2006; Tsui & Mazzocco, 2007)
- When not given adequate strategies to effectively channel perfectionism
  - Increased cycle of disabling anxiety results (Hébert, 2011)
  - Augmented vulnerability to underachievement (Reis & McCoach, 2002).
- Feeling they need to hide pressures, struggles, concerns (Silverman, 1993)

### **Heightened Awarenesses/Sensitivities**

- Increased self-awareness
- Empathetic perspective taking
- Increased awareness of one’s own and others’ emotional states (Mendaglio, 2007)/
- Can become cause for concern when transitions to unproductive or overly self-critical or thoughts become obsessive, compulsive, or motivated by fear or anxiety with no goal other than to relieve affective experience/anxiety
  - “Anti-creative behaviors designed to undo a possibility instead of exploring or developing one” (Webb et al., 2005, p. 89).
- See through the hypocrisies and hidden agendas and were often more aware of a number of global concerns (Peterson et al., 2009)
  - Without effective management skills, acute self-awareness can become debilitating, resulting in immobilization for anxious gifted students who “think deeply about how the world could or . . . should be, and they can envision it. But they can also see clearly how both they and world fall short” (Webb et al., 2005, p. 91).
- **Heightened Multifaceted Sensitivity (HMS)** characterized by “enhanced awareness of behavior, emotions, and cognitions pertaining to self or others” (Mendaglio, 2007, p. 39).
  - When supported, it can lead to motivation towards personal growth; however unmitigated, heightened self-criticism can lead to anxiety (Mendaglio, 2007)

### **Dabrowski’s Advanced Development (AD)/Theory of Positive Disintegration (TPD)**

- Giftedness is not just intellectual
  - Leads to question of how best to identify?
- Anxiety is an integral component to psychological growth and advanced development (Dabrowski, 1964)
- Experience internal conflict, complex emotions, and heightened sensitivity that aggravate self-criticism and anxiety (Daniels & Meckstroth, 2009)

- **Overexcitabilities (OEs)/Increased Intensities**
  - A part of AD/TPD process
  - “A greater capacity to be stimulated by and respond to external and internal stimuli” (Daniels and Meckstroth, 2009, p. 35).
  - Can provide tools that enhance talent development and complexity of understanding, while paradoxically exacerbating stress and anxiety (Dabrowski & Piechowski, 1977)
  - Strength of each OE affects the quality of the individual’s experience
  - High Intellectual and Imaginational OEs balanced by strong, stable Emotional OE is thought to best support advanced development
  - All OEs can have positive and/or negative manifestations (i.e. positive aspects and challenges)
  - Manifestations and strengths of each OE differ for each person

## Five Types of OEs (Dabrowski, 1972; Dabrowski, Kawczak, & Piechowski, 1970)

### 1) Psychomotor

- “Augmented capacity for being active and energetic” (Piechowski and Miller, 1995, p.176)
- “An excessive excitability of the neuromuscular system [which] ... facilitates transfer of the emotional tension to psychomotor forms of expression” (Piechowski, 1975, p.257)
- Categorized into two types (Piechowski, 1979):
  - 1) A surplus of energy
  - 2) Nervousness
- **Positive aspects** can include:
  - Pursuing sports with determination and passion and
  - A strong desire for action (Piechowski and Cunningham, 1985)
  - High levels of organizational ability,
  - A higher capacity for sustained work and effort, and
  - Inexhaustible amounts of energy (Piechowski, 1975, 1979),
  - Animated gestures and committed undertaking of self-improvement tasks (Mendaglio & Tillier, 2006)
- **Challenges** can arise related to the both forms of psychomotor OEs (Piechowski, 1975, 1979; Mendaglio & Tillier, 2006) including:
  - Nail biting
  - Irritability with inaction
  - Impulsive actions undertaken without thought
  - Rapid speech
  - Wanderlust
  - Violent behaviors or games
  - Workaholism
  - Frequent changes in jobs
  - Chain smoking
  - Compulsive talking

## 2) Sensual

- Involves one or more of our five senses, including seeing, touching, tasting, hearing and/or smelling
- If sensual OE occurs without the support of other operational OEs, then it does not appear to contribute to psychological growth (Mendaglio and Tillier, 2006)
- **Positive aspects** (Piechowski, 1979) can include:
  - An enhanced appreciation for one's environment through:
    - An expanded and enriched sensory experience
    - An extreme appreciation of a variety of visual, auditory, tactile, olfactory, or oral experiences
- **Challenges** of sensual OE (Piechowski, 1979) can include:
  - Overeating
  - Excessive masturbation
  - Disproportionate amount of sexual intercourse or partners
  - Impulsive buying sprees

## 3) Emotional

- Most important aspect of this OE is its relational context to other OEs (Piechowski, 1979; Piechowski & Miller, 1995; Mendaglio & Tillier, 2006)
- Assists in meaningful regulation of the other OEs
- Basis for expression of intensity of feeling and development of high moral sensitivity
- **Positive aspects** (Piechowski, 1979) include:
  - "Richness, intensity and high degree of differentiation of interpersonal feelings" (Piechowski, 1979, p.38) including:
    - Advanced degree of empathy for others (Piechowski, 1975)
    - High ability to empathize and strong affective memory (Piechowski & Miller, 1995)
- **Challenges** of this OE can include:
  - Extremes in affect,
  - Disproportionate anxieties or guilt,
  - Fear of death,
  - Extreme self-consciousness,
  - Feelings of inadequacy, insecurity or inferiority, and
  - Depressive or suicidal thoughts (Piechowski, 1979)
  - Excessive inhibitions such as timidity or shyness and
  - Difficulties adjusting to new environments (Piechowski, 1975)
  - Difficulty breaking off an established relationship and starting a new one and
  - Overidentification and personalization of the feelings of significant others (Piechowski & Cunningham, 1985)

## 4) Imaginational

- Have a visual component and a depth of associations (Piechowski, 1975, 1979)
- Discharge and transform emotional OEs into more expressible forms (Piechowski & Miller, 1995)
- **Positive aspects** of this OE include:



- Strong visual recall and visualization abilities,
- Vivid and detailed dream recall, and
- Inventiveness (Piechowski and Cunningham, 1985)
- Poetic and dramatic perceptiveness,
- Visualization of anticipated events,
- Advanced use of expressive images, dramatization, and metaphor, and
- Magical and animistic thinking (Mendaglio & Tillier, 2006)
- **Challenges** include:
  - Struggle with frequent distraction due to wandering attention and daydreaming,
  - Difficulty in distinguishing reality from fantasy,
  - Nightmares
  - Excessive dramatization or mixing of fiction and truth, and
  - Extremes in animistic thinking or
  - Disabling expression related to fears of the unknown (Piechowski, 1979)

## 5) Intellectual

- Intensified and accelerated activity of one's mind,
- Striving for understanding, and
- Probing of the unknown motivated by a quest for the love of truth for its own sake (Piechowski, 1979) According to researchers (Piechowski, 1975; Piechowski & Cunningham, 1985),
- **Positive aspects** include:
  - Probing questions, problem solving and learning as exhibited by curiosity,
  - High levels of concentration,
  - Capacity for sustained intellectual effort,
  - Extensive/voracious reading, and
  - Advanced theoretical thinking characterized by:
    - Metacognitive focus,
    - Introspection,
    - Preoccupation with certain problems,
    - Moral thinking and development of a hierarchy of values, and
    - Superior conceptual and intuitive integration (Piechowski & Miller, 1995)
- Keen observational skills,
- Strong independence of thought self monitoring and evaluation,
- Predominance of “why” or meaning of life questioning,
- Advanced capacity for abstraction, and
- Recognizing and synthesizing order and/or knowledge (Piechowski, 1979)
- When combined with advanced levels of emotional OE, an individual also demonstrates the capacity for the evaluation and discernment of quality (Piechowski, 1979)
- **Challenges** include:
  - Excessive amounts of self-criticism and
  - Obsessive focus on logical explanations (Piechowski, 1979)

## **OEs Related to Anxiety**

- Without adequate skills and support, “sensory overload may arise, bringing with it excess anxiety and nervousness” (Amend, 2009, p.98).
  - Anxiety takes the form of impulsivity or compulsive behavior related to Psychomotor OEs, while Emotional OEs intensify anxiety through heightened and deep emotions, powerful highs and lows, and extreme affective expressions
  - Intellectual OEs are reflected in an insatiable quest for knowledge, lasered pursuit of understanding and precise answers, or a drive to develop multipotentiality. This intensity of purpose may create neglect of important people or events in one’s life, resulting in anxiety as the gifted individual becomes more aware of this disconnect.
  - With adequate support, OEs and advanced development/TPD can ultimately lead to the development of creativity, compassion, positive social capital, and innovative problem solving (Amend, 2009)

## **Twice-exceptionality** (Baum & Olenchak, 2002; Foley, Allmon, Sieck, & Stinson, 2011)

- Having a co-existing disability as well as being gifted
- Each child needs’ should be considered individually

## **Impact of Anxiety for Gifted**

- The fight or flight response associated with anxiety has been shown to negatively impact one’s ability to function cognitively (Banks, 2005; LeDoux, 2002; Sapolsky, 2004; Teicher, Anderson, Polcari, Anderson, & Navalta, 2002), further hindering the divergent thinking processes associated with the gifted experience for affected youth
- The stress response that is activated causes the prefrontal cortex to be bypassed and creates a hypervigilance and hyperarousal cycle within the limbic system, thereby exacerbating the anxiety experienced and impeding one’s ability to process cognitively (Banks, 2005; Teicher et al., 2002).
- LeDoux (2002) has outlined how the body processes information at a synaptic level. Researchers (Banks, 2005; LeDoux, 1996, 2002; Sapolsky, 1996; Teicher et al., 2002) suggest that chronic stress creates synaptic interference, adding to the negative impact on one’s ability to process information and emotions, as well as impeding the overall learning process.
- On cellular and psychological levels, resources normally involved in supporting the cognitive processes are diverted to manage the stress and anxiety experienced.
  - Anxiety can impede cognitive functioning (Derakshan & Eysenck, 2009; Eysenck & Derakshan, 2011; Hopko, Crittendon, Grant, & Wilson, 2005) by negatively impacting control of:
    - Attentional processing (Ansari & Derakshan, 2011; Ashcraft & Kirk 2001; Bishop, 2007; Eysenck, 1985; Eysenck & Calvo, 1992; Eysenck, et al., 2007),
    - Behavior (Beilock & Gray, 2007; Nieuwenhuys & Oudejans, 2011),
    - Interpretational processes (Blanchette & Richards, 2010; Bishop, 2007; Nieuwenhuys & Oudejans, 2011),

- Emotion-driven cognitions (Blanchette & Richards, 2010), and in turn emotion-driven behavior (Krieglmeyer, De Houwer, & Deutsch, 2011; Krieglmeyer, Deutsch, De Houwer, & De Raedt, 2010)
- Anxiety has been found to negatively impact performance on IQ scales (Hopko et al., 2005), suggesting that anxiety may exacerbate the issue of under identification of high potential students when relying solely on academic and IQ scores.

Developing a better understanding anxiety and giftedness, as well as effective interventions to support enhanced management when experienced, is imperative to enabling those impacted to maximize the positive elements of their advanced abilities and more readily manifest their gifts and talents.

### **Assigned Readings:**

Foley Nicpon, M., Allmon, A., Sieck, B., & Stinson, R.D. (2011). Empirical investigation of twice-exceptionality: Where have we been and where are we going? *Gifted Child Quarterly*, 55, 3–17. doi: 10.1177/0016986210382575

Levy, J. J. & Plucker, J. A. (2003) Theory and practice: Assessing the psychological presentation of gifted and talented clients: A multicultural perspective, *Counseling Psychology Quarterly*, 16(3), 229-247.  
Link to this article: <http://dx.doi.org/10.1080/09515070310001610100>

Mendaglio, S., & Tillier, W. (2006). Dabrowski's theory of positive disintegration and giftedness: Overexcitability research findings. *Journal for the Education of the Gifted*, 30, 68-87.

National Association for Gifted Children. (1995). *Addressing affective needs of gifted children*. Retrieved from <http://www.nagc.org/index.aspx?id=384>

## Appendix O

### EFT Guide Sheet

#### Step 1: Identify the Issue/Incident/Aspects

Identify the stressful or anxiety-provoking situation and accompanying feelings, physical sensations, or challenging thoughts. Write the identified issue, incident, or aspects in your journal.

#### Step 2: Determine the Title and Reminder Phrases

Assign a concise title to what you identified in step 1. The title will be used for the setup statement and the reminder phrase that follows. Write the title in your journal under the issue, incident, or aspects you have identified.

Example of a title: “The panic I felt when I saw a spider in the bathroom” or “Feeling sick to my stomach when I have to get on the school bus”.

The reminder phrase is “this (insert shortened version of your title)”.

Example of shortened title: “Panic at spider” or “Sick feeling in stomach”

#### Step 3: Rate Your Level of Distress (SUDS)

On a 0-10 Subjective Units of Distress Scale (SUDS), 0 equals no anxiety experienced and 10 the highest you ever experienced regarding this issue.

Rate your SUDS by asking: “What is my level of distress *right now* as I think about this?” Record this SUDS in your journal under the title.

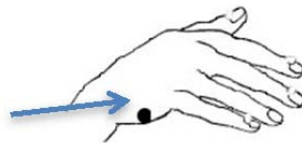
#### Step 4: The Set-up Phrase and Karate Chop Point

The set-up phrase is formed by inserting your title as follows:

“Even though I felt this (insert your title here), I deeply and completely accept myself”. Using this format, create your set-up phrase.

Set-up phrases from above examples, “Even though I felt this panic when I saw the spider in the bathroom, I deeply and completely accept myself” or “Even though I feel sick to my stomach when I have to get on the school bus, I deeply and completely accept myself”.

Tap on the karate chop point, while saying your set-up phrase: “Even though I felt this (title), I deeply and completely accept myself.” Repeat the sequence 3 times while repeating your set-up phrase.



Karate Chop Point

## ADDRESSING STRESS MANAGEMENT

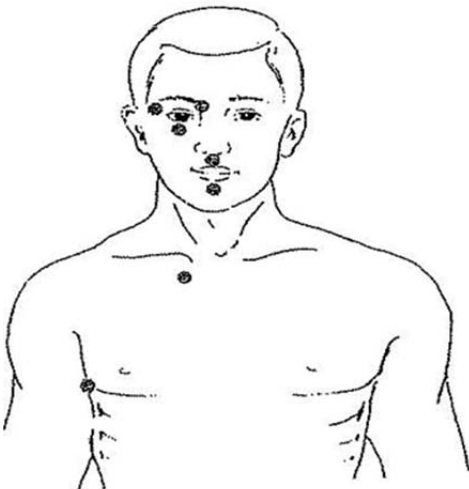
### Step 5: EFT Tapping Sequence

Following the Tapping Sequence below, tap about 7 times (anywhere from 5 to 9) using the balls of the fingertips of your index and middle fingers on each specified acupoints in the diagrams below while repeating your reminder phrase, “this.... (shortened title)”.

Note: Tap with either hand on either side of the body (see diagram below).

- 1) **Eyebrow** (at the inner edge of either eyebrow)
- 2) **Side of eye** (on the bony area beside either eye)
- 3) **Under eye** (on the orbital bone under the center of either eye)
- 4) **Under nose** (halfway between nose and upper lip)
- 5) **Chin** (halfway between lower lip and point of chin)
- 6) **Collarbone** From the collarbone, find the U-shaped notch (about where a man ties his tie). From the notch move right or left approximately 2" to a small depression, immediately below the collarbone.
- 7) **Under arm** (under the arm on either side of the body, halfway between the front and back of the body, usually right on the seam of one's shirt or about 4" below either armpit)
- 8) **Thumb** (With the palm facing down, on the lower edge of thumb, beside the fingernail)
- 9) **Index finger** (With the palm facing down, on the lower edge of index finger beside the fingernail)
- 10) **Middle Finger** (With the palm facing down, on the lower edge of middle finger beside the fingernail)
- 11) **Little Finger** (With the palm facing down, on the lower edge of little finger beside the fingernail)

### Diagram of Tapping Points



Images used with permission of Dawson Church, PhD. Soul Medicine Institute

### Step 6: Assess Progress

Re-assess your SUDS rating. Note this SUDS in your journal under the initial one.

## ADDRESSING STRESS MANAGEMENT

- a) If the SUDS is the **same** or **higher**, repeat steps 4, 5, and 6 up to five times. If SUDS does not drop after 5 rounds, move to another incident or aspect.
- b) If SUDS is **lower**, repeat steps 4, 5, and 6, using the following modifications.
  - 1) At Step 4, change the setup phrase to “even though I STILL have SOME of this (title), I deeply and completely accept myself.”
  - 2) At Step 5, change the reminder phrase to “REMAINING (title)” at each point tapped.

Note the final SUDS rating at step 6 in your journal after repeated rounds are complete.

Source: Association for Comprehensive Energy Psychology. *The ACEP Recommended EFT Research Protocol*. Retrieved from <http://energypsych.org/displaycommon.cfm?an=1&subarticlenbr=132>

ADDRESSING STRESS MANAGEMENT

**Appendix P**

Skill Development Session Brief

Student code \_\_\_\_\_ Date \_\_\_\_\_ Session # \_\_\_\_\_

Student Identified Stressor or Anxiety-Producing Event:

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SUDS before CBT or EFT: \_\_\_\_\_

SUDS after CBT or EFT: \_\_\_\_\_

If more than one stressor identified, include other stressor(s) here:

1) \_\_\_\_\_ 2) \_\_\_\_\_

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SUDS before for each additional stressor: 1) \_\_\_\_\_ 2) \_\_\_\_\_

SUDS after each additional stressor: 1) \_\_\_\_\_ 2) \_\_\_\_\_

Any Concerns, Deviations from Protocol, and/or Additional Relevant Information:  
(Continue on back if more space is needed)

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Date and Time of Next Session: \_\_\_\_\_

## Appendix Q

### Rapport Building Tips

- 1) Rapport building is an important part of the first session and will continue to a lesser degree throughout the sessions.
- 2) Remember the therapy session alone can be stressful or anxiety producing for the adolescent and parent/guardian, as well as that the individual may see you as one more person to please. Introduce yourself to both the adolescent and parent/guardian prior to taking study participant into the room for the session. For some adolescents, it may be helpful to have the parent/guardian also present for items 3 - 5.
- 3) Review the purpose of your sessions together (i.e. “To better understand the participant’s stress/anxiety and help him/her learn strategies to make it better”). Acknowledge, listen, and respond to any concerns or questions about being in the study and/or doing the sessions.
- 4) Normalize with the adolescent that anxiety is a normal reaction to many situations and that struggles with anxiety are common. Let him/her know that you and he/she will be working as a team to help him/her develop effective strategies. Likening your role to a coach with the parents/guardians having supporting roles may also be helpful.
- 5) Emphasize the importance of weekly attendance and practice outside of the sessions to facilitate this process and how much you are looking forward to working with him/her each week. Review confidentiality.
- 6) Take a few minutes at the beginning of the initial session to get to know the adolescent’s questions and concerns. Acknowledge, listen, and respond to his/her thoughts and feelings, normalizing where appropriate.
- 7) Introduce the idea that stress and anxiety often have accompanying feelings, physical sensations, and/or challenging thoughts and part of your work together will involve identifying them.
- 8) Give an overview of the skill development modality (i.e. CBT or EFT) and an overview of the process to occur as outlined in the related protocol, including outcome objectives.



**Appendix R**

Permission to Reprint EFT Acupoint Diagram

Amy Gaesser <amy.gaesser@uconn.edu> 9/11/13

To Dawson <dawsonchurch@gmail.com>

Dawson,

I am in the process of running my dissertation study comparing EFT and CBT. I am using the EFT Protocol posted by ACEP for research purposes, which includes the EFT Tapping diagram from the Soul Medicine Institute.

I am writing to request your permission to use this diagram when I publish my dissertation. I appreciate your consideration of my request and look forward to hearing from you.

Best,

Amy H. Gaesser, MS Ed, NYSSC, NCC  
Doctoral Research Assistant  
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Neag School of Education  
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Storrs, Connecticut 06269  
Email: amy.gaesser@uconn.edu



Dawson Church <dawsonchurch@gmail.com> 12/9/13

To Amy Gaesser <amy.gaesser@uconn.edu>

Sure, Amy, John Freedom told me about your study. Please keep me posted! Thanks, Dawson