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Self Hypnosis for School Success: Empowering Adolescents with Anxiety and Stress

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Self-Hypnosis for School Success: Empowering Adolescents with Anxiety and Stress

Nilani L. Shankar, Ph.D.

University of Connecticut, 2016

Self-hypnosis is a treatment that has been utilized to address the social-emotional concerns of adolescents with high levels of anxiety and stress. In this study, a multiple baseline design across three high school-aged participants was implemented to examine whether self-hypnosis could decrease symptoms of anxiety and stress and help to improve health-related quality of life (HRQoL). The results of the study indicated that the treatment resulted in decreases in trait and state anxiety for two out of three participants, improvements in stress levels for two out of three participants, and improvements in HRQoL for all three participants. Participants reported that the treatment was feasible and appropriate. However, replication studies are needed to increase the internal and external validity of the current study.

Self-Hypnosis for School Success: Empowering Adolescents with Anxiety and Stress

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B.M., Marywood University, 2008

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A Dissertation

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APPROVAL PAGE

Doctor of Philosophy Dissertation

Self-Hypnosis for School Success: Empowering Adolescents with Anxiety and Stress

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Dedication

“Do not go where the path may lead, go instead where there is no path and leave a trail.”

—Ralph Waldo Emerson (1803-1882)

This dissertation is dedicated to my mother, Nancy Diane Shankar, and grandmother, Phyllis Cecile Kaczynski who first instilled in me an interest in alternative health, including hypnosis, at a very early age. You have continued to teach, nurture, and support my unique interests and abilities so that I may forge my own path. I also dedicate this dissertation to my father, Pradheep Shankar; brother, D. Steven Shankar; and in loving memory of my late grandfather, Thomas Leon Kaczynski. To all of my family near and far, I am very grateful for your love, encouragement, support, and unwavering belief in me.

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“The greatest discovery of my generation is that human beings, by changing the inner attitudes of their minds, can change the outer aspects of their lives.”

—William James (1842-1910)

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the effects of hypnosis on children and teens in school and community settings. I hope that we may be able to collaborate on future research.

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Chapter I: Introduction

Statement of Problem

According to the National Institutes of Mental Health (NIMH, 2014), anxiety is one of the most prevalent mental health disorders in the United States and the National Comorbidity Survey—Adolescent Supplement (NCS-A) reports that the prevalence of this disorder for adolescents ages 13 to 18 is 31.9 percent or approximately one in three adolescents (Merikangas et al., 2010). Anxiety disorders are most prevalent in females compared to males with a ratio of two to one and they are also commonly comorbid with other mental health disorders (e.g., anxiety and depression) and other anxiety subtypes (e.g., Generalized Affective Disorder [GAD], Separation Anxiety Disorder [SAD]) (Merikangas, et al., 2010; Southam-Gerow & Chorpita, 2009). Stress is comorbid with anxiety and the American Psychological Association's (APA, 2014a) *Stress in AmericaTM* report found that during the school year adolescents' stress levels are higher than the levels reported by adults. For example, adolescents reported that their stress level during the school year significantly exceeded what they believed was a healthy amount (5.8 versus 3.9 on a 10-point scale) and this number was greater than adults' average reported stress levels (5.8 for adolescents versus 5.1 for adults) (APA, 2014a).

Although there has been previous research conducted on hypnosis for school-based issues including anxiety (e.g., school refusal, test anxiety, phobias, performance anxiety) and stress, most of the research studies are case conceptualizations and these do not have the rigor of a quantitative experimental research design (Aviv, 2006; Lawlor, 1976; Nath & Warren, 1995; Roberts, 1998; Stanton, 1994). The majority of case studies have indicated successful outcomes in utilizing hypnosis with school-aged children and adolescents but there is not yet a valid, quantitative understanding of these outcomes with a school-aged population. Furthermore, the

lack of consistency between hypnosis terminologies (e.g., hypnosis, self-hypnosis, hypnotherapy, trance) poses problems in research. Clear operational definitions are needed.

Purpose of the Study

This study examined an anxiety and stress intervention known as self-hypnosis in three student participants in grades 9-12 who were clinically identified with anxiety according to their school social worker. These students had no trauma history according to their school social worker, were taking consistent medications at the time of the study, and were 14 to 18-years-old. These participants worked with their school social worker for stress and anxiety management and owned an electronic music player to utilize during treatment. The effects of a self-hypnosis intervention were investigated on the following:

- Students' anxiety levels as measured by the STAI Form Y-1 (State) and Form Y-2 (Trait) scales.
- Students' health-related quality of life (HRQoL) as measured by the Pediatric Quality of Life Inventory (PedsQL) 4.0 Generic Core Scales—Teen Report.
- Students' hypnotic susceptibility as measured by the Creative Imagination Scale (CIS).

Research Questions

The research questions included:

- How did self-hypnosis affect students' anxiety and stress levels and health-related quality of life (HRQoL) during the 30-day intervention?
- Did these effects maintain during the two-week follow-up period?

Research Hypotheses

Hypotheses included that:

- The self-hypnosis intervention would decrease students' anxiety levels and increase heart rate variability (HRV), thus indicating lower stress levels during the 30-day intervention period. The intervention would increase health-related quality of life (HRQoL).
- These effects would maintain during the 2-week follow-up period.

Chapter II: Review of The Literature

Overview of Anxiety

According to the National Institutes of Mental Health (NIMH, 2014), anxiety disorders are one of the most prevalent mental health disorders in the United States and the National Comorbidity Survey—Adolescent Supplement (NCS-A) reports that the prevalence of this disorder for adolescents ages 13 to 18 is 31.9 percent or approximately one in three adolescents (Merikangas et al., 2010). Anxiety disorders are most prevalent in females compared to males with a ratio of two to one and they are also commonly comorbid with other mental health disorders (e.g., anxiety and depression) and other anxiety subtypes (e.g., Generalized Affective Disorder [GAD] and Separation Anxiety Disorder [SAD]) (Merikangas, et al., 2010; Southam-Gerow & Chorpita, 2009).

Anxiety is a normal stress reaction and is beneficial under certain circumstances, however, it may become excessive for some individuals and affect one's daily living activities (National Institutes of Mental Health [NIMH], 2014). Students with high levels of anxiety should be of particular concern to school-based mental health practitioners because the age of onset typically occurs in childhood and adolescence and may progress into adulthood if there is no appropriate mental health treatment (Albano, Chorpita, & Barlow, 2003). Anxiety may affect children or adolescents in school settings by impairing their cognition, behavior, and physiology. Possible impairments related to anxiety include the following: (a) cognitive problems such as concentration problems, memory problems, attention problems, oversensitivity, difficulty with problem solving, worry, cognitive dysfunction, distortions, deficiencies, and attributional style problems; (b) behavioral problems such as motor restlessness, being fidgety, task avoidance, rapid speech, erratic behavior, irritability, withdrawal, perfectionism, lack of participation,

failing to complete tasks, and seeking easy tasks; (c) physiological problems such as tics, recurrent and localized pain, rapid heart rate, flushing of the skin, perspiration, headaches, muscle tension, sleeping problems, nausea, vomiting, and enuresis (Huberty & Dick, 2006).

Anxiety symptoms may develop from many causes including: (a) biology (e.g., neurotransmitters, temperament); (b) family influences; (c) psychological stress and negative life events (e.g., death of a family member, trauma, divorce, chronic medical problems); (d) cognitive influences; (d) behavioral influences (Merrell, 2008). Merrell reported that negative family influences are developed if there are insecure attachment patterns between children and their parents, or if parents are highly anxious themselves and model anxious types of behavior that perpetuate these symptoms in their children. In addition, if children live in a family where there are unusual or intense fears, this increases the vulnerability to develop fearful, insecure, and anxious ways of responding to normal life situations. Cognitive influences include how children and adolescents view their world and may include negative and unrealistic or distorted thinking patterns (Merrell, 2008). For instance, if children and adolescents fret, worry, or are overly concerned with things that other people regard as unimportant or would not consider, this may increase their anxiety levels (Merrell, 2008).

Anxiety is diagnosed and defined through the *Diagnostic and Statistic Manual* (DSM), a standardized classification system of mental disorders utilized by mental health practitioners in the United States (American Psychiatric Association [APA], 2013b). Changes of anxiety disorder classifications from the old edition, *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition—Text-Revision* (DSM-IV-TR) to the new edition, *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) were implemented to define and diagnose with more accuracy and to improve a person's mental health treatment (APA, 2013b).

The changes in the DSM-5 for anxiety disorders include: (a) changes to the anxiety subtypes (e.g., Selective Mutism and Separational Anxiety Disorder [SAD] are now classified as anxiety disorders); (b) introducing a developmental framework where each anxiety disorder is presented according to the likelihood of developmental onset; (c) modification of some of the defining criteria for anxiety; (d) some anxiety subtypes that were only attributed to children may now occur in the adult population (APA, 2013a; APA, 2013b).

Overview of Stress

According to the American Psychological Association's (APA, 2014a) report, *Stress in AmericaTM*, adolescents reported that during the school year their stress levels are higher than adults' reported stress levels. For example, adolescents reported that their stress level during the school year significantly exceeded what they believed was a healthy amount (5.8 versus 3.9 on a 10-point scale) and this number was greater than adults' average reported stress levels (5.8 for adolescents versus 5.1 for adults) (APA, 2014a). Even during the summer months, adolescents reported their stress during the past month at levels greater than what they believed was a healthy amount (4.6 versus 3.9 on a 10-point scale) (APA, 2014a). In addition, 31 percent of adolescents surveyed reported feeling overwhelmed and 30 percent surveyed reported feeling depressed or sad due to stress, 36 percent surveyed reported feeling fatigued due to stress, and 23 percent surveyed reported skipping a meal due to stress (APA, 2014a). Adolescents underestimated the impact that stress may have on their physical and mental health. For instance, 54 percent of adolescents versus 39 percent of adults reported that their stress level has little or no impact on their body or physical health and 52 percent of teens versus 43 percent of adults reported that their stress level has slight or no impact on their mental health (APA, 2014a).

Stress is comorbid with anxiety because anxiety is a reaction to stress (Anxiety and Depression Association of America [ADAA], 2016). Stress is conceptualized as having physical and psychological components (Lovallo, 2005). The physical components of stress are those related to direct material or physiological challenges to the body while psychological components involve an individual's perception of life circumstances. According to Dougall and Baum (2012), these two components may be examined in three ways: (a) stress as the environment, whereby stress is viewed as a physical or psychological stimulus (e.g., stressors); (b) stress as a response (e.g., how one reacts to stressors); and (c) stress as a process (Lazarus, 1999; Lazarus & Folkman 1984). This last view emphasizes a process in which stress is defined according to stressors, strains, and the relationship between a person and his or her environment. Stress is neither solely a stimulus nor a response because the person is influencing the impact of a stressor through behavioral, cognitive, and emotional strategies. Stress is referred to as: "the circumstance in which transactions lead a person to perceive discrepancy between the physical or psychological demands of a situation and the resources of his or her biological, psychological, or social systems" (Sarafino & Smith, 2014, p. 59).

The effects of stress on students' physical health and academic success are widespread, affecting physiology, health behaviors, and cognition. These consequences can then impact students' physical health, mental health, and academic performance.

Unlike anxiety, stress is not diagnosed and defined through the *Diagnostic and Statistic Manual* (DSM).

Identification, Assessment, and Treatment

There are many school-based approaches for identifying, assessing, and providing interventions for students who show cognitive, behavioral, and physiological impairments related

to anxiety and stress. One effective approach discussed by Huberty (2008) is the problem-solving model, which consists of four components: (a) problem identification; (b) developing interventions; (c) implementing the interventions; (d) evaluating the effectiveness of the interventions. To implement the problem-solving model successfully within a Response to Intervention (RTI) framework, evidenced-based interventions are implemented. For anxiety and stress, tier one consists of screening or providing a service or intervention to all students related to anxiety and tier two consists of interventions for students who appear likely to have anxiety. Tier two interventions may include: (a) establishing predictable routines; (b) setting clear and reasonable expectations for the student; (c) breaking tasks into manageable units (Huberty, 2008). Tier three interventions are more individualized and intense and may include these interventions: (a) counseling; (b) cognitive-behavioral therapy (CBT) (e.g., C.A.T. Project for adolescents) (Huberty, 2008); (c) behavioral interventions (Merrell, 2008); (d) yoga (Peck, Bray, & Kehle, 2003); (e) written emotional expression (Bray, Theodore, Patwa, Margiano, Alric, & Peck, 2003); (f) relaxation and guided imagery (RGI) (Kapoor, Bray, & Kehle, 2010); (g) mindfulness (Liehr & Diaz, 2010; Sibinga, Webb, Ghazarian, & Ellen, 2016).

To elaborate on tier three interventions, CBT was developed in the 1990's as an anxiety intervention for children and adolescents. Some CBT interventions are: (a) self-control training for anxiety (e.g., training students to monitor their thoughts, activities, and feelings and to focus on their consequence in an effective manner); (b) self-instructional training for anxiety (e.g., learning how to alter maladaptive thoughts and behavior appropriately through carefully scripted talk; (c) Coping Cat Program or C.A.T. Project which is a comprehensive CBT program for group and individual anxiety treatment; (d) transfer-of-control approach (e.g., reducing anxiety and phobia symptoms by gradually increasing exposure to the problem stimuli and gradually

transferring control over the treatment techniques from practitioner to student; (d) social skills training (e.g., introduction and problem definition, identification of solutions, modeling, rehearsal and role playing, performance feedback, removal of problem behaviors, self-instruction and self-evaluation, training for generalization and maintenance (Merrell, 2008). Another type of CBT intervention is systematic desensitization which is based on the principals of classical conditioning to reduce fears and phobias through these steps: (a) relaxation training (e.g., progressive muscle relaxation or a shortened relaxation technique); (b) development of an anxiety hierarchy (e.g., helping students grade anxiety-producing stimuli by least to most feared); (c) desensitization (e.g., successive exposure to the anxiety-provoking stimuli, imagined or real to eliminate an unwanted anxiety responses) (Merrell, 2008). Tier three behavioral interventions include: (a) modeling (e.g., reducing anxiety and fear responses by having students observe another student who appropriately deals with the anxiety-provoking stimuli); (b) differential positive reinforcement (e.g., minimizing anxious symptoms by increasing behavioral responses that are incompatible with anxiety); (c) shaping and extinction (Merrell, 2008). Shaping is a reinforcement procedure that involves teaching the student to engage in a desired behavior in a series of small steps as opposed to all at once and reinforcing each progressive step in a behavior sequence (Merrell, 2008). Extinction requires removing reinforcing consequences that occur after problem behavior that might be inadvertently maintained through reinforcement (Merrell, 2008).

In addition to these tier three interventions, other interventions may include referrals to outside healthcare and mental health providers and this may or may not include medication management. If students' anxiety and stress problems significantly interfere with personal, social, and academic life, an outside referral is typically warranted and outside providers may

recommend these medications: (a) benzodiazepines (e.g., Valium, Xanax, Ativan, Klonopin, Tranxene); (b) antihistamines (e.g., Benadryl, Hydroxyzine); selective serotonin reuptake inhibitors (SSRI's) (e.g., panic attacks, agitation, sleeplessness, general overarousal, obsessive compulsive disorder [OCD], social phobia); (c) tricyclic antidepressants (TCA's) (e.g., Imipramine, Anafranil); (d) Buspar; (e) medicinal herbs (Merrell, 2008). There is some research evidence regarding effective pharmacological treatment for anxiety disorders in children and adolescents, however, a routine prescription is not recommended because it could potentially harm a younger person (Creswell, Waite, & Cooper, 2014). For instance, benzodiazepines have not been thoroughly evaluated for children and adolescents and there are concerns regarding their safety with a younger population (Creswell et al., 2014). Selective serotonin reuptake inhibitors (SSRI's) are the pharmacological treatment of choice for anxiety in children and adolescents due to their safety and effectiveness (Ipser, Stein, Hawkridge, & Hoppe, 2009).

Hypnosis and Self-Hypnosis

Hypnosis is an intervention that has numerous similarities to RGI. Both interventions use imagination and suggestion, but hypnosis follows a series of ordered steps that include: (a) introduction; (b) induction; (c) intensification; (d) therapeutic suggestions; (e) resuming usual awareness; (f) reflection (Sugarman & Wester, 2011). Hypnosis can be offered as an outside intervention to school-aged students by healthcare or mental health providers. According to the American Psychological Association Division 30—Society of Clinical Hypnosis (APA, 2014b, para. 1), hypnosis is defined as: “a state of consciousness involving focused attention and reduced peripheral awareness characterized by an enhanced capacity for response to suggestion.” Despite APA Division 30's definition, Kohen and Olness (2011, p. x) state that hypnosis terminologies are often inconsistent within the academic literature because there is not a clear

distinction between hypnosis in what they call “an altered state of consciousness or awareness” and hypnotherapy in which these two authors define as “a treatment modality in which the patient is in the altered state of hypnosis at least part of the time.” Essentially, Kohen and Olness convey that hypnotherapy is a therapeutic intervention by a therapist or patient and self-hypnosis is hypnosis without the therapeutic intervention (e.g., psychotherapy).

According to Sugarman and Wester (2011), there is also confusion between the definitions of hypnosis and trance. These authors state that hypnosis is how we utilize trance our non-conscious processes and their definition of hypnosis is: “the purposeful utilization of these nonconscious processes called trance for an expressed purpose with or without conscious awareness” (p. 7). This definition describes hypnosis as a skill set that constitutes interpersonal and multi-level communication (e.g., noticing, suggesting, and responding), such as imaginative play by utilizing a person’s own trance states to help that person.

It is also questioned if mindfulness and hypnosis are the same. Yapko (2011), another leader in the hypnosis field, states that the two differ in their philosophical foundations and intentions. He defines hypnosis as:

“Hypnosis applied in clinical interaction employs suggestions provided by the clinician to facilitate the client proactively and collaboratively developing a state of experiential absorption. When so engaged, the client typically experiences a dissociation allowing him or her to respond to suggestions and interventions on multiple levels of awareness, thereby more fully utilizing resources in a goal-directed fashion. The practice of hypnosis involves the core skills of using words and gestures in particular ways to achieve specific therapeutic outcomes, acknowledging and utilizing main and complex

personal, interpersonal, and contextual factors that combine in varying degrees to influence client responsiveness” (pp. 22-23).

Regardless of hypnosis terminology, most of the academic literature will agree that hypnosis is an altered state of consciousness that an adult or child can spontaneously enter throughout the course of a day and that much of hypnosis is self-hypnosis, meaning that the person in a hypnotic state has control of his or her actions and may choose to reject the hypnotic suggestions offered to him or her (Kohen & Olness, 2011; Sugarman & Wester, 2011; Yapko, 2011).

Overview of Pediatric Hypnosis Research

Hypnosis and hypnotherapy for children and adolescents has been used for more than 200 years and has been researched across various health areas including: a) psychological disorders; b) autism spectrum disorders; c) habit disorders; d) pain control; e) pediatric medical problems, surgery, and emergency; f) palliative care, grief, and bereavement (Kohen & Olness, 2011).

For psychological disorders in children and adolescents, there have been 60 publications, predominantly case studies, that research the effects of hypnosis and hypnotherapy. Huynh, Vandvik, and Diseth (2008) reviewed these publications and found that hypnosis may be useful for childhood psychiatric conditions, particularly anxiety disorders and trauma related conditions. These researchers state that additional qualitative and quantitative studies are needed to assess the effectiveness of hypnosis and hypnotherapy for psychological disorders.

Hypnosis and hypnotherapy have also been researched with autism spectrum disorders (ASD). In 2007, Bruck, London, Landa, and Goodman examined autobiographical memory (a type of memory consisting of episodes recollected from an individual's life) and suggestibility in children with autism spectrum disorders. This research helped the authors to develop several

hypotheses as to the hypnosis suggestibility level of children with ASD. Their study found that children with ASD had significantly poorer autobiographical memory when compared to typically developing children but had the same suggestibility levels as children who are typically developing. Yapko (2006) also found that conversational hypnosis (e.g., inductions, utilizing metaphors, relaxed scenario experiences) are useful hypnosis techniques for children with ASD.

For habit disorders, pediatric hypnosis research has been conducted on habitual coughs, enuresis, thumb sucking, fecal soiling, nail biting, hair pulling, verbal disfluencies, sleepwalking, specific eating disorders, drug abuse, and more. For example, for enuresis, Jacobs (1962), Olness and Gardner (1978), and Tilton (1980) conducted case studies that described the effectiveness of hypnosis and hypnotherapy for children with this medical condition and Gottsegen (2003) reported the termination of nocturnal enuresis for four children ages 9-12 after one visit with hypnotherapy. Thomson (2014) reported metaphorical storytelling as a successful hypnosis technique for children with enuresis.

In pediatric pain control hypnosis research, hypnosis has been proven to be effective in the management of childhood pain (Kuttner, 2010). Also, Liossi, White, and Hatira (2006) conducted a prospective controlled trial that compared analgesic cream (EMLA), EMLA and training in hypnosis, and EMLA plus attention¹ in cancer patients. It was reported that the EMLA plus hypnosis group reported substantially less anticipatory anxiety as well as less procedure related pain and anxiety than the other two groups.

In the area of pediatric medical problems, surgery, and emergency, research has been conducted on the effectiveness of hypnosis for children and adolescents with asthma, cystic fibrosis, dermatological problems, diabetes, and more. For asthma research, Hackman, Stern,

¹ Meeting with the therapist for the same amount of time as those in the hypnosis group (Liossi et al., 2006).

and Gershwin (2000) published a review of hypnosis studies on asthma and found that hypnosis was more effective in subjects more hypnotically “susceptible” and that the duration of the hypnosis procedure may affect the results of the intervention. These researchers’ reviews concluded that hypnosis is effective for treating asthma but additional randomized trials are necessary to understand the benefits of hypnosis. These researchers also suggested distinguishing between hypnosis and relaxation.

For palliative care, grief, and bereavement, Remke (2005) and Russell and Smart (2007) conducted case studies on hypnosis as well as imagery for comfort at end of life and described hypnosis’s effectiveness in these case studies. Kohen and Olness (2011) stated that hypnotherapy for children at end of life care can help with relieving symptoms, decreasing anxiety, depression, and helplessness, enhancing ego function, and more.

Overview of Adult Hypnosis Research

Adult hypnosis research has covered areas of health similar to those within pediatric hypnosis research literature. For example, a recent meta-analysis by Tefikow et al. (2013) found that hypnosis helped adults undergoing surgery with their emotional distress, pain, medication consumption, physiology, recovery, and time within the surgical procedure. These researchers recommend further randomized control trials that employ a high research methodology to strengthen the evidence of hypnosis used during adult surgical procedures. In addition, adult hypnosis research has been conducted on participants with cancer by Snow et al. (2012) who found that hypnosis with the participants reduced anxiety but may not have adequately controlled pain. These researchers recommend future studies to clarify their results.

One area that is not a part of the pediatric hypnosis research literature is smoking cessation. According to Green and Lynn (2000), the research evidence with adult smoking

cessation is insufficient to recommend hypnosis as a suitable treatment. Similar results were also found in a Cochrane Review by Barnes et al. (2010). These researchers found no effect of hypnotherapy compared to rapid smoking or psychological treatment for smoking cessation.

Overview of School Psychology Hypnosis Research

In the school psychology field, there is mixed support on hypnosis but the overall findings appear favorable. It appears that Lightner Witmer wrote the first school psychology hypnosis paper in 1897, in which he studied the effects of hypnosis on a 27-year-old female college student with stuttering. Witmer stated that hypnosis helped the student give a speech but had temporary effects. He believed that hypnotism would only be effective for her for a short time or under renewed application and his assumption was that the more hypnosis the subject received, the more the subject would need.

Other researchers and writers more favorable to hypnosis are Woody and Herr (1965, 1966), Benson (1989, 1995), and Perfect, McCling, and Bressette (2013). Woody and Herr (1965) felt that hypnosis may improve the following areas for students: (a) motivation for learning; (b) study skills; (c) concentration and attention; (d) reading improvement; (e) control of unacceptable social behavior; (f) alleviation of resistances to psychotherapy or counseling. In 1966, they discussed the typical roles of a school psychologist and asked the question of whether or not clinical hypnosis should be used by school psychologists. At this time, clinical hypnosis was receiving much interest in psychology, medicine, and dentistry fields and the authors felt that it was “a matter of time until its suitability for the specialty of school psychology must be considered” (p. 254). Woody and Herr gathered psychologists’ opinions of the suitability of using clinical hypnosis in school settings via questionnaires to Ph.D. or Ed.D. psychologists who were members of the American Society of Clinical Hypnosis (ASCH). These results yielded a

significant reservation for utilizing hypnotic techniques in elementary and secondary schools but psychologists felt comfortable with utilizing hypnotic techniques at the college-level. Woody and Herr recommended thorough communication to school personnel about the purpose and objectives of hypnosis and also recommended that doctoral level school psychologists become familiar with the use of clinical hypnosis and the hypnosis academic literature. These authors also advocated for additional training in hypnosis and supervision by an experienced professional trained in hypnosis.

Another pioneer in the field of hypnosis in school psychology is Benson, a former educational psychologist from England. In a 1995 paper, Benson considered the use of hypnosis within educational psychology and described the importance of school psychologists utilizing hypnosis to help students change their context and environment and to reframe cognitions. She discussed how she conducts hypnosis and the use of hypnotic metaphor. Benson wrote another paper on hypnosis that was published in *School Psychology International* in 1989, and this appears to be the first published paper on hypnosis in a school psychology academic journal. In this paper, Benson summarized the growth of hypnosis over the last decade while providing an overview of hypnosis with children. She cited the British Society of Experimental and Clinical Hypnosis (BSCAH) and hypothesized that approximately 300 educational psychologists are interested in, if not currently using, hypnotherapeutic methods in the United Kingdom, and three case studies are discussed. Most recently, Perfect, McCling, and Bressette (2013) published an article in *Communiqué* that discussed the applications of hypnosis in treating school-aged children. Perfect et al. stated that the goal when working with children is to teach them self-hypnosis and they described the differences between clinical hypnosis and medication, hypnosis misconceptions, and provided hypnosis training resources. Perfect et al. state that there is

emerging evidence that hypnosis is useful in treating the problems of school-age youth. They also described the limitations of hypnosis research with children and stated that hypnotic inductions are often personalized for each child and cannot always be generalized to other children and settings.

Overview of Hypnosis Research for Behavioral and Academic Concerns

The use of hypnosis for school issues has been researched and previous studies have investigated hypnosis for a wide variety of problems such as: (a) attention and hyperactivity disorder (Calhoun et al., 1986; Copeland, 1980; Davis, 1978); (b) disruptive and delinquent behavior (Benson, 1984); (c) written language issues (Young, Montano, & Goldberg, 1991); (d) other academic difficulties such as achievement and reading speed (De Vos & Low, 2006; Donk, Vingoe, Hall, & Doty, 1970; Liebert, Rubin, & Hilgard, 1965; Schreiber, 1997; Schreiber & Schreiber, 1998).

Self-hypnosis has been investigated for children with a wide variety of anxiety problems such as: (a) school refusal (Aviv, 2006; Lawlor, 1976; Roberts, 1998); (b) test anxiety (Stanton, 1994); (c) phobias (Hatzenbuehler & Schroeder, 1978; Olness & Gardner, 1978); (d) performance anxiety (Nath & Warren, 1995). Most of these are case studies and they do not have the rigor of a quantitative design. However Kohen, Olness, Colwell, and Heimerl (1984) found self-hypnosis effective in a large sample of 505 children and adolescents with anxiety and other mental and physical disorders. It is not mentioned if this study was a randomized controlled research design.

Chapter III: Method

Participants and Setting

Three students participated from a public high school in a suburban town in the Northeast. The high school was recruited through the student investigator's contacts and a school social worker served as a liaison to secure the site. During the year of recruitment and enrollment, which was 2015, the high school had 1,187 students enrolled (USAschoolinfo, 2014). The school's gender demographics and ethnic demographics are reported in Figures 1 and 2.

To secure the site, the following materials were provided to the school social worker to give to the school principal and the school district superintendent: (a) Dissertation Study Summary (see Appendix A); (b) Letter of Invitation for the High School/School District (see Appendix B); (c) School Administrators to Indicate Study Participation (see Appendix C). The School Administrators to Indicate Study Participation letter was signed by both the high school principal and the school district superintendent prior to participant recruitment and enrollment.

The three students who enrolled in the study met the following criteria: a) student at the high school in grades 9-12; (b) ages 14-18; (c) clinically identified with an anxiety disorder according to DSM-5 criteria by their school social worker; (d) currently work with their school social worker for stress and anxiety management; (e) no trauma history according to their school social worker; (f) consistent medications; (g) access to an electronic music player (e.g., iPhone, iPod, iPad) to use during the study; (h) no asthma medications. Participant 1 was a sixteen-year, ten-month-old male of Middle Eastern ethnicity in grade 11. This participant had general anxiety and stress related to school, he had in-school counseling supports during the course of the study, and he also saw an outside mental health provider for weekly counseling sessions.

Participant 2 was a sixteen-year, one-month-old male of Caucasian ethnicity in grade 10. This participant had anxiety and stress with sexual identity issues and social issues that affected him at school. He received in-school counseling supports during the course of the study and he had previously seen outside mental health provider prior to participation in the study. Participant 3 was a sixteen-year, nine-month-old Caucasian male in grade 11. This participant had anxiety and stress related to physical health conditions that impaired his ability to concentrate in school. He received in-school counseling supports during the course of the study and he did not see any outside mental health providers.

Description of Dependent Variables

This study had three dependent variables: (a) anxiety; (b) stress; (c) health-related quality of life (HRQoL).

Anxiety. The dependent variable of anxiety was defined according to DSM-5 anxiety disorder criteria and was measured by the State Trait Anxiety Inventory (STAI) state and trait forms (Forms Y-1 and Y-2).

Stress. Stress was operationally defined according to Sarafino and Smith's (2014) definition: "the circumstance in which transactions lead a person to perceive a discrepancy between the physical or psychological demands of a situation and the resources of his or her biological, psychological, or social systems" (p. 59). Stress data was collected utilizing heart rate variability (HRV) recording equipment.

Health-Related Quality of Life (HRQoL). HRQoL was operationally defined according to the Centers for Disease Control and Prevention (CDC, 2016) and indicated an individual's physical and mental health perceptions pertaining to these correlates: (a) health risks and

conditions; (b) functional status; (c) social support; (d) socioeconomic status. HRQoL was measured by the Pediatric Quality of Life Inventory (PEDSQL) 4.0 Generic Core Scales.

Description of Independent Variable

The independent variable consisted of: (a) one educational session; (b) hypnosis session 1; (c) a self-hypnosis recording listening protocol; (d) hypnosis session 2. A medical doctor who was board certified in Internal Medicine and board certified in Integrative Medicine was hired as the hypnotist for the study. She fulfilled the American Society of Clinical Hypnosis (ASCH) Certification in Clinical Hypnosis requirements of: (a) possessing at least a Master's degree in a healthcare field deemed appropriate by ASCH; (b) membership in a professional society consistent with degree; (c) licensure or certification by the state where she practices; (d) minimum of 40 hours of ASCH approved workshop training (20 hours each of beginning and intermediate workshops); (e) minimum of 20 hours of individualized training/consultation with an ASCH Approved Consultant; (f) minimum of two years of independent practice using clinical hypnosis (ASCH, 2014b). She also fulfilled the ASCH Approved Consultant hypnosis certification requirements of: (a) a minimum of 60 additional hours of workshop training approved by ASCH; (b) a minimum of 5 years of independent practice using clinical hypnosis, (c) a minimum of 5 years of membership in ASCH, the Society of Clinical and Experimental Hypnosis (SCEH), or an equivalent organization (ASCH, 2014a). A hypnotic script was utilized during this study (see Appendix P). It was created by the medical doctor. However, each session was tailored according to the specifics of the participant (e.g., things the participant likes, things the participant does not like, most stressful situation, things the participant wanted to learn).

Hypnosis, hypnotherapy, and self-hypnosis were operationally defined according to Kohen and Olness (2011). Hypnosis was defined as: “a state of consciousness involving focused attention and reduced peripheral awareness characterized by an enhanced capacity for response to suggestion” (para. 1). Hypnotherapy was not utilized in this study but was defined as: “a treatment modality in which the patient is in an altered state of hypnosis for at least part of the time (p. x). Self-hypnosis was defined as hypnosis without the therapeutic intervention (Kohen & Olness, 2011).

Educational session. The medical doctor first met individually with each participant in the high school’s guidance department for a 60-minute educational session. During the educational session, she explained to each participant: (a) what hypnosis is; (b) what anxiety is; (c) how hypnosis may help anxiety (see Appendix P). She also gathered information on each participant to tailor inductions and hypnotic suggestions specific to each participant’s anxiety and stress.

Hypnosis session 1. For the first hypnosis session, the medical doctor met for 60 minutes individually with each participant in her medical office. She conducted one hypnosis session during this time frame and it was structured as follows: (a) 15 minutes of talk; (b) 30 minutes of hypnosis; (c) 15 minutes of re-alerting and talk. The 15 minutes of talk before and after the hypnosis were opportunities for the medical doctor to check-in with each participant. The hypnosis portion of the session consisted of: (a) an induction; (b) suggestions. Induction is a technical term for a relaxation exercise such as guided imagery or progressive muscle relaxation and this provided an opportunity for each participant to feel comfortable and relaxed. In the suggestions phase, the medical doctor introduced ideas to the participant. During the re-alerting

phase, the medical doctor used re-alerting statements to bring the participant back to an alert, conscious state. Please refer to Appendix P for a more detailed description of the hypnosis.

Self-hypnosis recording listening protocol. The self-hypnosis recording listening protocol consisted of each participant's first hypnosis session recorded onto a digital recorder and burned onto a CD-ROM. Each participant listened to the self-hypnosis recording on an electronic music player (e.g., smartphone), daily, for two weeks after hypnosis session 1 and for another two weeks after hypnosis session 2. Overall, each participant was asked to listen to the recording for 30 days. Please refer to Appendix P for a more detailed description of the self-hypnosis recording listening protocol.

Hypnosis session 2. After two weeks, each participant met with the medical doctor for a second individual hypnosis session in her medical office. This lasted for 60 minutes. No self-hypnosis recording was offered to participants during the second hypnosis session. The second hypnosis session was structured like the first hypnosis session: a) 15 minutes of talk; (b) 30 minutes of hypnosis; (c) 15 minutes of re-alerting and talk. It provided an opportunity for each participant and for the medical doctor to get closure to hypnosis treatment. After the second session, each participant continued to listen to the self-hypnosis recording from the first hypnosis session on his electronic music player for two more weeks. For a more detailed description, please refer to Appendix P.

Design

This study employed a multiple baseline design across three participants with three phases: (a) baseline phase; (b) treatment phase; (c) follow-up phase. This design was selected because the amount of internal validity is equivalent to a group design and allows the conclusion that observed changes in behavior occurred because of the treatment variable (Kazdin, 2011).

Once the behavior for all participants stabilized, the treatment variable was applied to the first participant while baseline conditions continued for all other participants (Kazdin, 2011). Once the behavior stabilized for the first participant, the treatment variable was extended to the second participant and this was continued until all three participants received the treatment variable (Kazdin, 2011). A change in participants' performance was obtained when the treatment variable was introduced and not before. By replicating the protocol with each succeeding participant, external validity was achieved and an effect of the intervention was demonstrated (Kazdin, 2011).

Materials and Measures

Participant qualification criteria checklist. Once parental and student permissions were obtained, it was recorded whether the student met the participation eligibility criteria and the school social worker's criteria for anxiety through the Participant Qualification Criteria Checklist and Clinical Assessment form (see Appendix F). This form was utilized to ensure that all students who participated in the study met the following eligibility criteria: (a) current student at the high school in grades 9-12; (b) ages 14-18; (c) clinically identified with an anxiety disorder according to DSM-5 criteria by their school social worker; (d) currently work with their school social worker for stress and anxiety management; (e) no history of trauma according to their school social worker; (f) consistent medications; (g) access to an electronic music player (e.g., iPhone, iPod, iPad) to use during the study; (h) no asthma medications. To ensure that the criteria was met, the school social worker signed a form for each of the three participants.

Screening instrument. The State Trait Anxiety Inventory (STAI) Form Y-2 Trait Anxiety scale (see Appendix L) was utilized to assess initial anxiety levels in potential participants.

State-Trait Anxiety Inventory (STAI) Forms Y-1 and Y-2. The STAI Form Y (Forms Y-1 and Y-2) is a self-report measure that consists of a state anxiety scale (S-Anxiety), which measures transitory anxiety states (e.g., subjective feelings related to apprehension, tension, and worry) and a trait anxiety scale (T-Anxiety), which measures more stable anxiety levels (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). The S-Anxiety scale (STAI Form Y-1; Appendix L) contains 20 items with a four-point interval ranging from: (a) *Not At All*; (b) *Somewhat*; (c) *Moderately So*; (d) *Very Much So* and the T-Anxiety scale (STAI Form Y-2; Appendix M) also contains 20 items but with a four-point interval ranging from (a) *Almost Never*; (b) *Sometimes*; (c) *Often*; (d) *Almost Always* (Spielberger et al., 1983). These scales may be administered together or separately, to individuals or groups, and each scale requires no more than ten minutes to complete (Spielberger et al., 1983). The scores for both scales range from a minimum of 20 points to a maximum of 80 points (Spielberger et al., 1983).

Both S-Anxiety and T-Anxiety scales have adequate reliability and evidence for construct validity and concurrent validity (Groth-Marnat, 2009). Reliability is from $\alpha=0.88$ to 0.93 on the S-Anxiety scale and from $\alpha=0.92$ to 0.94 on the T-Anxiety scale as measured by internal consistencies (Spielberger et al., 1983). Test-retest reliability ranged from 0.65 to .75 on the T-Anxiety scale for high school students with a mean reliability coefficient of .695 and the stability coefficient for high school students on the S-Anxiety scale was .62 (Spielberger et al., 1983). The lower score is expected with the S-Anxiety scale because its goal is to measure a fluctuating anxiety level contingent upon environmental factors (Spielberger et al., 1983).

The STAI Form Y (Forms Y-1 and Y-2) was normed on a population that includes high school students and it is an appropriate anxiety measure for individuals 14 years and older with at least a sixth grade reading level (Spielberger et al., 1983). The Trait form (Y-2) was

administered during the screening session prior to baseline and during the last follow-up phase session. The State form (Y-1) was administered throughout baseline, treatment and follow-up phases.

Heart rate variability (HRV). Heart rate variability (HRV), a measurement derived from the electrocardiogram (ECG), measures the naturally occurring beat-to-beat changes in heart rate and this differs from a person's average heart rate (Thurber et al., 2010). HRV was utilized as a physiological measurement of participants' stress levels. According to HeartMath Interventions® (2014), improved HRV coherence may reduce the negative impact of stress because it determines the relative balance between the sympathetic and parasympathetic nervous systems while also assessing moment-to-moment changes in autonomic function and balance resulting from changes in mental or emotional states or stress. To date, there are more than 200,000 research papers in the medical literature that have reported HRV analysis to measure stress levels and other physiological levels of functioning (Tsuji et al., 1994; Wood, Singer, McCraty, & Atkinson, 1998). HRV as a stress level measurement for school-aged children has been demonstrated in research by Bothe, Grignon, and Olness (2014).

The student researcher is a Certified HeartMath Practitioner and was qualified at the time of the study to utilize the emWavePro®, an Institute of HeartMath® computer-based HRV measurement program. She was qualified after completing the HeartMath® Interventions training course offered through the Institute of HeartMath®. This course provides mental health professionals and researchers with tools for assisting others with emotional self-regulation for health conditions such as anxiety and stress (Thurber et al., 2010). The training program consisted of: (a) an in-depth HeartMath® interventions manual required for home study; (b) seven plus hours of webinar instruction by IHM faculty; (c) online access to HeartMath® faculty

for clinical and technical support; (d) client handouts and instructional aids; (e) Clinical Case Study write-up to become a Certified HeartMath® Practitioner (HeartMath® Interventions, 2014).

For this study, the emWavePRO® took a non-invasive measurement of each participant's pulse with an optical earlobe sensor to electronically display and record each participant's heart rhythm patterns (HRV) in real-time during the baseline, treatment, and follow-up phases. Previous studies successfully utilized older versions of the emWavePro® for HRV pre- and post-test research measurements. For example, an older emWavePro® version known as Freeze Frame® was utilized to measure HRV as an autonomic measure of relaxation for a school-based stress management technique (Bothe, Grignon, & Olness, 2014). This was a controlled prospective longitudinal study and participants were measured utilizing Freeze Frame® for three minutes before the four-month stress management technique, immediately following the four-month stress management technique, and one year later for a follow-up. Another study utilized a baseline period of four minutes to collect HRV data for stress and anxiety and students were instructed to sit quietly and to refrain from movement, conversation, falling asleep, or engaging in any other activity (Bradley et al. 2010).

HRV measurements occurred throughout baseline, treatment, and follow-up phases. It consisted of each participant attaching an ear lobe sensor to their ear and being connected to the emWavePro® computer software on the student researcher's laptop for a three-minute duration period while sitting quietly in a comfortable chair in the high school guidance department. For teenagers, three minutes to five minutes is an appropriate length of time for an accurate HRV measurement (J. Waterman, personal communication, June 20, 2014).

Pediatric Quality of Life Inventory (PEDSQL) 4.0 Generic Core Scales. The Pediatric Quality of Life Inventory (PEDSQL) 4.0 Generic Core Scales (see Appendix N) measures health-related quality of life (HRQoL) in children and adolescents ages 2-18 who are healthy or who have acute and chronic health conditions (Varni, Burwinkle, Seid, & Skarr, 2003; Varni & Limbers, 2009; Varni, Seid, Knight, Uzark, & Szer, 2002; Varni, Seid, & Kurtin, 2001). The PEDSQL is used with community, school, and clinical pediatric populations, consists of 23 items, takes less than four minutes to administer and measures physical, emotional, social, and school functioning of children and adolescents. There are three versions to the PEDSQL contingent upon age: (a) Child (ages 8-12); (b) Adolescent (ages 13-18); (c) Young Adult (ages 18-25). According to Varni, Seid, and Kurtin (1999), the PEDSQL has good internal consistency ranging from .70 to .92 and the construct validity was examined at both item-levels and scale levels. The PEDSQL was administered during the first baseline data collection session and during the last follow-up data collection session for all three participants.

Creative Imagination Scale (CIS). Hypnotic suggestibility scales were developed to measure an individual's level of hypnotic responsiveness and some scales include: (a) Barber Suggestibility Scale (BSS); (b) Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS-A); (c) Stanford Hypnotic Clinical Scales (SHCS); (d) Creative Imagination Scale (CIS) (Morgan & Hilgard, 1979; Weizenhoffer & Hilgard, 1959, 1962, 1963, & 1967; Wilson & Barber, 1978). According to Kohen and Olness (2011), individuals who are 'high hypnotizables' are significantly better at hypnosis than 'low hypnotizables' and imagination is one important factor in determining a person's level of hypnotic responsiveness according to some studies. For example, Hilgard (1970) found that young adults who engaged in imaginative activities as adults were 'high hypnotizables' compared to young adults who engaged in imagination activities in

childhood who were 'low hypnotizables.' Although Hilgard supports the use of hypnotic susceptibility scales, Kohen (2010) states that no hypnosis susceptibility scale can successfully predict the anticipated clinical success or failure of hypnosis for a child or diagnosis. However, an ideal hypnotic susceptibility scale for children should have the following features: (a) brevity (5-15 minutes long); (b) interesting and absorbing; (c) developmentally sensitive and specific; (d) learning style sensitive and specific; (e) multi-sensory; (f) free of cultural bias; (g) predictive (Kohen, 2010). The Creative Imagination Scale (CIS) contains most of these features because it measures imaginative suggestibility in 10 items, takes approximately 18 minutes to administer, participants close their eyes during the administration, and each item is read verbatim to the participant (see Appendices I and J) (Whalley, 2014a; Wilson & Barber, 1978). The CIS may be administered in three ways: (a) without any preliminaries (e.g., participants are told that they will take a test of creative imagination); (b) following a standard hypnosis induction; (c) following special preliminary instructions (Wilson & Barber, 1978).

For this study, the CIS was administered without any preliminaries to provide participants with optimal control of his imagery. The CIS was developed after the Stanford, Harvard, and Barber scales as the only non-authoritatively worded hypnotic susceptibility scale because an emphasis is placed on the client's own thinking and imagining (Wilson & Barber, 1978). Also, no other hypnotic scale to date can be administered to groups and to individuals (Wilson & Barber, 1978). The 10 items on the CIS consist of the following imagery suggestions as discussed in Wilson and Barber (1978): (a) Arm Heaviness—The participant imagines that three heavy dictionaries are being placed on his or her extended hand; (b) Hand Levitation—The participant has his or her right arm extended and horizontal with the palm facing downwards and imagines that a strong current of water from a garden hose is pressing against the palm of the

hand; (c) Finger Anesthesia—The participant is given suggestions to imagine that Novocain has been injected next to his or her little finger; (d) Water “Hallucination”—The participant is given suggestions to imagine that he or she is drinking a cup of cold mountain water; (e) Olfactory-Gustatory “Hallucination”—The participant is guided to imagine smelling and tasting an orange; (f) Music “Hallucination”—The participant is suggested to think back to a time when he or she heard great music and to re-experience hearing this music; (g) Temperature “Hallucination”—The participant begins with their hands resting in his or her lap with his or her palms faced down and is given suggestions to imagine that the sun is shining on the top of their right hand; (h) Time Distortion—The participant is given suggestions to imagining that time is slowing down; (i) Age Regression—The participant is given suggestions to re-experience feelings from elementary school; (j)Mind-Body Relaxation—The participant is given suggestions to imagine lying under the sun at the beach and becoming very relaxed. After these 10 items are administered, the participant reports what he experiences on a written questionnaire known as the Self-Scoring Form of the Creative Imagination Scale (Appendix J) (Whalley, 2014b; Wilson & Barber, 1978). On the self-scoring form, each participant was asked to rate their experiences from the 10 items on a 5-point Likert scale. The norms for the CIS are discussed in Wilson and Barber (1978) and are provided in Table 1. The test-retest reliability of the CIS is .82, the split-half reliability or internal consistency is .89, and the scale has factorial validity (Wilson & Barber, 1978). The correlation of the CIS with other hypnotic susceptibility scales such as the Barber Hypnotic Susceptibility Scale is .60 and this number suggests that the CIS and the Barber measure the same behavior (Kiddoo, 1977). The CIS was administered to each participant during the first baseline data collection session.

Caffeine Diary Form. Participants maintained a caffeine diary throughout baseline, treatment and follow-up phases (see Appendix G). The purpose of the diary was to monitor the consistency of caffeine intake and, if it had an effect on HRV measurements. According to Thurber (2010), caffeine intake, contingent upon the time of day, may affect the accuracy of HRV readings.

Treatment Integrity Form. A Self-Hypnosis Recording Listening Treatment Integrity form (see Appendix H) was utilized during the self-hypnosis recording listening protocol to ensure that the participants consistently implemented the protocol for a 30 day period. It was filled out by each participant daily during the treatment phase. It was cosigned by both the participant and a parent/guardian to ensure accuracy and reliability.

Exit interview Form. A brief exit interview was completed with each participant during the last follow-up phase session (see Appendix O). Each participant completed an exit interview form during the last follow-up session. The form consisted of ten questions related to participating in the study. Each participant answered each question based on a 5-point Likert scale: (a) 1=Strongly Disagree; (b) 2=Disagree; (c) 3=Neither Agree nor Disagree; (d) 4=Agree; (e) 5=Strongly Agree.

Recording equipment. An Olympus VN-722PC Voice Recorder was given to the hypnotist by the student researcher to audio record the self-hypnosis protocol for each participant. Each audio file was burned onto a CD-ROM for each participant. The CD was then uploaded by each participant to his or her electronic music player (e.g., iPhone, iPad, iPod).

Procedures

Recruitment. Once the School Administrators to Indicate Study Participation form (see Appendix C) was secured, the school social worker provided the Informational Letter to

Parents/Guardians and Students (see Appendix D) and the Recruitment Flier (see Appendix E) forms to students on her counseling caseload that met the following criteria: a) current student at the high school; (b) student in grades 9-12, inclusive; (c) ages 14-18, inclusive; (d) clinically identified with an anxiety disorder according to DSM-5 criteria by the school social worker; (e) currently working with the school social worker for stress and anxiety management; (f) no trauma history according to the school social worker; (g) access to an electronic music player (e.g., iPhone, iPod, iPad) to use during the study; (h) on consistent medications; (i) not on asthma medication.

Informational session. Potential participants interested in participating the study were asked to attend a one-hour informational meeting with the researcher, the school social worker, and the medical doctor who was the hypnotist. The following topics were addressed during the meeting: (a) study overview; (b) participant time commitments; (c) treatment protocol; (d) participant compensation; (e) location of the hypnosis sessions; (f) what hypnosis is. In addition, the medical doctor spoke about her credentials and her hypnosis work experiences. Questions and concerns were addressed during the meeting. Once a potential participant expressed interest in the study, he was asked to co-sign a permission form with his parent or guardian (students ages 14-17) or a consent form (students age 18). After the appropriate consent forms were obtained, the Participant Qualification Criteria Checklist and Clinical Assessment form (see Appendix F) was utilized to ensure that all consented participants met the participant eligibility criteria. The school social worker signed these assessment forms to provide validation that each enrolled participant met a clinical anxiety diagnosis according to DSM-5 criteria.

Screening. The State Trait Anxiety Inventory (STAI) Form Y-2 (Trait Anxiety scale) (see Appendix M) was used to assess and screen participants into the study. It was used to

screen three participants and all three participants passed the screening protocol. For the STAI Form Y-2, students who were at least one standard deviation (10.53 for males, 10.63 for females) above their respected mean scores (40.17 for males, 40.97 for females) were eligible to participate in the study. Previous research utilized the one-standard deviation criteria for the STAI to screen participants because the STAI manual does not provide cut-off scores for clinically significant levels of anxiety (Allen, Newman, & Souhami, 1997; Dyson, Thompson, Palmer, Thomas, & Schofield, 2012). Research has defined low distress participants as below the mean in self-reported anxiety on the STAI and high distress participants as above the mean in self-reported anxiety on the STAI (Canning, Canning, & Boyce, 1992). After the three participants were screened, they were contacted by the researcher and notified that they were eligible to participate in the baseline, treatment, and follow-up phases of the study.

Baseline. The baseline phase of this study commenced after the following was in place: (a) each participant attended the informational session; (b) the appropriate permission and consent forms were obtained; (c) each participant met STAI Form Y-2 screening criteria.

Baseline data collection sessions occurred in the high school's guidance department during after-school hours. Since all data collection sessions occurred after-school, no procedures were needed to excuse the participants from class to complete the sessions. Each data collection session lasted no more than 10 minutes. During the first baseline data collection session, the following measurements were administered per participant by the student researcher: (a) STAI Form Y-1 (State Anxiety scale); (b) three minute HRV measurement; (c) Creative Imagination Scale (CIS); (d) Pediatric Quality of Life Inventory (PEDSQL) 4.0 Generic Core Scales. After the first baseline session, the student researcher only administered the STAI Form Y-1 (State Anxiety scale) and a three-minute HRV measurement per participant. Baseline sessions occurred

over the course of 2-5 weeks. Participant 1 had a minimum of five data points, Participant 2 had a minimum of eight data points, and Participant 3 had a minimum of 11 data points. This allowed the introduction of the staggering of the hypnosis treatment so that a minimum of three data points occurred between each participant to establish experimental control.

Treatment. The educational sessions commenced the treatment phase of the study. Once baseline data stabilized for all participants, the first educational session and remaining treatment protocol (e.g., hypnosis session 1, self-hypnosis recording listening protocol, hypnosis session 2) was applied to the first participant while baseline conditions continued for all other participants. Once the behavior stabilized for the first participant, the educational session and the remaining treatment protocol was extended to the second participant and this continued until all participants with baseline data received the educational session and the remaining treatment protocol. A change in participants' performance was obtained when the treatment protocol was introduced and not before. By replicating this protocol with each succeeding participant, external validity was achieved and an effect of the intervention was demonstrated.

Hypnosis sessions 1 and 2 followed the structure of: (a) 15 minutes of talk; (b) 30 minutes of hypnosis; (c) 15 minutes of re-alerting and talk. During hypnosis session 1, the medical doctor recorded the hypnosis onto the digital recorder and this served as the self-hypnosis recording listening protocol. Each participant listened to the self-hypnosis recording on an electronic music player for two weeks. After two weeks, each participant met with the medical doctor for hypnosis session 2. There was no self-hypnosis recording offered to participants during hypnosis session 2. After hypnosis session 2, each participant was asked to listen to the self-hypnosis recording for another two weeks. Overall, each participant was instructed to listen to the self-hypnosis recording before bed for 30 days.

Every effort was made to decrease burdens on participants. However, hypnosis sessions 1 and 2 for each participant could only occur at the medical doctor's practice which was approximately a 30-minute drive from the high school.

Treatment data collection sessions took place in the high school's guidance department and each session lasted no more than 10 minutes. Like the baseline data collection sessions, no procedures were needed to excuse participant from class to complete the data collection. For each participant, the student researcher administered the STAI Form Y-1 (State Anxiety scale) and took a three-minute HRV measurement. These sessions occurred over the course of eight weeks. Each participant received a maximum of two 10-minute data collection sessions per week. Therefore, each participant had a maximum of eight measurements for the STAI Form Y-1 (State Anxiety scale) and the HRV measurement for the treatment phase. At the end of each participant's treatment phase, they were each instructed to discontinue listening to the self-hypnosis recording.

Follow-Up. The follow-up phase occurred two weeks after the end of the treatment phase for all participants. During follow-up, each participant had four data collection sessions over the two-week period with the student researcher. Again, these collection sessions occurred in the high school guidance department and each session lasted no more than 10 minutes. These data collection sessions also occurred after school. Therefore, no procedures were needed to excuse the participants from class to complete the follow-up phase data collection sessions. For the follow-up phase sessions, the student researcher administered the STAI Form Y-1 (State Anxiety scale) and took a three-minute HRV measurement per participant. During the last follow-up phase session, the student researcher administered the PEDSQL 4.0 Generic Core Scales—Teen

Report and the STAI Form Y-2 (Trait Anxiety scale) in addition to the STAI Form Y-1 and HRV measurement. The Exit Interview Form was administered during the last follow-up session.

Data Analysis

Visual analysis was utilized to analyze the data collected on state anxiety and HRV. This data was graphed and evaluated for visual changes over time. For visual analysis, the level, immediacy, consistency, overlap, and trend within each phase were assessed. The split middle technique supplemented visual analysis and allowed the student researcher to examine the trend during baseline, intervention, and follow-up phases. The effect size from the baseline to treatment phase and from the treatment to follow-up phase were calculated using the Approach One: No Assumptions Method as proposed by Busk and Serlin (1992) (e.g., computing the difference between the mean of the participant's baseline phase and the mean of the treatment phase and dividing it by the standard deviation of the participant's baseline phase). Cohen (1988) states that: (a) an effect size of .20 is small; (b) .50 is moderate; (c) .80 or above is large. The Percentage of Non-Overlapping Data (PND) was also calculated per participant to see whether state anxiety and HRV improved. Banda and Therrien (2008) offered the following guidelines for interpreting PND: (a) 91%-100% is highly effective; (b) 71%-90% is moderately effective; (c) 50%-70% is minimally effective; (d) below 50% is not effective.

The Wilcoxon Signed Ranks Test was utilized to assess whether there was significance between pre and post-test scores for: (a) trait anxiety; (b) HRQoL; (c) HRV for hypnosis session 1 and hypnosis session 2.

Data from the Creative Imagination Scale (CIS) was not statistically analyzed but provided a baseline score of participants' hypnotic susceptibility levels. The caffeine diary and

treatment integrity data were also not statistically analyzed. This data provided qualitative information on participants' caffeine consumption and adherence to the self-hypnosis treatment.

Chapter IV: Results

Data collected during the baseline, treatment, and follow-up phases were utilized to evaluate whether the self-hypnosis recording listening protocol improved participants': (a) trait anxiety; (b) state anxiety; (c) heart rate variability (HRV); (d) health-related quality of life (HRQoL). The other measurement tools utilized were: (a) the Creative Imagination Scale (CIS) administered at baseline to measure hypnotic susceptibility; (b) a Caffeine Diary to measure students' caffeine intake during the treatment phase, follow-up phase, and pre- and post-hypnosis sessions 1 and 2; (c) a thirty-day Self-Hypnosis Recording Listening Treatment Integrity form to ensure that the listening treatment was implemented; (d) an exit interview survey.

State Trait Anxiety Inventory (STAI) Trait Data

The State Trait Anxiety Inventory (STAI) Trait Form Y-2 (see Appendix L) was administered once prior to the baseline phase and once during the last follow-up phase for each participant. Table 2 displays STAI trait data for all three participants. Increased scores indicate increased trait anxiety levels. Using the Wilcoxon Signed Ranks Test, all participants' trait anxiety did not significantly change from the baseline to the follow-up phase.

Participant 1. Participant 1 began the study with a trait anxiety score of 78 which is between 3 and 4 standard deviations above the mean for high school-aged males. At follow-up, Participant 1's trait anxiety score increased to 90 which is between 4 and 5 standard deviations above the mean. Participant 1's trait anxiety increased from the baseline phase to the follow-up phase and did not improve with the treatment.

Participant 2. Participant 2 began the study at a trait anxiety score of 66 which is between 2 and 3 standard deviations above the mean. At follow-up, Participant 2's trait anxiety score was 38 which is within the normal range for high school-aged males. Participant 2's trait

anxiety decreased from the baseline phase to the follow-up phase and improved with the treatment.

Participant 3. Participant 3 began the study at a trait anxiety score of 68 which is between 2 and 3 standard deviations above the mean for males. At follow-up Participant 3's trait anxiety score was 44 which is within the normal range for high school-aged males. Participant 3's trait anxiety decreased from the baseline phase to the follow-up phase with the treatment.

State Trait Anxiety Inventory (STAI) State Data

Descriptive statistics and visual analysis of the state anxiety data were utilized to determine whether or not the self-hypnosis listening protocol improved participants' state anxiety.

Table 3 displays the mean, standard deviation, range, effect sizes, and Percentage of Non-Overlapping Data (PND) for each participants' state anxiety scores during the baseline, treatment, and follow-up phases. Effect sizes were calculated from the baseline (A) to the treatment (B) phase and from the baseline (A) to the follow-up (C) phase using the Approach One: No Assumptions Method as proposed by Busk and Serlin (1992). The effect size for each participant was calculated by computing the difference between the mean of the participant's baseline phase and the mean of the treatment phase and dividing it by the standard deviation of the participant's baseline phase. PND was also calculated per participant. Lower state anxiety scores in the treatment or follow-up phase indicated improved outcomes. Therefore, PND was calculated per participant as the percentage of phase B data that fell below the lowest phase A point data (Parker, Vannest, & Davis, 2011).

Table 3 displays the descriptive statistics across phases for participants' state anxiety data. Table 4 displays the visual analysis heuristics for comparing the data. Figure 3 graphically depicts the overall state anxiety scores for each participant throughout the three phases.

Participant 1. Participant 1 had a mean state anxiety score of 68.600 (SD=1.673, Range=66-70) for baseline, a mean state anxiety score of 71.500 (SD=2.380, Range=69-74) for treatment, and a mean state anxiety score of 72.000 (SD=12.675, Range=53-79) for follow-up. State anxiety levels across the three phases increased over time for Participant 1. The effect size from phase A to phase B was 1.733 and the effect size from phase B to phase C was 2.032. This suggests that there was a large difference in state anxiety levels between baseline to treatment and from treatment to follow-up. There was a lot of overlap between the baseline and treatment phases as reflected by a PND score of 0.000%. This score suggests that the treatment was not effective. After examining Figure 3 utilizing visual analysis, Participant 1's: (a) level increased; (b) immediacy increased; (c) consistency declined; (d) overlap was not effective; (e) there was a slight decrease in trend to slight decrease in trend to moderate decrease in trend.

Participant 2. Participant 2 had a mean state anxiety score of 45.380 (SD=7.230, Range=36-58) for baseline, a mean state anxiety score of 33.140 (SD=3.805, Range=30-41) for treatment, and a mean state anxiety score of 32.750 (SD=10.404, Range=25-47) for follow-up. State anxiety levels across the three phases decreased over time for Participant 2. An effect size of -1.693 from phase A to phase B and -1.747 from phase B to phase C suggests that there was a large difference from baseline to treatment and from treatment to follow-up. There was not a lot of overlap data as reflected by a PND score of 85.714%. This indicates the treatment was moderately effective. When examining Figure 3 utilizing visual analysis, Participant 2's:

(a) level decreased; (b) immediacy decreased; (c) consistency improved; (d) overlap was moderately effective; (e) there was a slight decrease in trend to slight decrease in trend to moderate increase in trend.

Participant 3. Participant 3 had a mean state anxiety score of 48.920 (SD=7.320, Range=42-62), a mean state anxiety score of 33.130 (SD=5.866, Range=25-41) for treatment, and a mean state anxiety score of 29.500 (SD=5.916, Range=23-35) for follow-up. State anxiety levels across the three phases decreased over time for Participant 2. An effect size of -2.157 from phase A to phase B and -2.653 from phase B to phase C suggests that there was a large difference from baseline to treatment and from treatment to follow-up. None of the data overlapped as reflected by a PND score of 100.000%. This indicates that the treatment was highly effective. When examining Figure 3 utilizing visual analysis, Participant 3's: (a) level decreased; (b) immediacy decreased; (c) consistency improved; (d) overlap was highly effective; (e) there was a moderate decrease in trend to slight decrease in trend to slight decrease in trend.

Heart Rate Variability (HRV) Data

Across Phases.

Descriptive statistics and visual analysis for heart rate variability (HRV) data were utilized to determine whether the treatment improved participants' overall HRV. Overall HRV was measured through the HRV indice of the standard deviation of normal to normal R-R intervals (SDNN). Table 5 displays the descriptive statistics of participants' SDNN scores across phases and Table 6 displays the visual analysis heuristics. The SDNN data for each participant throughout the three phases is graphically depicted in Figure 4.

Participant 1.

Participant 1 had a mean SDNN of 61.740 (SD=5.252, Range=53.700-68.000) in baseline, a mean SDNN of 64.875 (SD=10.706, Range=52.300-75.800) in treatment, and a mean SDNN of 76.225 (SD=22.572, Range=52.000-106.600) in follow-up. SDNN increased over time for Participant 1. This indicates increased HRV levels over time. The effect size from phase A to phase B was 0.597 and the effect size from phase B to phase C was 2.758. This suggests that there was a moderate difference in HRV levels from baseline to treatment and a large difference in HRV levels from treatment to follow-up. There was a lot of overlap between the baseline and treatment phases as reflected by a PND score of 0.000%. This suggests that the treatment was not effective. When examining Figure 4 utilizing visual analysis, Participant 1's: (a) level increased; (b) immediacy increased; (c) consistency improved; (d) overlap was not effective; (e) there was a slight decrease in trend to moderate increase in trend to moderate increase in trend.

Participant 2.

Participant 2 had a mean SDNN of 66.350 (SD=29.296, Range=42.900-127.200) in baseline, a mean SDNN of 92.614 (SD=21.027, Range=58.700-124.800) in treatment, and a mean SDNN of 91.725 (SD=10.303, Range=82.100-106.300) in follow-up. SDNN increased over time for Participant 2. This indicates increased HRV levels over time. An effect size of 0.897 from phase A to phase B and an effect size of 0.866 from phase B to phase C are both large. This suggests that there was a large difference in HRV levels from baseline to treatment and from treatment to follow-up. PND was calculated at 0.000% which indicated that the treatment was not effective. When examining Figure 4 utilizing visual analysis, Participant 2's: (a) level increased; (b) immediacy increased; (c) consistency improved; (e) overlap was not

effective; (f) there was a strong increase in trend to moderate increase in trend to moderate increase in trend.

Participant 3.

Participant 3 had a mean SDNN of 93.015 (SD=19.903, Range=48.000-127.600) in baseline, a mean SDNN of 85.863 (SD=24.212, Range=53.800-109.300) in treatment, and a mean SDNN of 72.650 (SD=24.781, Range=50.200-98.400) in follow-up. SDNN decreased over time for Participant 3. This indicates decreased HRV levels over time. An effect size of -0.359 from phase A to phase B is small and an effect size of -1.023 from phase B to phase C is large. This suggests that there was a small difference in HRV levels from baseline to treatment and a large difference in HRV levels from treatment to follow-up. PND was calculated at 0.000% which indicated that the treatment was not effective. When examining Figure 4 utilizing visual analysis, Participant 3's: (a) level decreased; (b) immediacy increased; (c) consistency declined; (e) overlap was not effective; (f) there was a slight decrease in trend to slight decrease in trend to slight decrease in trend.

Pre- and Post-Hypnosis Sessions.

Table 7 displays HRV SDNN data pre- and post-hypnosis sessions for each of the three participants. Participant 1's SDNN level decreased from pre- to post-hypnosis session 1 and increased from pre- to post-hypnosis session 2. Participant 2's SDNN level increased from pre- to post-hypnosis session 1 and from pre- to post-hypnosis session 2. Participant 3's SDNN level decreased from pre- to post-hypnosis session 1 and from pre- to post-hypnosis session 2. According to the Wilcoxon Signed Ranks Test, participants' HRV SDNN scores did not significantly change from pre- to post-hypnosis session 1 nor from pre-to post-hypnosis session 2.

Pediatric Quality of Life Inventory (PEDSQL) Data

All participants were each administered a Pediatric Quality of Life Inventory (PEDSQL) during the first baseline session and during the last follow-up session to measure health-related quality of life (HRQoL). These results are located in Table 9. Using the Wilcoxon Signed Ranks Test, participants' Physical, Emotional, Social, School, and Total domains did not significantly change from the baseline to the follow-up phase. For Participants 2 and 3, there was an overall increase in HRQoL for all domains. However, for Participant 1 there was only an increase in Physical and School domains.

Participant 1. Participant 1 had a baseline score of 71.875 and a follow-up score of 78.125 for the Physical domain, a baseline score of 35.000 and a follow-up score of 20.000 for the Emotional domain, a baseline score of 70.000 and a follow-up score of 60.000 for the Social domain, a baseline score of 60.000 and a follow-up score of 65.000 for the School domain, and a baseline score of 60.870 and a follow-up score of 58.696 for the follow-up domain. Participant 1's Physical and School domains increased from the treatment but his Emotional, Social, and Total domains decreased.

Participant 2. Participant 2 had a baseline score of 78.125 and a follow-up score of 100.000 for the Physical domain, a baseline score of 55.000 and a follow-up score of 90.000 for the Emotional domain, a baseline score of 80.000 and a follow-up score of 100.000 for the Social domain, a baseline score of 65.000 and a follow-up score of 100.000 for the School domain, and a baseline score of 70.652 and a follow-up score of 97.826 for the Total domain. Participant 2's Physical, Emotional, Social, School, and Total domains all increased from the treatment.

Participant 3. Participant 3 had a baseline score of 62.500 and a follow-up score of 75.000 for the Physical domain, a baseline score of 20.000 and a follow-up score of 65.000 for

the Emotional domain, a baseline score of 70.000 and a follow-up score of 80.000 for the Social domain, a baseline score of 25.000 and a follow-up score of 50.000 for the School domain, and a baseline score of 46.739 and a follow-up score of 68.478 for the follow-up domain. Participant 3's Physical, Emotional, Social, School and Total domains all increased from the treatment.

Creative Imagination Scale (CIS) Data

The Creative Imagination Scale (CIS) (see Appendices I and J) is a measurement of hypnotic susceptibility. It was administered at the first baseline data session to measure each participants' hypnotic susceptibility. Table 8 displays the results. Participant 1 had a score of 54 which indicates 'Medium High' hypnotic susceptibility. Participants 2 and 3 each had a score of 63 on the CIS which indicates 'High' hypnotic susceptibility. Participants 2 and 3 had the highest hypnotic susceptibility levels in the study. Participant 1 had the lowest hypnotic susceptibility level of the study. Please refer to Table 1 for norms on the CIS.

Caffeine Diary Responses

Across Phases.

Participants recorded the amount of caffeine they consumed throughout baseline, treatment, and follow-up phases by completing a Caffeine Diary form (see Appendix G). Caffeine intake was monitored because research has shown that it may affect the accuracy of heart rate variability (HRV) recordings. For instance, in a systematic review by Koenig et al. (2013), several studies are cited which found caffeine consumption to influence HRV measures.

The results of participants' caffeine consumption are located in Table 10. Participant 1 had one caffeine entry: (a) Caffeine at Dinner (CAD) during Day 1 of baseline. Participant 2 recorded five caffeine entries at baseline and three at treatment: (a) Caffeine at Dinner (CAD) during Day 1 of baseline; (b) Caffeine Mid-Morning (CMM), Caffeine Before Lunch (CBL),

Caffeine at Lunch (CAL), and Caffeine Mid-Afternoon (CMA) during Day 3 of baseline; (c) Caffeine Before Breakfast (CBB) during Day 4 of baseline; (d) Caffeine Before Breakfast (CBB) during Day 5 of baseline; (e) Caffeine Before Breakfast (CBB), Caffeine at Breakfast (CAB), Caffeine Mid-Morning (CMM); Caffeine Before Lunch (CBL), Caffeine at Lunch (CAL), Caffeine Mid-Afternoon (CMA) during Day 3 of treatment; (e) Caffeine Before Breakfast (CBB) during Day 5 of baseline; (f) Caffeine Before Breakfast (CBB), Caffeine at Breakfast (CAB), Caffeine Mid-Morning (CMM), Caffeine Before Lunch (CBL), Caffeine at Lunch (CAL), and Caffeine Mid-Afternoon (CMA) during Day 6 of treatment. Participant 3 recorded one caffeine entry at baseline: (a) Caffeine Mid-Morning (CMM) during Day 13 of baseline. Participants 1 and 3 had the most consistent caffeine consumption. However, Participant 2's caffeine consumption may have affected the accuracy of his HRV SDNN scores.

Pre- and Post-Hypnosis Sessions.

All three participants did not consume caffeine during the days of their first and second hypnosis sessions with the hypnotist. These HRV SDNN scores were not affected by caffeine consumption.

Treatment Integrity Data

Participants each filled out a Self-Hypnosis Recording Listening Treatment Integrity Data form (see Appendix H). They were required to fill out this form for the duration of listening to the self-hypnosis recording to ensure treatment fidelity. After treatment, a parent co-signed the form with the participant. Participant 1 listened to the recording for 24 out of the 30 days (80% of the time), Participant 2 listened to the recording for 30 out of 30 days (100% of the time), and Participant 3 listened to the self-hypnosis recording for 15 out of 30 days (50% of the time).

Participant 2 was most consistent with implementing the treatment protocol while Participant 3 was the least consistent with implementing it. These data results are located in Table 12.

Exit Interview Data

Each participant completed an exit interview form during the last follow-up session (see Appendix O). The form consisted of ten questions related to participating in the study. Each participant answered each question based on a 5-point Likert scale: (a) 1=Strongly Disagree; (b) 2=Disagree; (c) 3=Neither Agree nor Disagree; (d) 4=Agree; (e) 5=Strongly Agree. Table 14 displays participants' Exit Interview Form scores and averages. Overall, Participant 3 had the highest satisfaction and Participant 1 had the least satisfaction with participating in the study. Each participant's average score is as follows: (a) Participant 1 had an average participation rating of 4.3; (b) Participant 2 had an average participation rating of 4.4; (c) Participant 3 had an average participation rating of 4.5. The data results are located in Table 13.

Chapter V: Discussion

The purpose of this study was to examine whether self-hypnosis could be utilized to decrease anxiety and stress levels and to increase health-related quality of life (HRQoL) in three high school-aged participants clinically identified with anxiety based on DSM-5 criteria according to their school social worker. Given the research support for the use of hypnosis to decrease anxiety and stress levels in adolescents (Huynh, Vandvik, and Diseth, 2008; Kohen et al., 1984), it was hypothesized that the hypnosis treatment protocol would: (a) decrease participants' state and trait anxiety levels; (b) increase heart rate variability (HRV) thus indicating lower stress levels during the 30-day intervention period; (c) increase HRQoL; (d) these effects would maintain during the two-week follow-up period.

Summary of Results

Participant outcomes for trait anxiety. Results of the study reflected no significant changes in trait anxiety for the three participants in the study. Although Participant 2 and Participant 3 experienced decreased trait anxiety from the treatment as evidenced by improved scores on the STAI Trait Y-2 Form, Participant 1's trait anxiety increased and did not improve from the treatment (see Table 2).

Participant outcomes for state anxiety. For state anxiety, there were improvements from the treatment for Participants 2 and 3 but not for Participant 1. For state anxiety, Participant 1's scores, effect sizes (1.733 and 2.032, respectively), and visual analysis data did not suggest that the treatment was effective in lowering his state anxiety (see Tables 3 and 4 and Figure 3). Furthermore, Participant 1's Percentage of Non-Overlapping Data (PND) score of 0.000% suggested that the treatment was not effective in decreasing his state anxiety. In contrast to Participant 1, Participant 2's effect sizes (-1.693 and -1.747, respectively) suggested a large

improvement in his state anxiety. Participant 2's scores and PND score of 85.714% indicated that the treatment was moderately effective and visual analysis also indicated an overall improvement in his state anxiety (see Tables 3 and 4 and Figure 3). Similar to Participant 2, Participant 3's scores and effect sizes (-2.157 and -2.653, respectively) suggested an improvement in his state anxiety levels. There was a large effect from baseline to treatment and from treatment to follow-up. A PND score of 100.000% indicated that the treatment was highly effective at reducing his state anxiety levels. Visual analysis also showed an overall improvement in state anxiety for Participant 3.

There are multiple explanations for the variability in trait and state anxiety outcomes for Participant 1 when compared to the outcomes of Participants 2 and 3. One possible explanation for the variability may be due to hypnotic susceptibility levels. The Creative Imagination Scale (CIS) was administered at baseline. Participants 2 and 3 had the highest hypnotic susceptibility levels ('High') while Participant 1 had the least hypnotic susceptibility level ('Medium High'). The difference most likely affected participants' treatment outcomes with trait and state anxiety during the study.

Another possible explanation of the trait and state anxiety outcomes of participants is that Participant 1 underwent a major surgery the day before attending his first treatment data collection session. He stated to the student researcher that he was still in pain after his surgery. According to the literature, pain, anxiety, and stress are well-known correlates. There are certain neural mechanisms underlying anxiety and chronic pain interactions and a positive link between them have been noted (Wiech & Tracey, 2009; Zhuo, 2016). His surgery is a confounding variable with his data. It most likely increased his state anxiety scores during treatment and follow-up. It may have even affected his trait anxiety score during follow-up.

A third explanation for the variation in anxiety scores among participants could be due to previous training in self-regulation techniques. For instance, Participant 2 mentioned that he practiced meditation daily (another self-regulation technique like hypnosis) whereas Participants 1 and 3 did not have previous experiences with self-regulation techniques prior to enrollment in the study. This is a confounding variable that may have affected Participant 2's trait and state anxiety scores.

A fourth explanation for the variation in anxiety scores may be the number of days that each participant listened to the self-hypnosis recording. Participant 2 was the most consistent with listening to the recording but Participant 3 was the least consistent. According to the data (see Table 12), Participant 1 listened to the self-hypnosis recording for 24 out of 30 days (80%), Participant 2 listened to the self-hypnosis recording for 30 out of 30 days (100%), and Participant 3 listened to the recording for 15 out of 30 days (50%). The time of day as to when participants listened to the recording and their type of home environment (e.g., quiet, noisy) are other confounding variables that may have influenced their trait and state anxiety scores.

It is extremely likely that participants' state anxiety scores in treatment were not entirely accurate. Participants' state anxiety was not assessed before and immediately after each recording listening. In retrospect, state anxiety should have been assessed pre- and post each hypnosis recording listening. This would have ensured greater accuracy with participants' state anxiety scores during the treatment phase. It would have also allowed the student researcher to compare each participants' state anxiety levels pre- and post-each hypnosis recording listening.

Participant outcomes for HRV. The HRV overall indicator as measured by the standard deviation of normal to normal R-R intervals (SDNN) indicated improvements in HRV scores for Participants 1 and 2 but not for Participant 3. Participant 1's effect sizes (0.597 and 2.758,

respectively) suggested moderate to large effects. Participant 2's effect sizes (0.897 and 0.866, respectively) were both large effects. Both Participant 1 and Participant 2 had positive effect sizes. However, Participant 3's effect sizes (-0.359 and -1.023, respectively) were large but did not indicate improvements in HRV scores. For all three participants, PND was calculated at 0% which indicated no observed effect from the treatment. For HRV scores pre- and post hypnosis sessions 1 and 2, participants' HRV indices did not significantly change.

One possible explanation for the inconsistency of HRV scores may be due to the amount of caffeine ingested by participants throughout the phases. Although the caffeine levels of Participants 1 and 3 remained relatively stable throughout the duration of the study, Participant 2's caffeine intake across phases may have affected the accuracy of his HRV readings (see Table 11).

A second possible explanation for the inconsistency of HRV data is that Participant 2 notified the student researcher that he had been practicing meditation during all of his three-minute HRV recordings throughout the study. Participant 2 notified the student researcher of this during his last data collection session. This was a confounding variable for Participant 2's HRV data.

Third, there were confounding variables for measuring HRV randomly during the day for each participants' treatment phase. HRV treatment phase recordings would have been more accurate if HRV was measured immediately pre- and post- each participants' recording listening.

Participant outcomes for HRQoL. Participants' HRQoL data did not significantly change from the baseline to the follow-up phase. Although Participant 1's Physical and School domains increased from the treatment phase, his Emotional, Social, and Total domains decreased. Participant 2 and 3's Physical, Emotional, Social, School, and Total domains all

increased from treatment. Some possible explanations for the varying HRQoL scores might have been due to participants' hypnotic susceptibility levels, Participant 1's wisdom tooth surgery, and Participant 2's previous experience with self-regulation techniques. Cultural, family, and home environment are other factors that may have affected the outcomes of each participants' HRQoL data.

Limitations and Implications for Future Research

There are limitations to this study that should be considered when interpreting its findings and when planning future research. One limitation to the study is its design. Given that this is a single subject design, the findings of this study can not be generalized to a larger population.

Although the researcher attempted to address the threats to internal validity that exist when using multiple baseline single subject designs, some threats could not be addressed. For instance, Kratochwill et al. (2010) suggests that participants should be randomly assigned to the order with which they enter the intervention phase to prevent selection threats. This was impossible to address due to the participants' and the hypnotist's busy schedules.

Data collection. There were limitations to the study's data collection. Ideally, HRV should have been measured immediately pre- and post- each self-hypnosis recording listening. Also, state anxiety should have been measured immediately pre- and post- each self-hypnosis recording listening. Although HRV was measured immediately pre- and post- hypnosis session 1 and 2, state anxiety should have also been measured. Clearer instructions should have been given to participants to measure their HRV. For instance, participants should have been instructed to not engage in self-regulation strategies (e.g., meditation, relaxation and guided imagery) during data collection sessions. There are some other limitations in utilizing HRV as a measurement tool in research. First, there is no set protocol to measure HRV with the

emWavePro® for adolescents. Second, there are other devices that may more accurately measure HRV levels than the emWavePro®. For instance, a 24 hour HRV measurement tool may be a more effective measurement. Third, measuring cortisol levels may be a more accurate way of predicting stress levels. However, this is traditionally expensive and very time consuming. Fourth, caffeine consumption may have affected the accuracy of participants' HRV scores. It may be useful for future research to refrain from selecting participants who consume caffeine.

The Treatment Integrity form was also a limitation to the study. It is questionable if participants' listened to the self-hypnosis recording for the amount of days that was written and signed off on their forms. Future researchers may wish to employ an electronic treatment integrity collection system. This may be a more consistent and accurate way to assess treatment integrity.

Treatment phase. Another limitation to this study was the confounding effects during the treatment phase. For instance, Participant 1 began his treatment phase the day after having a major surgery. This may have affected his scores on the STAI state inventory during his treatment phase.

Participant recruitment and demographics. For this study, the student researcher was unable to utilize a 504 Plan or Individualized Education Plan (IEP) as part of the participant enrollment criteria. This was a limitation to the study. Many students who are on a 504 Plan or IEP in public high schools receive weekly in-school counseling supports. Review of potential participants' 504 Plan or IEP's as part of an enrollment criteria would have been ideal to assess whether or not anxiety and stress was affecting their education. However, this participant enrollment criteria was impossible because it would violate students' school records and

confidentiality. Future researchers who are also practitioners may wish to collect data at a school district that they work in.

Although the population's ethnicity sample was diverse, the gender population was not. Ideally, the participant population should have included both males and females.

Replication studies should address these shortfalls to further provide evidence for a functional relationship between the independent variable (hypnosis treatment protocol) and the dependent variables (anxiety, stress, and HRQoL) of the study.

Intervention Usability

The data results were not fully consistent from participant to participant for trait anxiety, state anxiety, HRV, and HRQoL. However, the results from the Exit Interview form suggested that all three participants found the treatment feasible and appropriate (see Table 13). For instance, Participant 1 had an average rating of their participation as 4.3 out of 5.0, Participant 2 had an average rating of their participation as 4.4 out of 5.0, and Participant 3 had an average rating of their participation as 4.5 out of 5.0. Based on communications with the participants and their respective parents, the two drawbacks to the study was the travel and transportation time that it took to attend Hypnosis Session 1 and Hypnosis Session 2 and the scheduling of these sessions with the medical doctor. Given that this was a multiple baseline design, the scheduling was tight and left no flexibility in terms of the days and times to schedule these hypnosis sessions. The scheduling was also limited when working with an interventionist outside of the study. Future researchers may wish to utilize a hypnotist or train an individual who is internal within a research team. The treatment protocol may be another flaw and could have produced confounding variables. There were actually four components to this study's treatment: (a)

educational session; (b) live hypnosis session 1; (c) 30-day self hypnosis listening protocol; (d) live hypnosis session 2.

Implications for Practice

The nature of single-subject research prevents the study's findings from being generalized to a larger population. However, the study does provide some general implications for practice. First, this study suggests that the hypnosis treatment employed in the study has the potential to result in improvements in state and trait anxiety, HRV, and HRQoL in high school-aged adolescent males. The students that may most benefit may be students with 'High' hypnotic susceptibility levels according to the CIS. Therefore, prior to implementing the hypnosis treatment, educators and outside health providers may wish to screen students to ensure that they have 'High' hypnotic susceptibility.

For practice in the schools, it is recommended that this treatment be modified. Hypnosis and self-hypnosis are suitable treatments that students can seek from outside mental health providers who are certified in clinical hypnosis. Depending upon a school district's rules and regulations and the training of school-based mental health providers, the study's treatment protocol may not be suitable to implement in a high school. Within a school district, it may be more appropriate to introduce the concept of hypnotic language to administrators and to Pupil Personnel Directors. The use of hypnotic language for children and adolescents has been addressed in the National Pediatric Hypnosis Training Institute (NPHTI) workshops. Its usage is very appropriate with elementary school-aged children. However, urban school districts with school-based mental health clinics may have differing rules and regulations as to what can and cannot be implemented for mental health interventions to address anxiety and stress.

Conclusions

This study sought to add to the hypnosis literature base on a self-hypnosis treatment for high school students with anxiety and stress. It examined whether hypnosis could be utilized to decrease anxiety and stress and to improve HRQoL. Although there were improvements in some of the participants' data, there are limitations to this study that make it difficult to conclude a functional relationship between the treatment's effect on anxiety, stress, and HRQoL. Future research should address the limitations of the study to increase the internal and external validity of the current study.

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Table 1

Norms for the Creative Imagination Scale (CIS)

General Level	Raw Score	Number of Subjects	Percent of Subjects	Percentile Score	T-Score
High	39-40	1	1	100	83
High	37-38	4	2	99	73
High	35-36	5	2	98	70
High	33-34	11	5	95	66
High	31-32	11	5	90	63
High	29-30	7	3	85	60
Medium High	27-28	22	10	82	59
Medium High	25-26	12	6	72	56
Medium High	23-24	20	9	66	54
Medium High	21-22	19	9	57	52
Medium High	19-20	19	9	48	49
Medium High	17-18	21	10	40	48
Medium Low	15-16	14	6	30	45
Medium Low	13-14	13	6	24	43
Medium Low	11-12	9	4	18	41
Low	9-10	11	5	13	39
Low	7-8	7	3	8	36
Low	5-6	6	3	5	34
Low	3-4	3	1	2	30
Low	0-2	2	1	1	27

Note. Creative Imagination Scale (CIS) norms as discussed in Wilson and Barber (1978).

Normative sample was 217 undergraduate students from a northeastern university and the mean was 50 and the standard deviation was 10 (Kiddoo, 1977).

Table 2

Participants' State Trait Anxiety Inventory (STAI) Trait T-Scores

Phase	Participant 1	Participant 2	Participant 3	Wilcoxon Signed Ranks Test	
				Z	Asymp. Sig. (2-tailed)
Baseline	78	66	68		
Follow-Up	90	38	44	-1.069 ^a	0.285

Note. Mean=40.17 for males, 40.97 for females; +1 Standard Deviation=50.70 for males, 51.60 for females; +2 Standard Deviations=61.23 for males, 62.23 for females; +3 Standard Deviations=71.76 for males, 72.86 for females; +4 Standard Deviations=82.29 for males, 83.49 for females; +5 Standard Deviations=92.82 for males, 94.12 for females.

a. Based on positive ranks (post-treatment scores decreased).

Table 3

State Trait Anxiety Inventory (STAI) State Descriptive Statistics Across Phases

	T-Scores Baseline (A)			T-Scores Treatment (B)			T-Scores Follow-Up (C)			Effect Size (A to B)	Effect Size (A to C)	PND (%)
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range			
Participant 1	68.600	1.673	66-70	71.500	2.380	69-74	72.000	12.675	53-79	1.733	2.032	0.000
Participant 2	45.380	7.230	36-58	33.140	3.805	30-41	32.750	10.404	25-47	-1.693	-1.747	85.714
Participant 3	48.920	7.320	42-62	33.130	5.866	25-41	29.500	5.916	23-35	-2.157	-2.653	100.000

Note. Mean=39.45 for males, 40.54 for females; +1 Standard Deviation=49.19 for males, 53.40 for females; +2 Standard

Deviations=58.93 for males, 66.26 for females; +3 Standard Deviations=68.67 for males, 79.12 for females.

Table 4

Heuristics for Comparing State Anxiety Scores Across Phases

	^a Level	^b Immediacy	^c Consistency	^d Overlap	^e Trend
Participant 1	Increase	Increase	Declined	Not Effective	Slight decrease in trend to moderate decrease in trend
Participant 2	Decrease	Decrease	Improved	Moderately Effective	Slight decrease in trend to moderate increase in trend
Participant 3	Decrease	Decrease	Improved	Highly Effective	Moderate decrease in trend to slight decrease in trend to slight decrease in trend

Notes.

^aLevel: Increase, Decrease, or No Change in Mean.

^bImmediacy: Increase, Decrease, or Non Change between final 3 baseline data points and first 3 intervention data points.

^cConsistency: Improved, Declined or No Change (using standard deviation as criterion).

^dOverlap: PND Criteria: (a) 91%-10%=Highly Effective; (b) 71%-90%=Moderately Effective; (c) 50%-70%=Minimally Effective; (d) < 50%=Not Effective (Banda & Therrien, 2008).

^eTrend: Comparison of baseline phase trend to treatment phase trend to follow-up phase trend using the split-middle technique.

Table 5

Participants' Heart Rate Variability (HRV) Scores Across Phases

	Baseline Phase (A)			Treatment Phase (B)			Follow-Up Phase (C)			Effect Size (A to B)	Effect Size (B to C)	PND (%)
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range			
Participant 1												
SDNN	61.740	5.252	53.700-68.000	64.875	10.706	52.300-75.800	76.225	22.572	52.000-106.600	0.597	2.758	0.000
Participant 2												
SDNN	66.350	29.296	42.900-127.200	92.614	21.027	58.700-124.800	91.725	10.303	82.100-106.300	0.897	0.866	0.000
Participant 3												
SDNN	93.015	19.903	48.000-127.600	85.863	24.212	53.800-109.300	72.650	24.781	50.200-98.400	-0.359	-1.023	0.000

Table 6

Heuristics for Comparing Heart Rate Variability (HRV) Scores Across Phases

	^a Level	^b Immediacy	^c Consistency	^d Overlap	^e Trend
Participant 1	Increase	Increase	Improved	Not Effective	Slight decrease in trend to moderate increase in trend to moderate increase in trend
Participant 2	Increase	Increase	Improved	Not Effective	Strong increase in trend to moderate increase in trend to moderate increase in trend
Participant 3	Decrease	Increase	Declined	Not Effective	Slight decrease in trend to slight decrease in trend to slight decrease in trend

Notes.

^aLevel: Increase, Decrease, or No Change in Mean.

^bImmediacy: Increase, Decrease, or Non Change between final 3 baseline data points and first 3 intervention data points.

^cConsistency: Improved, Declined or No Change (using standard deviation as criterion).

^dOverlap: PND Criteria: (a) 91%-10%=Highly Effective; (b) 71%-90%=Moderately Effective; (c) 50%-70%=Minimally Effective; (d) < 50%=Not Effective (Banda & Therrien, 2008).

^eTrend: Comparison of baseline phase trend to treatment phase trend to follow-up phase trend using the split-middle technique.

Table 7

Participants' Heart Rate Variability (HRV) Scores Pre- and Post-Hypnosis Sessions

Hypnosis Session 1						Hypnosis Session 2						Wilcoxon Signed Ranks Test					
						Wilcoxon Signed Ranks Test						Asymp. Sig. (2-tailed)					
Participant 1			Participant 2			Participant 3			Participant 1			Participant 2			Participant 3		
Pre	Post		Pre	Post		Pre	Post		Pre	Post		Pre	Post		Pre	Post	
SDNN	61.800	60.700	64.000	92.200	125.300	79.400	-0.535 ^a	0.593	58.300	71.600	81.700	111.100	70.300	64.600	-1.069 ^a	0.285	

Note.

a. Based on negative ranks (post-treatment scores increased).

Table 8

Participants' Creative Imagination Scale (CIS) Baseline T-Scores

Phase	Participant 1	Participant 2	Participant 3
Baseline	54	63	63

Note. Creative Imagination Scale (CIS) administered in baseline only. Higher scores indicate greater hypnotic suggestibility. Participant 1=Medium High; Participant 2=High; Participant 3=High (Kiddoo, 1977; Wilson & Barber, 1978).

Table 9

Participants' Baseline and Follow-Up Scores on the PEDSQLTM

Domain	Phase	Participant 1	Participant 2	Participant 3	Wilcoxon Signed Ranks Test	
					Z	Asymp. Sig. (2-tailed)
Physical	Baseline	71.875	78.125	62.500		
	Follow-Up	78.125	100.000	75.000	-1.604 ^a	.109
Emotional	Baseline	35.000	55.000	20.000		
	Follow-Up	20.000	90.000	65.000	-1.069 ^a	.285
Social	Baseline	70.000	80.000	70.000		
	Follow-Up	60.000	100.000	80.000	-0.816 ^a	.414
School	Baseline	60.000	65.000	25.000		
	Follow-Up	65.000	100.000	50.000	-1.604 ^a	.109
Total	Baseline	60.870	70.652	46.739		
	Follow-Up	58.696	97.826	68.478	-1.069 ^a	.285

Note. Higher scores indicate higher health related quality of life (HRQoL).

a. Based on negative ranks (post-treatment scores increased).

Table 10

Participants' Caffeine Diary Responses Across Phases

Baseline Phase (A)													Treatment Phase (B)						Follow-Up Phase (C)					
1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	1	2	3	4
Participant 1	CAD	N	N	N									N	N	N	N					N	N	N	N
Participant 2	CAD	N	N	CMM	CBB	CBB	N	N	N					N	N	CBB	N	CBB	CBB	N		N	N	N
				CBL												CAB		CAB						
				CAL												CMM		CMM						
				CMA												CBL		CBL						
Participant 3	N	N	N	N	N	N	N	N	N	N	N	CMM	N	N	N	N	N	N	N	N	N	N	N	

Note. N=No Caffeine; CBB=Caffeine Before Breakfast; CAB=Caffeine at Breakfast; CMM=Caffeine Mid-Morning; CBL=Caffeine Before Lunch; CAL=Caffeine at Lunch; CMA=Caffeine Mid-Afternoon; CBD=Caffeine Before Dinner; CAD=Caffeine at Dinner; CAB=Caffeine at Bedtime.

Table 11

Participants' Caffeine Diary Responses Pre- and Post-Hypnosis Sessions

	Session 1		Session 2	
	Pre	Post	Pre	Post
Participant 1	N	N	N	N
Participant 2	N	N	N	N
Participant 3	N	N	N	N

Note. N=No Caffeine; CBB=Caffeine Before Breakfast; CAB=Caffeine at Breakfast;
 CMM=Caffeine Mid-Morning; CBL=Caffeine Before Lunch; CAL=Caffeine at Lunch;
 CMA=Caffeine Mid-Afternoon; CBD=Caffeine Before Dinner; CAD=Caffeine at Dinner;
 CAB=Caffeine at Bedtime.

Table 12

Self-Hypnosis Recording Listening Treatment Integrity Data

	Day																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Item 1. I listened to the self-hypnosis recording on my phone.																														
Participant 1	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N
Participant 2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Participant 3	N	Y	Y	N	N	Y	Y	Y	N	N	N	Y	Y	N	Y	N	N	Y	N	N	Y	Y	N	Y	N	Y	N	Y	N	Y
Item 2. I listened to the self-hypnosis recording right before bed.																														
Participant 1	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N
Participant 2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Participant 3	Y	Y	Y	N	N	Y	Y	Y	N	N	N	Y	Y	N	Y	N	N	Y	N	N	Y	Y	N	Y	N	Y	N	Y	N	Y
Item 3. I used headphones to listen to the self-hypnosis recording.																														
Participant 1	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N
Participant 2	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Participant 3	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
Item 4. I remember falling asleep while listening to the self hypnosis recording.																														
Participant 1	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Participant 2	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	N	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
Participant 3	N	Y	N	N	N	N	N	Y	N	N	N	Y	Y	N	Y	N	N	N	N	N	Y	Y	N	Y	N	N	N	N	N	Y

Note. Y=Yes; N=No. Participant 1 listened to the self-hypnosis recording 24 out of 30 days or 80%; Participant 2 listened to the self-hypnosis recording 30 out of 30 days or 100%; Participant 3 listened to the self-hypnosis recording 15 out of 30 days or 50%.

Table 13

Participants' Exit Interview Responses

Item	Responses		
	Participant 1	Participant 2	Participant 3
1. I liked the first hypnosis session.	4	5	4
2. I liked the second hypnosis session.	4	4	5
3. I found the hypnosis sessions to be helpful with managing my anxiety and stress.	4	5	4
4. I found the hypnosis mp3 to be helpful with managing my anxiety and stress.	5	5	5
5. I would recommend the hypnosis sessions to a classmate.	4	4	4
6. I would recommend the hypnosis mp3 to a classmate.	5	5	4
7. I intend to continue listening to my hypnosis mp3 after participating in this study.	5	1	4
8. I am satisfied with my participation in the hypnosis.	4	5	5
9. The hypnosis sessions were fun.	4	5	5
10. I liked the hypnotist.	4	5	5
Average Rating:	4.3	4.4	4.5

Note. 1=Strongly Disagree; 2=Disagree; 3=Neither Agree nor Disagree; 4=Agree;

5=Strongly Agree.

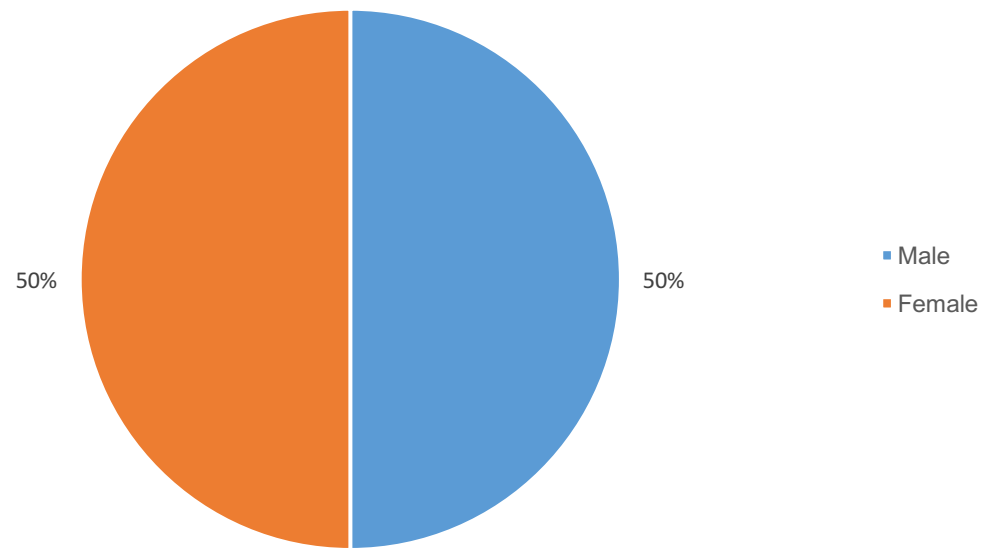


Figure 1. Gender demographics of high school sample population.

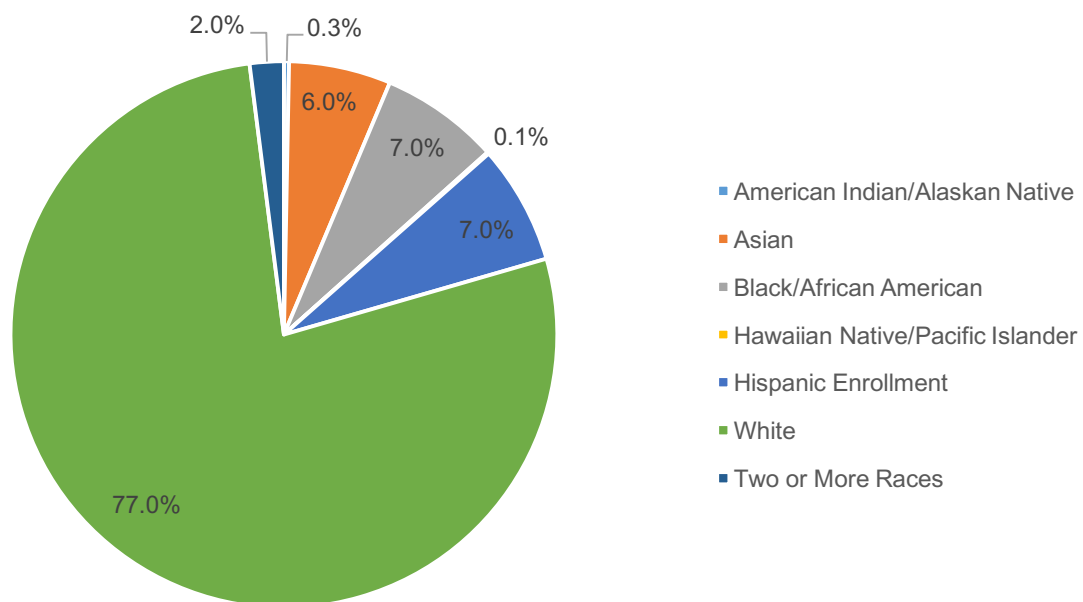


Figure 2. Ethnicity demographics of high school sample population.

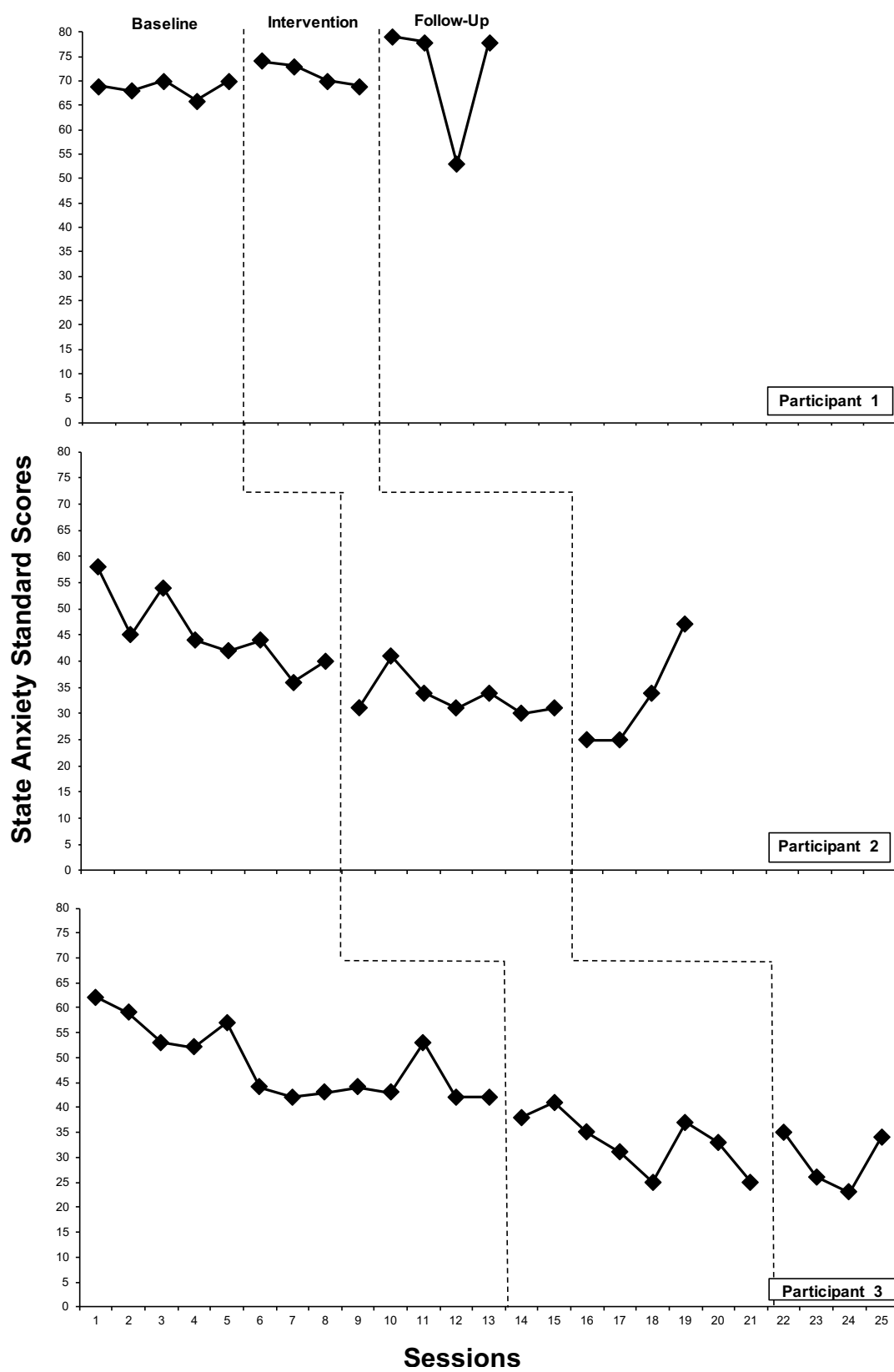


Figure 3. Participants' State Trait Anxiety Inventory (STAI) state scores across phases.

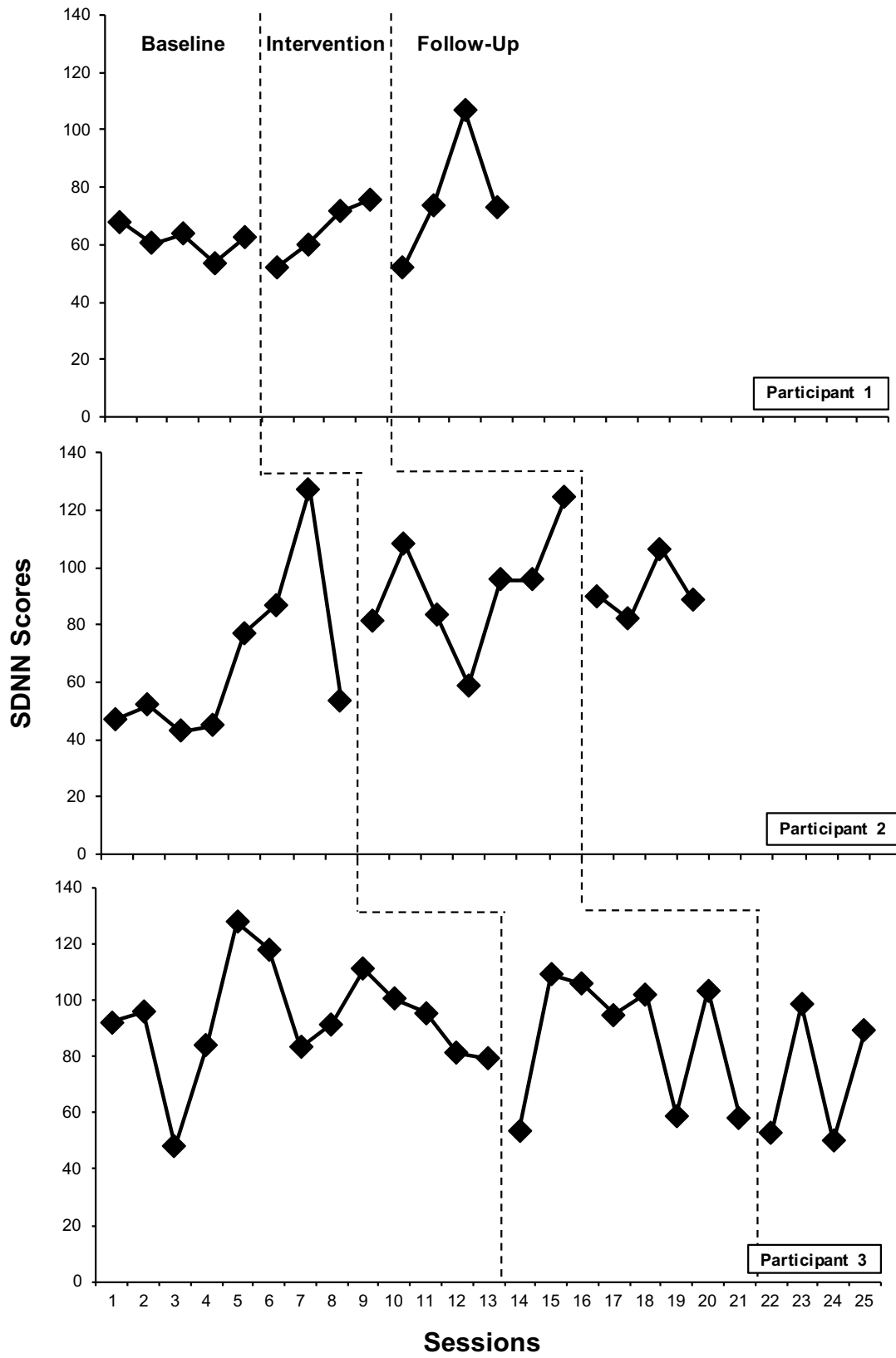


Figure 4. Participants' SDNN scores across phases.

APPENDIX A

Dissertation Study Summary

Nilani L. Shankar, MA
University of Connecticut School Psychology Ph.D. Candidate
nilani.shankar@uconn.edu

The purpose of my dissertation study is to investigate the effectiveness of self-hypnosis on 3 high school students with anxiety. Once I receive approval from the University of Connecticut Institutional Review Board (IRB) and if your district chooses to participate, I will be seeking students who currently work with XXX XXX, school social worker at XXX XXX High School, for stress/anxiety management. These students should have access to an iPhone/mp3/iPad player to use during the study and they should not have a history of trauma.

Should your district choose to participate, a maximum of 10 students may be recruited and screened (administered a HeartMath HRV measurement and surveys) from XXX's caseload but only the 3 who participate in the study will receive the self-hypnosis. The type of study that I am conducting is called a '**multiple baseline design across participants**' and requires a low number of participants to show whether or not the self-hypnosis is effective. Prior to participating in the study, each student will be asked to attend an informational meeting at XXX XXX High School. XXX and the hypnotist, Dr. XXX, stated that they will both be part of the informational meeting. The meeting will address concerns and questions that the students and parents/guardians have about self-hypnosis.

If the recruited students and their parents/guardians wish to participate, they will be asked to sign the appropriate consent and assent forms following the informational meeting or take a postage-paid envelope and mail the forms back me. During this study, the 4 students will be asked to meet with the hypnotist, Dr. XXX (medical doctor) for three 1-hour sessions. The first session is an educational session and will occur at XXX XXX High School in the guidance department. The second and third sessions are hypnosis sessions and will occur at Dr. XXX's medical office at XXX XXX Medical Center in XXX, CT. There is no cost for the students and their parents/guardians to participate in this study.

Hypnotist---Dr. XXX XXX, MD Brief Biography:

Dr. XXX XXX, MD is a medical doctor who practices internal medicine at XXX XXX Medical Center (GHMC) in XXX, CT. She has been a medical doctor in private practice at XXX since 1996. In addition, she is also an Assistant Clinical Professor at the University of Connecticut Medical School and teaches in the XXX XXX Program at the University of Connecticut Department of XXX.

Dr. XXX is Board Certified in Internal Medicine and also Board Certified in Integrative Medicine. Her patients are ages 2 to 98. An electronic video of her speaking about hypnosis can be viewed on the American Society of Clinical Hypnosis (ASCH) homepage: <http://www.asch.net>

The hypnotist has fulfilled the American Society of Clinical Hypnosis (ASCH) Certification in Clinical Hypnosis requirements of: 1) possessing at least a Master's degree in a healthcare field deemed appropriate by ASCH, 2) membership in a professional society consistent with degree,

APPENDIX A

Dissertation Study Summary

3) licensure or certification by the state in which she practices in, 4) minimum of 40 hours of ASCH approved workshop training (20 hours each of beginning and intermediate workshops), 5) minimum of 20 hours of individualized training/consultation with an ASCH Approved Consultant, 6) minimum of two years of independent practice using clinical hypnosis (ASCH, 2014b). She also holds the ASCH Approved Consultant hypnosis certification requirements of: 1) a minimum of 60 additional hours of workshop training approved by ASCH, 2) a minimum of 5 years of independent practice using clinical hypnosis, 3) a minimum of 5 years membership in ASCH, the Society of Clinical and Experimental Hypnosis (SCEH), or an equivalent organization (ASCH, 2014a).

The student researcher, Nilani Shankar met with Dr. XXX on two occasions to determine her suitability for the study: 1) on XXX discuss the study's hypnosis treatment protocol and to learn of her professional credentials, 2) on XXX to receive a 1-hour hypnosis session by Dr. XXX at her XXX XXX Medical Center practice in XXX, CT.

Nilani Shankar, MA Brief Biography: I will not be conducting the hypnosis sessions but I will be overseeing the study and collecting the data. I have completed an American Society of Clinical Hypnosis (ASCH) Basic Workshop in Alexandria, Virginia in 2013 and I recently completed a National Pediatric Hypnosis Training Institute (NPHTI) Basic Workshop in Minneapolis, MN this September 2014. I have previous experience working with high school-aged students and I have completed practicums in elementary, middle school, and high school settings throughout Connecticut. In addition, I have practicum and work experience in children's hospital settings and I have assisted a former doctoral student with her dissertation data collection on anxiety and stress at XXX XXX High School. This student was XXX XXX who worked with Mr. XXX XXX with the 'stress study' that investigated Cognitive Behavior Therapy (CBT) and Emotional Freedom Techniques (EFT) or 'tapping.'

My Study's Protocol:

The first session with Dr. XXX is an educational session where Dr. XXX gets to know the student through 1-hour of talk and conversation. During the second session with Dr. XXX, the student has a 1-hour hypnosis session (15 minutes of talk, 30 minutes of hypnosis, 15 minutes of talk). Dr. XXX records the hypnosis (30 minutes) onto a CD and the student listens to the CD before bed for 2-weeks. After this 2-week period, the student meets with Dr. XXX for a second 1-hour hypnosis session (15 minutes of talk, 30 minutes of hypnosis, and 15 minutes of talk). This is followed by another 2-week period of listening to the CD from the first hypnosis session. The student stops listening to the CD after 2-weeks.

Data collection sessions are each 10 minutes long and are conducted by me. Each student should meet with me for a maximum of twenty 10-minute data collection sessions over a four-month period after school. Data collection measures are:

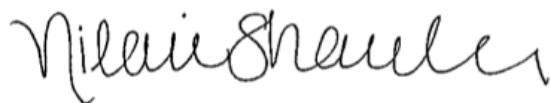
- Anxiety survey
- Heart Rate Variability (HRV) by HeartMath (XXX is certified and my certification is pending) to measure stress levels
- Quality of life survey PEDSQL Generic Core Scales (quality of life measurement)
- Imagination survey

- Daily medication diary (students record the medications that they are taking each day in a journal)

Dr. XXX's hypnosis training uses **self-hypnosis**. This type of hypnosis uses permissive language where students may be in control of themselves (e.g., "Let me know please when you are beginning to notice the relaxing" as opposed to "You will relax"). The student has the ability to accept or reject the suggestions offered to them. If they are uncomfortable at any point during the study, they may withdraw at any time. Through participating in this study, the 4 students may learn of a technique to access their inner resources to heal or make positive adjustments related to their stress and anxiety. Prior to their first hypnosis session at Dr. XXX's office, each student will receive a \$20 gas gift card by me for travel expenses up to XXX. The 4 students will each be compensated with \$50 cash contingent upon participating in the entire research protocol from start to finish.

Please feel free to contact me at: XXX or nilani.shankar@uconn.edu for additional information. I am more than happy to speak with you over the telephone. I will gladly meet with you at XXX XXX High School to further discuss my study and address any questions or concerns.

Best,

A handwritten signature in black ink, reading "Nilani Shankar". The signature is written in a cursive, flowing style.

Nilani Shankar

APPENDIX B

Letter of Invitation for the High School/School District

Dear School District Administration:

As researchers of the University of Connecticut School Psychology Program at the Neag School of Education, we are inviting the high school in your district to participate in a research-based study investigating stress and anxiety in students in grades 9-12.

Although anxiety is a normal stress reaction and is beneficial under certain circumstances, it may become excessive for some individuals. Students with high levels of anxiety and stress should be of particular concern to school-based mental health practitioners because the age of onset for anxiety typically occurs in childhood and adolescence and may progress into adulthood without the appropriate mental health treatment. Anxiety may affect children or adolescents in school settings by impairing their cognition, behavior, and/or physiology (e.g., excessive worry, perfectionism, headaches).

Should you agree to have the high school in your school district participate in this study, the school will be asked to:

- Identify a school contact person (e.g., school social worker) for the researcher to communicate with regarding the study details and follow-up.
- Have the school social worker provide informational material provided by the researchers to students whom they currently see for stress/anxiety management 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 study assessments.

Students interested in participating will be asked to:

- Meet in-person with their parents/guardians about the study (these arrangements will be made for those interested in participating).
- Sign an assent form (or consent form if they are age 18) agreeing to participate in the study.
- Take a brief screening assessment and 3 other brief assessments to determine their stress/anxiety levels.

If the student scores high on the screening assessment, they are eligible to participate in a self-hypnosis intervention that consists of 3 sessions with a medical doctor who does hypnosis and listening to a self-hypnosis CD created by the medical doctor. Please know that the hypnotist hired for this study is well qualified and works with adolescents in her medical practice. She is certified in hypnosis through the American Society of Clinical Hypnosis (ASCH).

APPENDIX B

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

- Attend the in-person meeting with their teen about the study (these arrangements will be made for those interested in participating). The school social worker will be present at this meeting.
- Sign a permission form allowing their teen to participate in the study.
- Transport their teen to his/her 2 hypnosis sessions (hypnotist's office is located in XXX) at a time convenient for the family and outside of the teen's school day.

We look forward to talking with you further about this exciting opportunity for the high school in your district to participate in the study. We can be reached at the e-mail addresses and telephone numbers below should you have additional questions. Thank you for your time and consideration!

All the Best,

Dr. Melissa A. Bray, Ph.D.
Professor & Director, School Psychology Program
mbray@uconn.edu
XXX-XXX-XXX

Nilani L. Shankar, M.A.
Doctoral Student, School Psychology Program
nilani.shankar@uconn.edu
XXX-XXX-XXX

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

APPENDIX C

School Administrators to Indicate Study Participation

Date: _____

Dear Dr. Bray and Ms. Shankar:

We have received and read all the material that you sent regarding the study that you are investigating to address anxiety/stress management for high school students who currently work with our school social worker.

We understand that we will be asked to:

- ✓ Identify a school contact person (e.g., school social worker) for the researcher to communicate with regarding the study details and follow-up.
- ✓ Have the school social worker provide informational material provided by the researchers to students whom they currently see for stress/anxiety management 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 study assessments.

Please accept this letter that indicates our desires to have:

_____ participate in this study.
(High School Name/School District)

The school social worker that will be working with you to coordinate the participant recruitment and in-person meeting time and place is:

(Name of School Social Worker)

We look forward to working together!

Sincerely,

School Principal (Signature)

School Superintendent (Signature)

School Principal (Name Printed)

School Superintendent (Name Printed)

APPENDIX D

Informational Letter to Parents/Guardians and Students

Dear Parent/Guardian and Student,

Enclosed you will find information about a study being conducted at the University of Connecticut Neag School of Education entitled, *Self-Hypnosis for School Success: Empowering Adolescents with Anxiety and Stress*.

The purpose of this study is to better understand the relationship between stress and anxiety among high school students. This study will evaluate the effectiveness of self-hypnosis on high school students' stress and anxiety levels. Teens participating in this study will be financially compensated for their participation. There is no cost to participate in this study.

Please know that the hypnotist hired for this study is well qualified. She is a medical doctor who practices internal medicine at XXX XXX Medical Center in XXX, CT. She has been a medical doctor in private practice at XXX XXX Medical Center since 1996. In addition, she is also an Assistant Clinical Professor at the University of Connecticut XXX XXX and teaches in the XXX XXX at the University of Connecticut XXX XXX. In addition, she is Board Certified in Internal Medicine and also Board Certified in Integrative Medicine. Her patients are ages 2 to 98. An electronic video of her speaking about hypnosis can be viewed on the American Society of Clinical Hypnosis (ASCH) homepage: <http://www.asch.net> (third video from the left). She is certified in hypnosis through the American Society of Clinical Hypnosis (ASCH).

This study is being conducted by Nilani L. Shankar, Doctoral Student in the School Psychology Program, under the direction of Dr. Melissa A. Bray, Professor and Director of School Psychology.

You and your teen are invited to meet with the student researcher, Nilani Shankar, school social worker, XXX XXX, and medical doctor, Dr. XXX XXX at your school on XXX XXX from 6 PM-7 PM to hear more information about the study and to meet Nilani Shankar and Dr. XXX. We will answer any questions that you may have. Please call the student researcher, Nilani Shankar: XXX to verify your attendance at this meeting. A parent/guardian should be in attendance with you at the meeting. If you would like additional time after the meeting to decide, you can review the forms at home with other family members and/or call the principal investigator, Dr. Melissa Bray at: XXX or student researcher, Nilani Shankar at XXX to further discuss the study.

- If you decide that you would like your teen participate and if your teen is ages 14-17, please have both you and your teen sign the **parent/guardian permission form** agreeing to participate.
- If your teen is 18 and he/she decides that he/she would like to participate, please only have him/her sign the **consent form**—no parent/guardian signature is required.

APPENDIX D

Please mail the appropriate form back in the pre-paid envelope to:

Nilani Shankar
Neag School of Education
Department of Educational Psychology
249 Glenbrook Road, Unit 3064
Storrs, CT 06269-3064

All the Best!

Dr. Melissa A. Bray, Ph.D.
Professor & Director, School Psychology Program
mbray@uconn.edu
XXX-XXX-XXX

Nilani L. Shankar, M.A.
Doctoral Student, School Psychology Program
nilani.shankar@uconn.edu
XXX-XXX-XXX

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

APPENDIX E

Recruitment Flier



Stressed? Anxious? You're wanted for a research study!

Self-Hypnosis for School Success: Empowering Adolescents with Anxiety and Stress



This study is investigating the effectiveness of self-hypnosis, an anxiety and stress management technique, in high school students. All hypnosis is self-hypnosis. Self-hypnosis has often been compared to being in a daydreaming state or in a sleepy state.

Participant Eligibility:

- Current high school student in grades 9-12, inclusive
 - 14-18 years old, inclusive
 - Anxious and stressed
 - You see your school social worker for anxiety and stress management
 - No trauma history
 - Access to an electronic music player (e.g., iPhone, iPod, iPad) to use
 - Consistent medications
 - No asthma medications
-
- You may learn of an effective way to manage your stress and anxiety levels.
 - You will be compensated with \$75 cash at the end of the study.
 - You will receive a \$25 gas gift card to attend 2 hypnosis sessions.
 - The data collection will occur in the guidance department of your high school.
 - You will need to attend three 1-hour sessions with a medical doctor who is certified in clinical hypnosis by the American Society of Clinical Hypnosis (ASCH).

For more information, please contact:

Nilani Shankar, UCONN School Psychology Ph.D. Student:
 nilani.shankar@uconn.edu

This research is being conducted under the direction of:

Dr. Melissa Bray, Ph.D., UCONN Department of Educational Psychology

APPENDIX F

Participant Qualification Criteria Checklist and Clinical Assessment

CRITERIA	
<input type="checkbox"/>	Current student at [REDACTED] High School in grades 9-12.
<input type="checkbox"/>	Ages 14-18.
<input type="checkbox"/>	Clinically identified with an anxiety disorder according to DSM-IV or DSM-5 criteria by their school social worker who is [REDACTED].
<input type="checkbox"/>	Participants currently work with [REDACTED] for stress and anxiety management.
<input type="checkbox"/>	Participants do not have a history of trauma according to [REDACTED].
<input type="checkbox"/>	Participants' medications are consistent.
<input type="checkbox"/>	Participants have access to an electronic music player (e.g., iPhone, iPod, iPad) to use during the study.
<input type="checkbox"/>	Participants are not on asthma medication.

Date: _____

I assessed _____ and he meets my criteria for anxiety.

(Name of Student)

Signature: _____

(XXX XXX, School Social Worker)

Name Printed: _____

(XXX XXX, School Social Worker)

APPENDIX G

Caffeine Diary

Participant ID #: _____

Date: _____

Please include any of the following drinks in your Caffeine Diary:

COFFEES	TEAS	SODAS	ENERGY DRINKS
<ul style="list-style-type: none"> ▪ Coffee, caffeinated ▪ Coffee, decaffeinated ▪ Espresso, caffeinated ▪ Espresso, decaffeinated ▪ Instant coffee, caffeinated ▪ Instant coffee, decaffeinated ▪ Specialty coffee drinks (e.g., latte, mocha, etc.) 	<ul style="list-style-type: none"> ▪ Black tea, caffeinated ▪ Black tea, decaffeinated ▪ Green tea, caffeinated ▪ Green tea, decaffeinated ▪ Caffeinated iced teas ▪ Bottled caffeinated teas 	<ul style="list-style-type: none"> ▪ 7UP—regular, diet ▪ A&W Root Beer ▪ Barq's Root Beer ▪ Coca-Cola—regular, diet ▪ Dr. Pepper—regular, diet ▪ Mountain Dew—regular, diet ▪ Mug Root Beer—regular, diet ▪ Pepsi—regular, diet ▪ Sierra Mist—regular, diet ▪ Sprite—regular, diet 	<ul style="list-style-type: none"> ▪ Amp—regular, sugar-free ▪ 5-Hour Energy—regular, sugar-free ▪ Full Throttle—regular, sugar-free ▪ Monster—regular, sugar-free ▪ NOS—regular, sugar-free ▪ Red Bull—regular, sugar-free ▪ Rockstar—regular, sugar-free ▪ Xyience Xenergy—regular, sugar free

Adapted from: Mayo Clinic

<http://www.mayoclinic.org/healthy-living/nutrition-and-healthy-eating/in-depth/caffeine/art-20049372>

[illegible]

APPENDIX H

Self-Hypnosis Recording Listening Treatment Integrity Form

Participant ID #: _____

Instructions:

1. Please check 'Yes' or "No" for reach step under each day.
2. Under the 'Comments' column, comment on any modifications that occurred.

Week #1

STEPS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1. I uploaded the self-hypnosis CD file to my phone.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. I listened to the self-hypnosis recording on my phone.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. I listened to the self-hypnosis recording right before bed.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. I used headphones to listen to the self-hypnosis recording.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. I remember falling asleep while listening to the self-hypnosis recording.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Comments: _____**Week #2**

STEPS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1. I uploaded the self-hypnosis CD file to my phone.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. I listened to the self-hypnosis recording on my phone.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. I listened to the self-hypnosis recording right before bed.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. I used headphones to listen to the self-hypnosis recording.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. I remember falling asleep while listening to the self-hypnosis recording.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Comments: _____

APPENDIX H

Self-Hypnosis Recording Listening Treatment Integrity Form

Week #3

STEPS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1. I uploaded the self-hypnosis CD file to my phone.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. I listened to the self-hypnosis recording on my phone.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. I listened to the self-hypnosis recording right before bed.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. I used headphones to listen to the self-hypnosis recording.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. I remember falling asleep while listening to the self-hypnosis recording.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Comments: _____

Week #4

STEPS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1. I uploaded the self-hypnosis CD file to my phone.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. I listened to the self-hypnosis recording on my phone.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. I listened to the self-hypnosis recording right before bed.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. I used headphones to listen to the self-hypnosis recording.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. I remember falling asleep while listening to the self-hypnosis recording.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Comments: _____

Student Signature: _____

Parent Signature: _____

Date: _____

APPENDIX I

Creative Imagination Scale Script

Creative Imagination Scale

The Creative Imagination Scale is a measure of imaginative suggestibility. It can be administered to an individual or to groups. It does not require a hypnotic/trance induction procedure.

It was developed in response to other scales of the time, such as the Barber Suggestibility Scale or the Stanford Scales, which were perceived to be too authoritarian in style.

Instructions

The Creative Imagination Scale can be administered either:

1. Without any special preliminaries – participants are simply told that they will receive a test of creative imagination
2. After a traditional trance induction procedure – a standard hypnotic induction
3. After special preliminary instructions such as Task Motivational Instructions (Barber, 1969), Human Potential Instructions (Barber, Spanos, Chaves, 1974), or Think With Instructions (Berber & Wilson, 1977)

Participants should be asked to close their eyes and to keep them closed during the administration of the scale. The experimenter should read the scale items verbatim in the order they are presented.

Immediately following the administration of the Creative Imagination Scale participants should report what they experienced on the scoring form.

Reference:

Barber, T. X., Wilson, S. C. (1978). The Barber Suggestibility Scale and the Creative Imagination Scale: Experimental and Clinical Applications. *American Journal of Clinical Hypnosis*, 21: 84-108

APPENDIX I

Creative Imagination Scale Script

1. Arm Heaviness

“By letting your thoughts go along with these instructions you can make your hand and arm feel heavy, Please close your eyes and place your left arm straight out in front of you at shoulder height with the palm facing up.”

(Begin timing) “Now imagine that a very heavy dictionary is being placed on the palm of your left hand. Let yourself feel the heaviness. Your thoughts make it feel as if there is a very heavy dictionary on your hand. You create the feeling of heaviness in your hand by thinking of a large heavy dictionary. Now think of a second large heavy dictionary being placed on top of the first heavy dictionary. Feel how heavy your arm begins to feel as you push up on the dictionaries. Push up on the heavy dictionaries as you imagine the weight; notice how your arm feels heavier and heavier. As you push up on them. Now tell yourself that a third big heavy dictionary is being piled on top of the other two heavy dictionaries in your hand and your arm is very, very heavy. Let yourself feel as if there are three heavy dictionaries on the palm of your hand and your arm is getting heavier and heavier and heavier. Feel your arm getting heavier and heavier and heavier, very, very, very heavy, getting heavier and heavier ... very heavy.”

(Approximately 1’20” since the beginning of timing)

“Now tell yourself that your hand and arm feel perfectly normal again and just let your hand and arm come back down and relax.”

2. Hand Levitation

“By directing your thoughts you can make your hand feel as if it is rising easily, without effort. Keep your eyes closed and place your right arm straight out in front of you at shoulder height with the palm facing down.”

(Begin timing.) “Now, picture a garden hose with a strong stream of water pushing against the palm of your right hand, pushing up against the palm of your hand. Think of a strong stream of water pushing your hand up. Let yourself feel the strong stream of water pushing up against the palm of your hand, pushing it up. Feel the force of the water, pushing your hand up. Feel it pushing against the palm of your hand. Tell yourself that the force of the water is very strong, and, as you think about it, let your hand begin to rise. Feel your hand rising as you imagine a strong stream of water pushing it up, and up, and up, higher and higher. Tell yourself that a strong stream of water is pushing your hand up and up, raising your arm and hand higher as the strong stream of water just pushes it up, just rises and pushes and just pushes it up, higher and higher.” (End of timing: about 1’10”).

“Now tell yourself it’s all in your own mind and just let your hand and arm come back down and relax.”

APPENDIX I

Creative Imagination Scale Script

3. Finger Anaesthesia

“By focusing your thinking you can make your fingers feel numb. Please place your left hand in your lap with the palm facing up. Keep your eyes closed so you can focus fully on all the sensations in the fingers of your left hand.”

(Begin timing.) “Now, try to imagine and feel as if a local anaesthetic has just been injected into the side of your left hand next to the little finger so that your little finger will begin to feel like it does when it ‘falls asleep.’ Focus on the little finger. Become aware of every sensation and the slight little changes as you think of the anaesthetic slowly beginning to move into your little finger, just slowly moving in. Notice the slight changes as the little finger begins to get just a little numb and a little dull. The little finger is becoming numb as you think of the anaesthetic moving in slowly.”

“Now think of the anaesthetic moving into the second finger next to the little finger. Tell yourself that the second finger is getting duller and duller, more and more numb as you think of how the anaesthetic is beginning to take effect.”

“Tell yourself that these two fingers are beginning to feel kind of rubbery and losing feelings and sensations. As you think of the anaesthetic moving in faster, the fingers feel duller and duller ... more and more numb ... dull, numb and insensitive. As you think of the anaesthetic taking effect, the two fingers feel duller and duller ... more and more numb ... dull ... numb ... insensitive.”

“Keep thinking that the two fingers are dull, numb, and insensitive as you touch the two fingers with your thumb. As you touch the two fingers with your thumb notice how they feel duller and duller, more and more numb, more and more insensitive.”

“Keep thinking that the two fingers are dull, numb, and insensitive as you touch the two fingers with your thumb. As you touch the two fingers with your thumb notice how they feel duller and duller, more and more numb, more and more insensitive ... dull, numb, rubbery and insensitive.” (End of timing: about 1’50”)

“Now tell yourself its all in your own mind and you’re going to bring the feeling back; bring the feeling back into the two fingers.”

4. Water “Hallucination”

“Keep your eyes closed. By using your imagination constructively you can experience the feeling of drinking cool, refreshing water.”

(Begin timing.) “First, imagine you’ve been out in the hot sun for hours and you’re very, very thirsty and your lips are dry and you’re so thirsty. Now, picture yourself on a mountain where the snow is melting, forming a stream of cool clear water. Imagine yourself dipping a cup into this mountain stream so you can have a cool, refreshing drink of water. As you think of sipping the water tell yourself it’s absolutely delicious as you

APPENDIX I

Creative Imagination Scale Script

feel it going down your throat ... cold and beautiful and delicious. Feel the coolness and the beauty of the water as you take a sip. Now, think of taking another sip of water and feel it going over your lips and tongue, going down your throat, down into your stomach. Feel how cool, refreshing, delicious and beautiful it is as you take another sip ... so cool ... cold ... sweet ... beautiful ... delicious and refreshing. Think of taking another sip now and feel the cool water going into your mouth, around your tongue, down your throat and down into your stomach ... so beautiful and cool and wonderful ... absolutely delicious ... absolute pleasure.” (End of timing: about 1’30”.)

5. Olfactory-Gustatory “Hallucination”

“Keep your eyes closed. By using your imagination creatively you can experience the smell and taste of an orange.”

(Begin timing.) “Picture yourself picking up an orange and imagine that you’re peeling it. As you create the image of the orange, feel yourself peeling it and let yourself see and feel the orange skin on the outside and the soft white pulp on the inside of the skin. As you continue peeling the orange, notice how beautiful and luscious it is and let yourself smell it and touch it and feel the juiciness of it. Now think of pulling out one or two of the orange sections with your fingers. Pull out part of the orange and bite into it. Experience how juicy, luscious and flavourful it is as you imagine taking a deep, deep bite. Let yourself smell and taste the orange and notice that it’s absolutely delicious. Let yourself feel how delicious, beautiful, and luscious it is. Just the most beautiful, juicy orange ... absolutely juicy and wonderful. Let yourself taste and smell the juicy orange clearly now as you think of taking another large bite of the delicious, juicy orange.” (End of timing: about 1’30”.)

6. Music “Hallucination”

“Keep your eyes closed”

(Begin timing.) “Now, think back to a time when you heard some wonderful, vibrant music; it could have been anywhere, and by thinking back you can hear it even more exquisitely in your own mind. You make it yourself and you can experience it as intensely as real music. The music can be absolutely powerful ... strong ... exquisite ... vibrating through every pore of your body ... going deep into every pore ... penetrating through every fibre of your being. The most beautiful, complete, exquisite, overwhelming music you ever heard. Listen to it now as you create it in your own mind.” (End of timing: about 45”.)

(15 second pause.) “You may stop thinking of the music now.”

APPENDIX I

Creative Imagination Scale Script**7. Temperature “Hallucination”**

“Keep your eyes closed and place your hands in your lap with the palms facing down and resting comfortably on your lap. By focusing your thinking you can make your right hand feel hot.”

(Begin timing.) “Picture the sun shining on your right hand and let yourself feel the heat. As you think of the sun shining brightly, let yourself feel the heat increasing. Feel the sun getting hotter and feel the heat penetrating your skin and going deep into your hand. Think of it getting really hot now ... getting very hot. Feel the heat increasing. Think of the sun getting very, very hot as it penetrates into your hand ... getting very hot. Tell yourself, ‘The rays are increasing ... the heat is increasing ... getting hotter and hotter.’ Feel the heat penetrating through your skin. Feel the heat going deeper into your skin as you think of the rays of the sun increasing and becoming more and more concentrated ... getting hotter and hotter. Feel your hand getting hot from the heat of the sun. It’s a good feeling of heat as it penetrates deep into your hand ... hot, pleasantly hot, penetrating your hand now. It’s a pleasantly hot feeling, pleasantly hot.” (End of timing: about 1’15”.)

“Now tell yourself it’s all in your own mind and make your hand feel perfectly normal again.”

8. Time Distortion

“Keep your eyes closed. By controlling your thinking you can make time seem to slow down.”

(The following is to be read progressively more slowly, with each word drawn out with a long 2-6 second pause between statements.)

(Begin timing.) “Tell yourself that there’s lots of time, lots of time between each second. Time is stretching out and there’s lots of time ... more and more time between each second. Every second is stretching out. There’s lots of time between each second ... lots of time. You do it yourself, you slow time down.” (End of timing: about 1’40”.)

(The following is to be read at a normal rate.) “And now tell yourself that time is speeding back up to its normal rate again as you bring time back to normal.”

9. Age Regression

“Keep your eyes closed. By directing your thinking you can bring back the feeling that you experienced when you were in primary school – in first, second, third, or fourth year.”

(Begin timing.) “Think of time going back, going back to primary school and feel yourself becoming smaller and smaller. Let yourself feel your hands, small and tiny, and your legs and your body, small and tiny. As you go back in time feel yourself sitting in a

APPENDIX I

Creative Imagination Scale Script

big desk. Notice the floor beneath you. Feel the top of the desk. You may feel some marks on the desk top, or maybe its smooth, cool surface. There may be a pencil slot and perhaps a large yellow pencil. Feel the under side of the desk and you may feel some chewing gum. Observe the other children around you, and the teacher, the black-board, the notice board, where the cloak room is, and the windows. Smell the chalk dust or the paste. You may hear the children and the teacher speaking. Now just observe and see what happens around you.” (End of timing: about 1’20”)

(15 second pause.) “Now tell yourself it’s all in your own mind and bring yourself back to the present.”

10. Mind-Body Relaxation

“Keep your eyes closed. By letting your thoughts go along with these instructions you can make your mind and body feel very relaxed.”

(The following is to be read slowly.) (Begin timing.) “Picture yourself on a beautiful, warm summer day lying under the sun on a beach of an ocean or lake. Feel yourself lying on the soft, soft sand or on a beach towel that is soft and comfortable. Let yourself feel the sun pleasantly warm and feel the gentle breeze touching your neck and face. Picture the beautiful clear blue sky with fluffy little white clouds drifting lazily by. Let yourself feel the soothing, penetrating warmth of the sun and tell yourself that your mind and body feel completely relaxed and perfectly at ease ... peaceful, relaxed, comfortable, calm, so at ease, at peace with the universe ... completely relaxed ... relaxed, peaceful, lazy, tranquil ... calm ... comfortable. Your mind and body are completely relaxed ... completely relaxed ... calm, peaceful, tranquil, flowing with the universe.” (End of timing: about 2’05”.)

“Now you can open your eyes, let yourself continue to feel relaxed and yet perfectly alert ... peaceful, alert, normal again. Open your eyes.”

APPENDIX J

Creative Imagination Scale Questionnaire**Creative Imagination Scale**

Name: _____

Please answer each item as honestly as possible. There are no right or wrong answers.

Read the statements below describing the possible responses for each item.

Then, circle the number (0, 1, 2, 3, 4) which corresponds to the statement that most nearly matches your experience.

1. When you were asked to imagine that one, two, then three dictionaries were being piled on the palm of your hand. Compared to what you would have experienced if three dictionaries were actually on your hand, what you experienced was:

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

2. In the second test you were asked to think of a strong stream of water from a garden hose pushing up against the palm of your hand. Compared to what you would have experienced if a strong stream of water were actually pushing up against your palm, what you experienced was:

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

3. In the third test you were asked to imagine that local anaesthetic had been injected into your hand and it made two fingers feel numb. Compared to what you would have experienced if local anaesthetic had actually made the two fingers feel numb, what you experienced was:

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

4. In the fourth test you were asked to think of drinking a cup of cool mountain water. Compared to what you would have experienced if you were actually drinking cool mountain water, what you experienced was:

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

5. In the fifth test you were asked to imagine smelling and tasting an orange. Compared to what you would have experienced if you were actually smelling and tasting an orange, what you experienced was:

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

APPENDIX J

Creative Imagination Scale Questionnaire

6. When you were asked to imagine listening to some music, how similar was the experience to that of actually listening to some music?

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

7. When you were asked to imagine the sun shining on your hand and making it feel hot, how similar was the experience to how you would actually feel if the sun was shining on your hand, making it feel hot?

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

8. When you were asked to imagine time slowing down, how similar was the experience to that of time actually slowing down?

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

9. When you were asked to imagine that you were a child at primary school, how similar was the experience to that of actually being a child in primary school?

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

10. When you were asked to imagine yourself relaxing on the beach, how similar was the experience to that of actually relaxing on the beach?

0	1	2	3	4
0%	25%	50%	75%	90+%
Not at all the same	A little the same	Between a little and much the same	Much the same	Almost exactly the same

APPENDIX K

State-Trait Anxiety Inventory for Adults Form Y-1

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1

Please provide the following information:

Name _____ Date _____ S _____

Age _____ Gender (Circle) M F T _____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel *right* now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

NOT AT ALL
SOMEWHAT
MODERATELY SO
VERY MUCH SO

- | | | | | |
|--|---|---|---|---|
| 1. I feel calm..... | 1 | 2 | 3 | 4 |
| 2. I feel secure | 1 | 2 | 3 | 4 |
| 3. I am tense | 1 | 2 | 3 | 4 |
| 4. I feel strained | 1 | 2 | 3 | 4 |
| 5. I feel at ease | 1 | 2 | 3 | 4 |
| 6. I feel upset | 1 | 2 | 3 | 4 |
| 7. I am presently worrying over possible misfortunes | 1 | 2 | 3 | 4 |
| 8. I feel satisfied | 1 | 2 | 3 | 4 |
| 9. I feel frightened | 1 | 2 | 3 | 4 |
| 10. I feel comfortable | 1 | 2 | 3 | 4 |
| 11. I feel self-confident..... | 1 | 2 | 3 | 4 |
| 12. I feel nervous | 1 | 2 | 3 | 4 |
| 13. I am jittery | 1 | 2 | 3 | 4 |
| 14. I feel indecisive..... | 1 | 2 | 3 | 4 |
| 15. I am relaxed | 1 | 2 | 3 | 4 |
| 16. I feel content | 1 | 2 | 3 | 4 |
| 17. I am worried | 1 | 2 | 3 | 4 |
| 18. I feel confused..... | 1 | 2 | 3 | 4 |
| 19. I feel steady..... | 1 | 2 | 3 | 4 |
| 20. I feel pleasant..... | 1 | 2 | 3 | 4 |

APPENDIX L

State-Trait Anxiety Inventory for Adults Form Y-2

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

Name _____ Date _____

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

ALMOST NEVER
SOMETIMES
OFTEN
ALMOST ALWAYS

- | | | | | |
|--|---|---|---|---|
| 21. I feel pleasant..... | 1 | 2 | 3 | 4 |
| 22. I feel nervous and restless | 1 | 2 | 3 | 4 |
| 23. I feel satisfied with myself..... | 1 | 2 | 3 | 4 |
| 24. I wish I could be as happy as others seem to be | 1 | 2 | 3 | 4 |
| 25. I feel like a failure | 1 | 2 | 3 | 4 |
| 26. I feel rested | 1 | 2 | 3 | 4 |
| 27. I am "calm, cool, and collected" | 1 | 2 | 3 | 4 |
| 28. I feel that difficulties are piling up so that I cannot overcome them..... | 1 | 2 | 3 | 4 |
| 29. I worry too much over something that really doesn't matter..... | 1 | 2 | 3 | 4 |
| 30. I am happy | 1 | 2 | 3 | 4 |
| 31. I have disturbing thoughts | 1 | 2 | 3 | 4 |
| 32. I lack self-confidence..... | 1 | 2 | 3 | 4 |
| 33. I feel secure | 1 | 2 | 3 | 4 |
| 34. I make decisions easily | 1 | 2 | 3 | 4 |
| 35. I feel inadequate..... | 1 | 2 | 3 | 4 |
| 36. I am content | 1 | 2 | 3 | 4 |
| 37. Some unimportant thought runs through my mind and bothers me | 1 | 2 | 3 | 4 |
| 38. I take disappointments so keenly that I can't put them out of my mind | 1 | 2 | 3 | 4 |
| 39. I am a steady person..... | 1 | 2 | 3 | 4 |
| 40. I get in a state of tension or turmoil as I think over my recent concerns
and interests | 1 | 2 | 3 | 4 |

APPENDIX M

State-Trait Anxiety Inventory Scoring Form

State-Trait Anxiety Inventory for Adults Scoring Key (Form Y-1, Y-2)

Developed by Charles D. Spielberger in collaboration with R.L. Gorsuch, R. Lushene, P.R. Vagg, and G.A. Jacobs

To use this stencil, fold this sheet in half and line up with the appropriate test side, either Form Y-1 or Form Y-2. Simply total the scoring **weights** shown on the stencil for each response category. For example, for question # 1, if the respondent marked 3, then the **weight** would be 2. Refer to the manual for appropriate normative data.

Form Y-1	NOT AT ALL SOMEWHAT MODERATELY SO VERY MUCH SO				Form Y-2	ALMOST NEVER SOMETIMES OFTEN ALMOST ALWAYS			
	4	3	2	1		4	3	2	1
1.	4	3	2	1	21.	4	3	2	1
2.	4	3	2	1	22.	1	2	3	4
3.	1	2	3	4	23.	4	3	2	1
4.	1	2	3	4	24.	1	2	3	4
5.	4	3	2	1	25.	1	2	3	4
6.	1	2	3	4	26.	4	3	2	1
7.	1	2	3	4	27.	4	3	2	1
8.	4	3	2	1	28.	1	2	3	4
9.	1	2	3	4	29.	1	2	3	4
10.	4	3	2	1	30.	4	3	2	1
11.	4	3	2	1	31.	1	2	3	4
12.	1	2	3	4	32.	1	2	3	4
13.	1	2	3	4	33.	4	3	2	1
14.	1	2	3	4	34.	4	3	2	1
15.	4	3	2	1	35.	1	2	3	4
16.	4	3	2	1	36.	4	3	2	1
17.	1	2	3	4	37.	1	2	3	4
18.	1	2	3	4	38.	1	2	3	4
19.	4	3	2	1	39.	4	3	2	1
20.	4	3	2	1	40.	1	2	3	4

APPENDIX N

PEDSQL Questionnaire

ID#	_____
Date:	_____

PedsQLTM

Pediatric Quality of Life Inventory

Version 4.0

TEEN REPORT (ages 13-18)**DIRECTIONS**

On the following page is a list of things that might be a problem for you. Please tell us **how much of a problem** each one has been for you during the **past ONE month** by circling:

- 0** if it is **never** a problem
- 1** if it is **almost never** a problem
- 2** if it is **sometimes** a problem
- 3** if it is **often** a problem
- 4** if it is **almost always** a problem

There are no right or wrong answers.
If you do not understand a question, please ask for help.

APPENDIX N

PEDSQL Questionnaire

PedsQL 2

*In the past **ONE month**, how much of a **problem** has this been for you ...*

ABOUT MY HEALTH AND ACTIVITIES (problems with...)	Never	Almost Never	Some- times	Often	Almost Always
1. It is hard for me to walk more than one block	0	1	2	3	4
2. It is hard for me to run	0	1	2	3	4
3. It is hard for me to do sports activity or exercise	0	1	2	3	4
4. It is hard for me to lift something heavy	0	1	2	3	4
5. It is hard for me to take a bath or shower by myself	0	1	2	3	4
6. It is hard for me to do chores around the house	0	1	2	3	4
7. I hurt or ache	0	1	2	3	4
8. I have low energy	0	1	2	3	4

ABOUT MY FEELINGS (problems with...)	Never	Almost Never	Some- times	Often	Almost Always
1. I feel afraid or scared	0	1	2	3	4
2. I feel sad or blue	0	1	2	3	4
3. I feel angry	0	1	2	3	4
4. I have trouble sleeping	0	1	2	3	4
5. I worry about what will happen to me	0	1	2	3	4

HOW I GET ALONG WITH OTHERS (problems with...)	Never	Almost Never	Some- times	Often	Almost Always
1. I have trouble getting along with other teens	0	1	2	3	4
2. Other teens do not want to be my friend	0	1	2	3	4
3. Other teens tease me	0	1	2	3	4
4. I cannot do things that other teens my age can do	0	1	2	3	4
5. It is hard to keep up with my peers	0	1	2	3	4

ABOUT SCHOOL (problems with...)	Never	Almost Never	Some- times	Often	Almost Always
1. It is hard to pay attention in class	0	1	2	3	4
2. I forget things	0	1	2	3	4
3. I have trouble keeping up with my schoolwork	0	1	2	3	4
4. I miss school because of not feeling well	0	1	2	3	4
5. I miss school to go to the doctor or hospital	0	1	2	3	4

APPENDIX O

Exit Interview Form**Exit Interview Form**

Please circle the number below each statement that best describes how much you agree with that statement on the following scale. Only circle one number for each question:

	1	2	3	4	5
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<u>Question</u>	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neither Agree nor Disagree</u>	<u>Agree</u>	<u>Strongly Agree</u>
1. I liked the 1 st hypnosis session.	1	2	3	4	5
2. I liked the 2 nd hypnosis session.	1	2	3	4	5
3. I found the hypnosis sessions to be helpful with managing my anxiety and stress.	1	2	3	4	5
4. I found the hypnosis mp3 to be helpful with managing my anxiety and stress.	1	2	3	4	5
5. I would recommend the hypnosis sessions to a classmate.	1	2	3	4	5
6. I would recommend the hypnosis mp3 to a classmate.	1	2	3	4	5
7. I intend to continue listening to my hypnosis mp3 after participating in this study.	1	2	3	4	5
8. I am satisfied with my participation in the hypnosis.	1	2	3	4	5
9. The hypnosis sessions were fun.	1	2	3	4	5
10. I liked the hypnotist.	1	2	3	4	5

APPENDIX P

Hypnosis Treatment Outline

Session 1

What is hypnosis and how can it help anxiety?

Hypnosis (trance) is a special but natural state of mind.

In trance it is possible to do/learn/remember things that are not always possible in an alert state or a person in a state of trance can rest physically and emotionally, experience less discomfort, and just plain feel better. A hypnotist does not order the state of trance. It is a facilitation of a transition to a state where changes that are desirable or interesting for that person can happen.

Anxiety is an expression of a basic emotion—fear.

Fear is necessary for the person to mobilize physically and emotionally to avoid/minimize or resolve altogether a dangerous situation (flight or fight reaction). Stress reactions can usually be fine tuned by a person depending on the nature of the threat (severe to mild). In animals and in humans, flight/fight reactions are frequently followed by down time to recuperate and restore strength. When we say that someone has anxiety we usually imply that there is inability to transition to down time when the active threat is gone or an, inability to adjust the level of response in accordance to the level of the threat. People usually describe it as a feeling of being trapped or frozen.

In anxiety disorders, people tend to overestimate the level of danger or underestimate their ability to respond to dangerous or uncomfortable situations.

The leads to persistence of physical expression of stress reaction, fatigue, and exhaustion and eventually to even less ability to judge the level of danger or react to it appropriately.

The result is opposite to the initial goal of improving changes to survive and thrive.

In hypnosis, a person can learn to see the threat in a better light and allow himself to feel less alarmed when it is not necessary or even learn to experience in an appropriate situation the sense of safety and comfort that are necessary for further growth and development.

APPENDIX P

Hypnosis Treatment Outline**Session 2**

Hypnosis session and recording

Induction through breathing technique

Deepening with count from 1 to 10 (stairs, elevator, steps)

Special secure and meaningful place

Library/computer with files

Posthypnotic suggestions

Re-alerting

Discussion

Session 3

Hypnosis session and wrap up.

APPENDIX P

Hypnosis Treatment Outline

Session 1

1. Read paper
2. Get to know each other and take notes (e.g., things like, things do not like, most stressful situation, things want to learn)
3. Practice

Practice Protocol:

Getting into a trance is a skill
 Starts with a comfortable and safe environment
 Need focus, concentration, and imagination
 Breathing technique (zen one, zen two)
 Use of aromatherapy

Demonstrate power of mind—arm raising technique

Re-alert

Questions

Session 2

Reintroduction, getting to know

Script:

I am curious if you remember something about using breath in a way that it helps a person to feel more comfortable from the first session. Even if you do not, there is a part of you that does. And, in any case, there is no wrong way to do it. It all comes together with focus, concentration, and imagination.

Recording:

(Name), please make sure that you have found a comfortable position for yourself. The position can change any time it feels right.

Close your eyes and take a nice deep breath...just as you already know how to do...as if you are taking in your favorite scent...allowing comfortable pleasant sensation to spread in a gentle and safe way.

In (sound Z) and out (sound E) and then again in (sound N)...out...one...two.

Feeling more and more comfortable...total count to 5.

APPENDIX P

Hypnosis Treatment Outline

It is perfectly ok if you would like to practice more until it feels just right...it will be less or more at times.

Most of the time it feels as if you are taking steps when walking on the beach or in a garden path, just enjoying the walk and watching the waves rolling to the shore or observing different birds and trees, not really thinking about anything in particular, just observing and enjoying...feeling...fine.

And at some point, as you go farther and farther you might feel that you just need a little break...you will know when it is just right to do it...sometimes a little sooner...sometimes...when you are really happy to watch all the scenery...feeling the scents and a light and comfortable breeze...a little later.

But then, a very comfortable place opens to your senses, a place that belongs to just you, a place where you feel safe and happy, a place where it is sooooo easy to smile...where you can rest or play...whatever feels right....

It might be a house with a small terrace or a deck and a chair that is sooooo inviting...

Isn't it nice to know that the chair is always there and always ready for you?

And, as you let yourself sit in that chair, it is somehow easier to see and feel that something really interesting is happening—the worries that have been so important all the time are somehow starting to look a little less important, just a little, and some of them are becoming just nuisances and some of them even unnecessary anymore.

And, as the worries are not draining the mind as much, you are finding with great delight that there is sooooo much more room for learning and observing and being curious and being interested in more new things and just becoming stronger. Isn't it nice to know as you know now that things that were so bothering you before will bother you so much less as you will start seeing a true nature of things and people? It feels so good to feel better. And, as you will and are practicing more, isn't it nice to discover new and better things for yourself—better and better, strong and stronger, more resilient and well?

And, if you feel that there is anything else safe for you to do right now, please do it.

Make sure that you are ready to do it—to let go of something or stop paying attention to something that is truly not important.

And, now, if you have a busy day in front of you, count from 5 back to 1 and fully re-alert yourself to the surroundings and the order of the day.

APPENDIX P

Hypnosis Treatment Outline

If you are getting ready for a comfortable night sleep, gently slide into the light and then deep sleep to wake up in time and feel rested and well.

(Re-alert)

(Feedback)

(Record experiences, discuss)

Session 3

Feedback

Short hypnosis session depending on experience

Re-alert

Discuss