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Brief Cognitive Behavioral Art Therapy for Anxiety Disorders

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BRIEF COGNITIVE BEHAVIORAL ART THERAPY FOR ANXIETY DISORDERS

By

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ABSTRACT

Using a single subject research design, two university students, one with Panic Disorder with Agoraphobia (PDA) and one with Generalized Anxiety Disorder (GAD), received seven individual, one-hour sessions incorporating art therapy components into a model of brief cognitive behavioral therapy for anxiety and panic. Sessions in the GAD case were conducted through Internet video chats. Foci of therapy included: psychoeducation, identification and development of support systems, breathing retraining, cognitive restructuring, interoceptive exposure, in vivo exposure, and relapse prevention. Outcomes on symptoms of both disorders were measured using daily self-report ratings completed by both participants. Panic frequency and some features of fear of fear (panic expectancy and expected aversiveness) and agoraphobia (amount of avoidance) were significantly reduced in Case 1 with PDA. Reductions in other measures of fear of fear (maximum fear of panic) and agoraphobia (agoraphobic anxiety) were marginally significant in Case 1 as was reduction in general anxiety in Case 2 with GAD. There was no significant change in general anxiety in Case 1 or general feelings of goodness in either case.

*Keywords*: cognitive behavioral art therapy, panic disorder, generalized anxiety disorder
CHAPTER ONE

INTRODUCTION

Anxiety disorders, including Panic Disorder with Agoraphobia (PDA) and Generalized Anxiety Disorder (GAD), are relatively common and often have an onset in early adulthood. Therefore, the period of change and upheaval experienced by most college students can interact with biological and psychological traits to result in the development in these disorders. PDA is a psychological disorder involving catastrophic interpretations of physiological cues and the phobic avoidance of situations perceived as inescapable (Craske & Barlowe, 2000). GAD is characterized by excessive and persistent worry over an extended period of time (APA, 2000).

Cognitive Behavioral Therapy (CBT) is the preferred intervention for PDA and GAD; however, traditional CBT often requires 14 or even 21 weeks of sessions and may be difficult for clients to afford or access if they do not live near a metropolitan area (Marchand, Todorov, Borgeat, & Pelland, 2007). Furthermore, many of the activities involved in CBT, including cognitive restructuring and/or the development of anxiety and panic-provoking stimuli hierarchies, may be difficult for certain clients with lower verbal communication skills. CBT may also require more visual components for imaginal desensitization to avoided imagery and situations. Therefore, a brief CBT program including Internet video sessions and art therapy components could be a viable alternative to traditional CBT for college students with PDA and GAD.

This research report will discuss the problem investigated, providing a purpose, justification, and definition of terms for the study. Relevant theoretical literature and related studies will be reviewed. The hypotheses, research design, sample, instruments, and procedures will be detailed, followed by a discussion of internal and external validity with respect to the
study and methods of data analysis. The report will also include a discussion of quantitative and qualitative results as well as limitations and implications of the study.

**Problem Investigated**

The following single-subject case studies focused on the problem of providing an effective treatment for PDA and GAD. CBT has been found effective in treating these relatively prevalent disorders, and the condensation of sessions and addition of art therapy components to enhance CBT treatment goals may increase convenience and comprehensibility to a larger client base.

**Purpose of the Study**

The purpose of this study is to determine whether a brief intervention incorporating art therapy and/or Internet video sessions into traditional cognitive behavioral processes and an accompanying manual (see Appendices A, B) for clients can significantly reduce the symptoms of PDA (i.e. panic attacks, anxiety concerning future panic attacks, and agoraphobic avoidance) and GAD (i.e. general anxiety). This brief seven-session intervention is a condensation of a traditional cognitive behavioral intervention developed by Craske and Barlowe (2000) that included 14 sessions addressing anxiety and panic and seven sessions addressing agoraphobia. Although Marchand et al. (2007) effectively utilized a condensed seven-session form of Craske and Barlowe’s (2000) model, this study represents the first attempt to incorporate art therapy and Internet video sessions into its various cognitive behavioral interventions. The manual included original as well as modified portions of Craske and Barlowe’s (2000) manual. As discussed below in the justification, the art therapy components and Internet video sessions are intended to enhance the cognitive behavioral therapeutic components as well as make the intervention more accessible.
Using a single subject experimental design for two case studies, art therapy directives were integrated into the goals of psychoeducation, identification and development of support systems, breathing retraining, cognitive restructuring, interoceptive exposure, imaginal desensitization, in vivo desensitization, and relapse prevention. Each session involved an art experience, and several sessions requested the completion of art homework by the participants. A manual including psychoeducational components, tools to address anxiety, and reminders for the homework assignments was also given to each participant in sections throughout the study.

**Justification of the Study**

PDA and Panic Disorder Without Agoraphobia (PD) are relatively common psychological disorders, with a combined lifetime prevalence as high as 3.5% (American Psychiatric Association [APA], 2000). According to the revised fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), as many as one-third to one-half of those diagnosed with a Panic Disorder have agoraphobia as well (American Psychiatric Association, 2000). A further 5.3% of community samples experience Agoraphobia Without History of Panic Disorder. GAD is also common with a lifetime prevalence of 5%. When the considerably larger proportion of the population who experience a nonclinical frequency of panic attacks, agoraphobic symptoms, or marginally clinical anxiety is considered, the importance of effective treatments for PDA and GAD is apparent.

Marchand et al. (2007) found that over 25 independently-conducted clinical studies support the use of CBT with Panic Disorders, which is more effective than waiting-list, supportive therapy, relaxation, and placebo control. Borkovec and Ruscio (2001) found similar results in over 13 controlled studies testing the efficacy of CBT for GAD. However, Marchand et al. (2007) also discussed the impracticality and inaccessibility of traditional CBT due to
expense and location. Deacon and Abramowitz (2006) corroborate these conclusions stating that traditional CBT is often difficult to access over a prolonged period of time for those not near metropolitan areas. These and other studies espouse the reduction of therapist-guided hours with clients through a condensation and intensification of traditional cognitive behavioral methods. Internet video sessions may also improve accessibility for those who cannot afford to travel to sessions or who have severe agoraphobia.

In addition to improving accessibility to effective CBT treatments through a shortened protocol and Internet video sessions, the reported study also used art therapy to enhance the therapeutic benefits of CBT. Certain tasks in CBT may be difficult for some clients to complete or understand. Art therapy can provide tangible supports to CBT interventions used to treat anxiety, such as desensitization. Craske and Barlowe (2000) stated that clients with severe, prolonged agoraphobia might find the development of feared-situation hierarchies during desensitization difficult as everything provokes anxiety; they suggest the use of therapist-guided imaginal work to aid in the development of hierarchies. Incorporating art therapy into CBT can provide this imaginal work, such as making abstract fear hierarchies more concrete by creating images of feared situations. Several therapists have also theorized that clients with GAD restrict autonomic activity through the avoidance of anxiety-provoking imagery; facing these images imaginaily or visually through the creation of art pieces could be a valuable treatment method for GAD (Craske & Barlowe. 1988). Art therapy can also allow an alternate, visible means of learning and expression in therapy for clients with decreased verbal skills. According to Perry (2002), CBT can be “too distant, too bloodless, too abstract [for some clients] who are very much locked into feeling and emotional logic” (pp. 94-95). In the manner that Internet video
sessions may make CBT for physically accessible, art therapy can also make CBT more intellectually accessible and clear.

**Research Question and Hypothesis**

This study addressed whether the incorporation of art therapy components into a brief cognitive behavioral intervention is effective in reducing the symptoms of PDA (i.e. panic attacks, fear of future panic attacks and their implications, and Agoraphobia) and the symptoms of GAD (i.e. generalized anxiety).

**Case 1**

The following two hypotheses were tested in the case study of PDA using face-to-face sessions.

**Hypothesis 1a.** Brief cognitive behavioral art therapy will reduce the symptoms of PDA, including frequency of panic attacks, anxiety about attacks, and agoraphobia.

**Hypothesis 1b.** Brief cognitive behavioral art therapy will improve overall quality of life for the participant with PDA, including decreasing general daily anxiety and increasing daily feelings of goodness.

**Case 2**

The following hypothesis was tested in the case study of GAD using Internet video sessions.

**Hypothesis 2a.** Brief cognitive behavioral art therapy will improve overall quality of life for the participant with GAD, including decreasing general daily anxiety and increasing daily feelings of goodness.
Definition of Terms

Brief Cognitive Behavioral Art Therapy

Brief CBT is the condensation of Craske and Barlow’s (2000) *Mastery of Your Anxiety and Panic* from 14 one-hour sessions on anxiety and panic and seven one-hour sessions on agoraphobia into seven one-hour sessions addressing the six major treatment components for PDA as defined by Marchand et al. (2007). With the participant with GAD, the interoceptive conditioning session was eliminated and replaced by a session focusing on the identification and development of support systems.

Brief Cognitive Behavioral Art Therapy

For the purpose of this study, brief CBAT is defined as the aforementioned brief cognitive behavioral interventions incorporating art therapy into the seven therapist-guided sessions, client manual, and the homework required within the program.

Panic Disorder with Agoraphobia

This study used the DSM-IV-TR (APA, 2000) criteria for PDA. These criteria include repeated unexpected panic attacks, at least one month of anxiety concerning subsequent attacks or their potential consequences and/or behavioral change due to attacks, and Agoraphobia.

Generalized Anxiety Disorder

This study also used the DSM-IV-TR (APA, 2000) criteria for GAD. These criteria include an excess of anxiety and worry about a variety of issues and life areas occurring on the majority of days for six months or more and at least three psychophysiological symptoms.

Symptoms of Panic Disorder with Agoraphobia

Symptoms of PDA are defined as the presentation of the aforementioned symptoms of
PDA as defined by the DSM-IV-TR (APA, 2000) including panic attacks, concern over the occurrence of another panic attack and its implications (fear of fear), and Agoraphobia.

**Panic attack.** The DSM-IV-TR (APA, 2000) defined a panic attack as a period of intense fear where four (or more) of the following symptoms developed and peaked within 10 minutes:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>DSM-IV-TR Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>palpitations, pounding heart, or accelerated heart rate</td>
<td>feeling dizzy, unsteady, lightheaded, or faint</td>
</tr>
<tr>
<td>sweating</td>
<td>derealization (feelings of unreality) or depersonalization (being detached from oneself)</td>
</tr>
<tr>
<td>trembling or shaking</td>
<td>fear of losing control or going crazy</td>
</tr>
<tr>
<td>sensations of shortness of breath or smothering</td>
<td>fear of dying</td>
</tr>
<tr>
<td>feeling of choking</td>
<td>paresthesias (numbness or tingling sensations)</td>
</tr>
<tr>
<td>chest pain or discomfort</td>
<td>chills or hot flushes</td>
</tr>
<tr>
<td>nausea or abdominal distress</td>
<td></td>
</tr>
</tbody>
</table>

(Fear of fear. The DSM-IV-TR (APA, 2000) highlights at least one month of “persistent concern about having additional attacks” and “worry about the implications of the attack or its consequences” (Panic Disorder section, para. 2) as a criterion for the diagnosis of PDA. For the purposes of this study, these criteria were measured by scales within a panic diary developed by De Beurs, Chambless, & Goldstein (1997). The participant with PDA rated panic expectancy and its expected aversiveness each morning and maximum fear of panic each evening.

**Agoraphobia.** The DSM-IV-TR (APA, 2000) defined Agoraphobia as: “Anxiety about being in places or situations from which escape might be difficult (or embarrassing) or in which help may not be available in the event of having an unexpected or situationally predisposed Panic Attack or panic-like symptoms” (Agoraphobia section, para. 1). Agoraphobia is associated with certain circumstances, especially leaving home by oneself, crowds, or most travel situations, i.e. cars or trains. Fear of these situations results in avoidance or endurance despite extreme discomfort. At times, people with Agoraphobia may only encounter feared situations with a
companion. For the purposes of this study, Agoraphobia was measured using three daily measures included in the daily panic diary: a rating of anxiety concerning leaving the place of residence, an indication whether avoidance occurred, and a rating of the inconvenience caused by any avoidance.

**Overall Quality of Life, General Daily Anxiety, and Daily Feelings of Goodness**

Overall quality of life is defined as two scales in the daily panic diary developed by De Beurs et al. (1997). The participant with PDA and with GAD rated their average general anxiety experienced that day as well as how good they felt that day each evening.

**Brief Overview of Study**

Using an A-B single subject quasi-experimental design, this study includes two cases assessing the effectiveness of brief CBAT in treating the symptoms of PDA (i.e. panic attacks, fear of fear, and agoraphobia) and GAD (i.e. general anxiety). Flyers seeking volunteers were posted in a university counseling center. Two participants were included in the study, one college student with PDA and one with GAD. Their diagnoses were confirmed using the Anxiety Disorders Interview Schedule-IV (ADIS-IV, Brown, DiNardo, & Barlow, 1994). After a two-week baseline period, participants received seven one-hour therapist guided sessions combining brief CBT with art therapy, emphasizing the six treatment goals outlined by Marchand et al. (2007). The participant with GAD received Internet video sessions, however. The protocol was identical except that PDA foci were altered slightly to meet the needs of the participant with GAD. A manual detailing the procedures used in the sessions as well as suggestions for cognitive behavioral art homework were provided both participants.

Participants were asked to track symptoms of PDA (i.e. duration and symptoms of panic attacks, daily fear of fear, and daily agoraphobia) and symptoms of GAD (i.e. general anxiety).
using a rating diary (De Beurs et al., 1997). Line graphs were created for panic frequency in Case 1 and daily measures in both cases; each graph will be analyzed using the *celeration line procedure*. Assuming that the baseline data is normally distributed, the celeration line procedure extends the baseline data trendline into the intervention period. If a significant number of data points lie in a “desirable behavior zone” below or above the extended trendline, the data is considered significant at the .10 or .05 level (Behling & Merves, 1984). The research hypotheses will be supported if significant reductions in symptoms of PDA (i.e. frequency of panic attacks, fear of fear measures, and agoraphobia) and improvement in quality of life (i.e. reduced general anxiety and increased feelings of goodness) are found from baseline to intervention period in Case 1 and 2, respectively.

**Conclusion**

The purpose and justification for incorporating art therapy into a brief cognitive behavioral intervention for PDA and GAD have been detailed and terms relevant to the stated research hypotheses were defined. The following is a review of relevant theoretical literature and related studies concerning art therapy, CBT, GAD, and/or PDA.
CHAPTER TWO
LITERATURE REVIEW

The following section will provide a review of literature relevant to the study proposed: a brief CBAT intervention for PDA and GAD. An overview of the features, development, and interrelationship of anxiety, panic, and agoraphobia is included, as well as literature detailing the specific nature and features of PDA and GAD. The findings of studies supporting the use of standard and brief CBT interventions, the preferred psychotherapeutic treatment method for PDA and GAD, will be reviewed. Art therapy and the Expressive Therapies Continuum (ETC), a theoretical model explaining the effectiveness of art therapy, will be defined. A review of studies demonstrating the efficacy of art therapy for anxiety in general and attempted art therapy interventions for anxiety and panic will follow. Although no purely CBAT studies have been conducted with people with anxiety disorders, Studies incorporating cognitive behavioral techniques into art therapy interventions for populations other than people with anxiety disorders will be addressed.

Anxiety

A consideration of anxiety in general is necessary in order to understand specific disorders, such as PDA. Not all anxiety is pathological; people in nonclinical populations often experience milder anxiety on a daily basis (Barlow & Durand, 2005). A moderate amount of anxiety can even be helpful, such as before taking a test or acting in a play, whereas too little anxiety or too much can hinder performance. An excess of anxiety can result in or exacerbate psychological dysfunction as exemplified by the anxiety disorders. Barlow and Durand defined anxiety as “a negative mood state characterized by bodily symptoms of physical tension, and
apprehension about the future” (p. 121). Composed of varying features such as cognitions, behaviors, and physiological symptoms, anxiety is sometimes elusive to quantify in humans; it has often been studied in animals. These studies have contributed to the understanding of the biological contributions to pathological anxiety.

Pathological anxiety results from an integration of various factors. Biological factors, including genetic and neurological aspects, form a significant contribution. Like most psychological disorders, a tendency towards excess anxiety and anxiety disorders is heritable according to Barlow and Durand (2005). Although no one single gene is implicated, influence has been found from multiple genes located across different chromosomes on the development of a tendency towards anxiety. Recent research using quantitative trait loci has particularly associated portions of chromosomes 1, 12, and 15 with anxiety in animals.

Brain systems involving the activities of neurotransmitters have also been increasingly implicated in the development and expression of anxiety. Damsa, Kosel, and Moussally (2009) found that, in the last ten years, brain imaging may be significant for anxiety disorder research. These techniques could provide information regarding neurological causes for anxiety disorders and pharmacological treatments. They found an overall emphasis throughout the literature on the role of the amygdala, anterior cingulate cortex and insula in anxiety disorders. The limbic system, including the amygdala, is central to the processing of anxiety, serving as an intermediary communicating signals, including threats, from the brain stem to the cortex (Barlow & Durand, 2005). The Behavioral Inhibition System (BIS), a circuit located in the limbic system, has been increasingly connected to anxiety in particular due to its role in mediating
signals of potential hazards from the brain stem or from the cortex resulting from unanticipated changes in the body or perceived threats, respectively.

McNaughton and Gray (2000) discussed the importance of the BIS, especially the septo-hippocampal area in the limbic system, in anxiety. Anti-anxiety, or anxiolytic, drugs act primarily on this system. The BIS reacts to new stimuli or stimuli perceived as threatening by increasing behavioral inhibition, attention, and arousal. Knyazeva, Slobodskaya, and Wilson (2002) confirmed that higher activity in the BIS is correlated with higher cortical arousal, including high beta and gamma EEG activity in frontal areas. This is consistent with research connecting anxiety and the BIS to increased physiological arousal. Barrós-Loscertalesa, Meseguer, Sanjuán, Bellocha, Parceta, Torrubia, and Ávila (2006) found a correlation between increased volume of the gray matter of the amygdala and the hippocampal area and increased activity of the BIS, suggesting a brain structural basis for anxiety and hyperactivity of the BIS.

In addition to these biological contributors to anxiety, psychological and social factors can also predispose a person to develop pathological anxiety. Chorpita and Barlow (1998) conducted an expansive literature review across disciplines and concluded that a psychological vulnerability to anxiety could result from a cognitive style where one perceives events as out of one’s control. This cognitive style may result from childhood experiences with weakened control over events. According to Chorpita and Barlow, responsive and consistent parents who allow children to solve problems and exert influence over their environments instill feelings of controllability as opposed to more overbearing parents who solve problems for their children and instill a sense of uncontrollability. These psychological vulnerabilities and the aforementioned
biological predispositions can interact with life stress to influence the occurrence of excess anxiety. Barlow and Durand (2005) asserted that life stress, such as interpersonal conflict or pressure to succeed, can interact with genetic influences to produce similar stress reactions in families, such as pathological anxiety, headaches, or panic attacks.

Panic and fear also result from an integration of biological, psychological, and social factors, and they fall under the umbrella of anxiety disorders; however, current literature conceptualizes anxiety as biologically and psychologically distinct from panic or fear (Barlow & Durand, 2005). As previously stated, anxiety is a future-oriented state, characterized by concern over impending events. Panic and fear, expressions of the same physiological and psychological reactions at different times, are present-oriented mood states; a person experiencing panic or fear is reacting to current as opposed to future stimuli. As outlined in the previous section, both panic and anxiety interact in PDA; a person must experience unexpected panic attacks and also experience continued apprehension about their reoccurrence (American Psychiatric Association, 2000). Therefore, general and pathological anxieties are just as relevant to PDA as panic or agoraphobia, although distinct.

**Panic**

Although it has been posited that anxiety and panic are distinct biologically, panic and fear appear to be expressions of the same reaction at different times. Barlow, Brown, and Craske (1994) defined panic as biologically separate from anxiety, but departed from previous definitions labeling panic as an internal dysfunction. They asserted that panic is merely fear experienced at an inappropriate time, a false alarm. Therefore, just as a person might experience sudden extreme fear when actual danger arises, a person may also experience psychological and
physiological symptoms of fear when there is no external threat, an “abrupt experience of intense fear or acute discomfort, accompanied by physical symptoms” (Barlow & Durand, 2005, p. 122). These symptoms include: accelerated heart rate, lightheadedness or dizziness, sweating, feelings of detachment or unreality, shaking, feelings of uncontrollability, shortness of breath, fear of dying, feeling of choking, numbness, chest pain, overheatedness and chills, and/or nausea (APA, 2000). Dager (2010) also discussed hallmark biological features of people with panic attacks, such as abnormal respiration.

Although any panic attack may involve a combination of these symptoms, there are three different types of panic attacks: situationally bound, situationally predisposed, and unexpected (Barlow & Durand, 2005). Situationally bound panic attacks are connected to a specific place or situation that the person experiencing the panic attack fears, such as heights, closets, or being around snakes, and do not occur in other situations. Situationally predisposed panic attacks occur when a person is more likely to have a panic attack in a certain place or situation but does not always experience them there. A person who has unexpected panic attacks, by contrast, cannot predict where or when they may occur; this is the type of panic attack most often associated with PD and PDA. Hofmann and Barlow (1996) discussed the monitoring of panic attacks using ambulatory psychophysiological monitoring. Although many people with panic attacks believe them to be unexpected, Hofmann and Barlow found panic attacks often begin after abnormal respiration and fearful cognitions.

Similar to anxiety, panic attacks and their development into PD, PDA, or a specific phobia is influenced by a combination of biological, psychological, and social factors. Gray and McNaughton (1996) described the Fight/ Flight System (FFS), the brain system involved in
panic attacks, as distinct from the Behavioral Inhibition System (BIS) involved in anxiety. The FFS includes nuclei of the central periaqueductal gray, the medial hypothalamus, and the amygdala. When the FFS is aroused in animals, they display an “alarm-and-escape response” reminiscent of human panic (Barlow & Durand, 2005, p. 124). Low serotonin levels may contribute to stimulation of the FFS. The FFS and BIS, although distinct, interact and both involve portions of the limbic system, especially the amygdala. Considering other biological factors, Bouton, Mineka, and Barlow (2001) discussed the heritability of panic attacks, PD, and other anxiety disorders. Thirty-five to thirty-nine percent of vulnerability to PD can be attributed to genetic factors, a vulnerability that may overlap with a genetically predisposed tendency to develop other specific phobias often involving panic attacks. Bouton et al. also stated that genetic influences on anxiety and panic probably differ but interact.

Although biological factors in panic and anxiety differ, including brain circuits and genetic contributions, the general psychological vulnerability to anxiety is similar in the development of panic attacks and eventually PD or PDA. Bouton et al. (2001) cited early experiences with control and mastery over one’s environment as influencing one’s sense of controllability or uncontrollability in their lives across experiences, including the expression of emotions. Consistent parental responses depending on the actions of the child may impart a sense of mastery as opposed to parental responses that do not depend on the actions of child, which may instill feelings of helplessness. Not only could a general psychological tendency influence whether or not a person experiences an initial unexpected panic attack, it could also effect whether a person develops PD or PDA once they experience the first attack.
Many people experience infrequent panic attacks or partial panic attacks and never develop PD or PDA (Barlow & Durand, 2005). Panic attacks become clinical due to a combination of factors. A person with a general biological and psychological tendency towards panic, as previously discussed, may experience an unexpected panic attack due to life stress. Bouton et al. (2001) discussed how this false alarm can become a learned alarm through classical conditioning; interoceptive cues, such as the aforementioned list of physiological symptoms can become conditioned stimuli that result in subsequent panic attacks when they occur. A more specific psychological vulnerability can then influence whether the learned alarm develops into a panic disorder. According to Bouton et al., the belief that unexpected somatic sensations could be threatening often results from early childhood experiences with parents exhibiting sick role behavior and reinforcing sick role behavior in children. This specific psychological vulnerability can lead to the persistent concern over experiencing future panic attacks, an anxiety which interacts with panic to result in PD or PDA (Barlow & Durand, 2005).

People experiencing clinical and nonclinical panic attacks develop a variety of coping mechanisms to endure or avoid the experience of panic attacks. Many turn to substances such as alcohol or drugs. Zvolensky, Brandt, and Bernstein (2011) discussed the interrelationship between Panic Disorder (PD) and substance abuse; they posited that these two types of disorders contribute to the maintenance and development of each other in some people. Another frequent coping mechanism develops into an essential criterion for PDA, Agoraphobia, when a person experiencing panic attacks chooses to avoid specific situations where escape may be difficult or impossible and the occurrence of a panic attack would be embarrassing (Barlow & Durand, 2005).
Agoraphobia

Agoraphobia, in Greek, originally signified a fear of the marketplace (Barlow & Durand, 2005). It now refers to a fear of places or situations from which escape is difficult, at times a bustling area like the original marketplace of its name’s origin. People with Agoraphobia tend to avoid potentially stressful situations, situations without a safe person or association, or situations where a panic attack would be embarrassing. Some examples are boats, planes, buses, cars, wide streets, supermarkets, places far away from home, and places without a safe companion. Avoidance can be as minimal as abstaining from going to the mall or as severe as never leaving one’s house. People with Agoraphobia also tend to avoid activities resulting in interoceptive cues reminiscent of panic attacks, such as an accelerated heart rate or increased temperature. Avoided activities could include sex, exercise, climbing stairs, any hot or stuffy places, and drinking or consuming caffeine.

Agoraphobia can be difficult to diagnose as people with Agoraphobia do not always avoid these situations or activities; they may face them despite discomfort or with a companion. Schmidt, Salas, and Schatschneider (2005) discussed the process of diagnosing Agoraphobia, using any of three criteria: 1) avoidance of situations or places, 2) the need for companions in order to travel to specific places or be in certain situations, or 3) the endurance of places or situations despite extreme anxiety. They elaborated on the poor interrater reliability in identifying people with agoraphobia resulting from such a wide range of diagnostic potential, especially since the DSM-IV-TR considers all criteria equally as opposed to the DSM-III that gave preference to actual avoidance. Whether manifested as avoidance or endurance, Agoraphobia often develops in the context of panic attacks and is an essential criterion of PDA.
Bienvenu, Onyike, Stein, Chen, Samuels, Nestadt, and Eaton (2006) examined the relationship between first incidence of Agoraphobia during baseline panic attacks and first incidence of panic attacks during baseline Agoraphobia, finding that one predicted the other. Although Agoraphobia did occur during the baseline presence of other Axis I Disorders from the DSM-IV-TR, baseline Panic Disorder was the largest predictor of incidence of Agoraphobia. They discussed demographic factors that increase the likelihood of the development of Agoraphobia, such as younger age and being female. Perugi, Frare, and Toni (2007) also detailed the development and features of Agoraphobia in the context of Panic Disorder, labeling “phobophobia,” or fear of fear, as essential criteria for its expression. Anxiety about experiencing another panic attack often results in the person’s avoidance of certain situations without safe companions or an easy escape to a safe place, such as home or the hospital. Agoraphobia can develop immediately after the first attack, over the course of a few weeks, or increasingly over years. It can also continue even if panic attacks decrease or cease, becoming a style of living.

Certain factors determine whether or not a person develops Agoraphobia in the context of panic attacks, receiving a diagnosis of PD or PDA. Craske and Barlow (1988) discussed the interrelationship of panic attacks and agoraphobia. They asserted that it is not the severity of panic attacks or the frequency of panic attacks that increases the likelihood that a person will develop agoraphobia; cognitive components such as degree of panic expectancy and fear of implications are more predictive of agoraphobia. As is the case with anxiety and panic, early experiences related to control and mastery can influence the development of Agoraphobia. A cognitive style characterized by feelings of uncontrollability of one’s environment forms a general psychological vulnerability to develop Agoraphobia in the context of panic attacks.
Specific factors also contribute to the relative avoidance of different situations once Agoraphobia develops, such as a focus on interoceptive cues, general level of anticipation of panic attacks and level of anticipation for specific situations, availability of signals of safety (i.e. companions, safe places), and a person’s perception of the consequences of a panic attack occurring in a specific situation.

Although Agoraphobia is often associated with panic attacks, it was formerly considered a separate disorder and many people still experience it without prior panic attacks. Hayward and Wilson (2007) discussed the subset of people with Agoraphobia without a history of full-symptom, spontaneous panic attacks. They posited that these people are underrepresented in clinical samples and more abundant in community samples due to their greater reluctance to seek treatment than people with panic attacks and agoraphobia. Hayward and Wilson discussed the possible association between high sensitivity to anxiety and the development of Agoraphobia without panic attacks, although anxiety sensitivity is also an important factor in the development of several anxiety disorders including PD. When Agoraphobia does develop in the context of panic attacks, it can be just as debilitating as the anxiety or panic attacks also necessary to receive a diagnosis of PDA. These and other relevant features and statistics of PDA will be detailed in the following section.

**Panic Disorder With and Without Agoraphobia**

As previously stated, PDA is an anxiety disorder characterized by frequent panic attacks, at least one month of anxiety concerning the recurrence of a panic attack and/or its implications, and the presence of Agoraphobia (American Psychiatric Association, 2000). Lifetime prevalence rates for people with PD or PDA have been estimated as high as 3.5% in the general
population (community samples), but most studies find rates between 1% and 2% at any given time. According to the DSM-IV-TR, rates in clinical samples are significantly higher, such as 10% of people receiving mental health consultations, 10% to 30% of people in respiratory, neurology, and vestibular clinics, and 60% of people in cardiology clinics (American Psychiatric Association, 2000). This discrepancy between the community and clinical rates is attributed to misdiagnosis and the tendency for people with Panic Disorders to seek help from doctors or mental health professionals (Craske & Barlow, 2007; Hayward & Wilson, 2007).

Approximately one third to one half of people with a Panic Disorder also have Agoraphobia. Virtually all those with Agoraphobia in clinical samples also have a history of Panic Disorder, but Craske and Barlow (2000) discussed lifetime prevalence rates for Agoraphobia Without History of Panic Disorder as high as 5.3% in community samples, a figure larger than that for PD and PDA combined. This large overrepresentation of people with PDA in clinical samples underscores the assertion of Craske and Barlowe that people with Panic Disorders often seek professional help.

As previously discussed, panic attacks may be unexpected, situationally predisposed, or situationally bound; however, if panic attacks occur only in one or two specific situations or social situations, the DSM-IV-TR recommended that a diagnosis of specific phobia or social phobia, respectively, be considered (American Psychiatric Association, 2000). The additional diagnosis of Agoraphobia implies that a person experiences recurrent panic attacks or panic-like symptoms in situations where escape would be difficult or embarrassing. PDA is often comorbid with other anxiety disorders, mood disorders, and personality disorders.

Typically beginning in the period from late adolescence to mid-30s and continuing with a “chronic but waxing and waning” course (American Psychiatric Association, 2000, Panic
Disorder Section, para. 15), PDA develops and is maintained due to certain factors. Craske and Barlowe (2000) discussed several components which may predispose an individual to develop Panic Disorders: a generalized biological vulnerability to anxiety disorders and depression, previous diagnosis of separation anxiety, a heightened awareness of bodily sensations, and an autonomic vulnerability due to previous panic-like or cardiac symptoms. However, the most instrumental factor, according to Craske and Barlow, is anxiety sensitivity, or “the person’s tendency to perceive anxiety as harmful” (p. 23). Barlow and Durand (2005) listed other causal factors in an integrative model previously discussed in the development of anxiety and panic attacks, including a general psychological vulnerability characterized by feeling a lack of control over one’s environment and a specific psychological vulnerability relating to fear of unexplained somatic sensations.

Initial panic attacks occur due to a “stress-diathesis interaction” (Craske and Barlow, 2000, p. 25), meaning physiological sensations and catastrophic interpretations of these feelings are increased under stressful conditions, often in situations where escape is difficult. Panic attacks are maintained after the initial attack due to the development of “fear of fear,” which is attributed to “interoceptive conditioning” (Craske and Barlow, 2000, p. 25). In behavioral terms, people with Panic Disorders develop a learned fear of bodily sensations and/or specific situations associated with the initial panic attack(s). Agoraphobia develops and is maintained when individuals avoid these specific situations associated with panic attacks, termed agoraphobic avoidance. Just as panic anxiety are similar yet distinct in their expression through the brain systems, Panic Disorders are somewhat different from other anxiety disorders, including Generalized Anxiety Disorder (GAD).
Generalized Anxiety Disorder

According to the APA (2000), the primary feature of Generalized Anxiety Disorder (GAD) is an excess of anxiety and worry about a variety of issues and life areas occurring on the majority of days for six months or more. Worrisome thoughts appear uncontrollable and difficult to decrease in intensity. At least three psychophysiological symptoms accompany anxiety including fatigue, distractibility, tense muscles, agitation and/or difficulty sleeping, and irritability. In children, only one of these symptoms is required to merit a diagnosis and anxiety focuses on school, sports, and performance concerns. In adults, worries are disproportionate to actual events or situations and focus on minor daily matters and/or professional, financial, or interpersonal concerns. GAD is somewhat more common than the Panic Disorders, with a 1-year prevalence of 3% and a lifetime prevalence of 5% (APA, 2000). GAD is more often diagnosed in women than men. In clinical settings, 55-60% or people with GAD are female, and, in epidemiological studies, approximately two thirds of people with GAD are women. People with GAD may indicate that they have always felt overly anxious, but some experience onset during early adulthood. The course is similar to that of PDA in that it is chronic with periodically worse periods during stressful times.

There are commonalities in the etiology of all the anxiety disorders; therefore, it is not surprising that many of the factors contributing PD and PDA may also influence the onset or maintenance of GAD (APA, 2000). As previously discussed, Craske and Barlowe (2000) discussed this generalized biological vulnerability to anxiety disorders and depression. According to the APA (2000), twin studies have revealed a genetic component in the development of GAD as well as the existence of a generalized risk for anxiety and depression. Also, in the aforementioned integrative model espoused by Barlow and Durand (2005), GAD
results from a combination of this biological vulnerability, a general psychological vulnerability characterized by feelings of uncontrollability in one’s environment, and life stress resulting in general apprehension and a restriction of autonomic responses.

There are several similarities and differences between GAD and PD or PDA, and these two disorders may co-occur if criteria are met for both (APA, 2000). Although people with GAD may experience panic attacks, this is not necessary for a GAD diagnosis. Also, although anxiety is a large portion of PDA and essential to this diagnosis, the anxiety experienced in GAD must not be primarily focused on the possibility of panic attacks. As previously discussed, people with GAD experience psychophysiological symptoms including muscle tension, but consistent autonomic arousal is more associated with PDA. In fact, several studies suggest that people with GAD are actually autonomic restrictors particularly avoiding this increased arousal through worrying (Borkovec, Shadick, & Hopkins, 1991; Roemer & Borkovec, 1993).

Although people with GAD may experience occasional panic attacks, including activation of the FFS in the brain, the BIS is the primary brain system involved in the manifestations of GAD (Gray & McNaughton, 1996; McNaughton & Gray, 2000). Borkovec and Inz (1990) also found high levels of EEG beta activity in the frontal lobes of the brain, especially the left hemisphere. According to Borkovec and Inz, the lack of brain activity in the right hemisphere suggests that people with GAD partake in consistent worrisome thought processes to avoid imagery associated with negative emotions that might result in greater autonomic arousal and/or panic. Cognitive behavioral therapy is the primary mode of treatment for both PDA and GAD, however, and can address features common to both, such as anxiety with various foci, as well as features unique to PDA, such as panic attacks, autonomic hyperarousal, and agoraphobic avoidance.
Cognitive Behavioral Therapy and Generalized Anxiety Disorder, Panic Disorders

CBT uses a theoretical approach and methodology that combine components of cognitive therapy and behavioral therapy. Perry (2002) stated that cognitive therapy defines humans as “meaning-making creatures” (p. 93). Humans conceptualize their environment through systems of beliefs, resulting in particular cognitions about the world around them. Our behavior is a result of these cognitions, both conscious and unconscious; therefore, cognitions must be restructured in order for behavior change to occur (Perry, 2002). CBT utilizes the theories and methods of behavior therapy to promote these behavioral changes. Behavior therapy posits that the situational antecedents, associations, and consequences of a behavior reinforce its reoccurrence; these must be altered in order for a behavior to be reduced or changed. Rosal (2001) discussed three types of CBT in practice today: 1) cognitive restructuring therapies, 2) coping skills therapies, and 3) problem-solving therapies (p. 212).

Psychotherapy, especially CBT, has been found to be the most effective and long-lasting treatment for GAD. At least 13 controlled studies have demonstrated significant benefits for GAD from CBT; CBT was found to be more effective than control groups receiving no treatment as well as other psychotherapeutic treatment methods, such as psychodynamic approaches (Borkovec & Ruscio, 2001). Many of these CBT interventions incorporated cognitive restructuring approaches to address underlying biases in cognition (Barlow & Durand, 2005). Craske, Barlow, and O’Leary (1992) developed a CBT protocol involving confrontation and desensitization to the process of anxiety and previously avoided images. Although benzodiazepines may be used to treat GAD for one to two weeks and some antidepressants, such as imipramine, paroxetine, and venlafaxine, may also be effective, psychological treatments ultimately maintain better results longer term (Barlow & Durand, 2005). Overall, Barlow and
Durand indicated that new and powerful treatment approaches are needed to address the symptoms of GAD, which are historically resistant to treatment.

Over 25 studies have also demonstrated the efficacy of CBT interventions for PD and PDA (Marchand et al., 2007); the most effective CBT interventions often utilize aspects of all three of the above forms of CBT. Various antidepressant and antioxylitic medications are also prescribed for PDA and other anxiety disorders. Barlow, Gorman, Shear, and Woods (2000) conducted a large-scale study sponsored by the National Institute of Mental Health to compare the efficacy of CBT, the antidepressent imipramine, and a combination of the two treatments. Both treatments were better than pill placebo, but the combination of the two treatments was not significantly better than either treatment alone. Although the imipramine treatment resulted in more significant improvement in symptoms of PDA than CBT after the acute period, participants experienced significantly more relapse after being weaned from the medication than those receiving CBT. Only 4% of participants receiving CBT had relapsed at the follow-up period compared to 25% who had received imipramine; these results corroborate former studies in suggesting that CBT is a more enduring, durable treatment for PDA.

Many of the CBT interventions shown to be most effective for Panic Disorders also use a combination of six specific treatment components: psychoeducation, breathing retraining, cognitive restructuring, interoceptive exposure, in vivo desensitization, and relapse prevention (Marchand et al., 2007; Deacon, 2007; Deacon & Abramowitz, 2006; Craske & Barlow, 2000). The psychoeducation and cognitive restructuring components are instrumental in altering the cognitions of people with PD or PDA, namely the aforementioned catastrophic interpretations of bodily sensations. Deacon and Abramowitz (2006) stated that “helping patients acquire more accurate beliefs about the actual dangerousness (or lack thereof) of their panic-related body
sensations” (p. 810) was the primary objective of their CBT intervention. Psychoeducation and cognitive restructuring often include a discussion about why people develop Panic Disorders, the function of anxiety and fight-flight response for humans, misinterpretations of bodily sensations common to Panic Disorders, and how to put panic symptoms into perspective (Craske & Barlow, 2000).

Exercises that desensitize clients to panic-inducing stimuli, such as bodily sensations and avoided situations, serve to concretize cognitive restructuring. Interoceptive exposure desensitizes clients to bodily sensations occurring during panic attacks through physical activities, such as spinning, running in place, and hyperventilation (Deacon & Abramowitz, 2006). In vivo exposure involves developing a hierarchy of feared situations where panic attacks are likely to occur, so exposure to these situations by facing real approximations can progress gradually from least to most feared. According to Craske and Barlow (2000), breathing retraining and relaxation can be incorporated to enhance desensitization during interoceptive and in vivo exposure exercises. Relapse prevention focuses on a review of clients’ objective gains and planning for future situations where CBT techniques may be used.

Panic Control Treatment (PCT) is a therapeutic model for anxiety, PD, and PDA developed by Craske and Barlow (2000). PCT for anxiety and panic consists of 14 one-hour sessions including the six aforementioned components; an additional seven one-hour sessions can be employed to specifically address agoraphobia. PCT has been shown to be effective for the treatment of Panic Disorders in a series of studies. Craske and Barlow reviewed findings that PCT was more effective in reducing frequency of panic attacks than wait-list groups and relaxation exercises alone. The sessions addressing agoraphobia yielded clinically significant reduction in agoraphobic avoidance in 69% of participants. Finally, studies comparing PCT to
pharmacological treatments show that it is at least as or more effective in reducing panic than many antidepressants and benzodiazepines, such as alprazolam or imipramine.

Although standard CBT treatments for PD or PDA, such as PCT, are empirically supported, several studies discuss the inaccessibility of these treatments for many clients and demonstrate the effectiveness of briefer versions of CBT. The numerous sessions of standard CBT often conducted in metropolitan areas may be unaffordable or physically distant from many people with PD or PDA (Deacon & Abramowitz, 2006). Deacon (2007) discussed results showing that proportions of people with PDA as low as 10% receive CBT for their symptoms. Deacon and Abramowitz (2006) found a two-day, intensive CBT intervention to be effective in reducing the symptoms of PD for a sample of individuals from a rural population. The procedure and findings for one participant were discussed in more depth in a subsequent case study (Deacon, 2007). In a study comparing Craske and Barlowe’s 14-session PCT to a condensed seven-session version incorporating the same treatment goals, Marchand et al. (2007) found brief versions of PCT with and without a partner involved to be as effective as standard CBT in reducing the symptoms of PDA. Additional limitations of CBT interventions previously discussed, including the cognitive difficulty of certain exercises or purported lack of emotional logic, may be addressed by the incorporation of an art therapy component. Art therapy may also be particularly useful for treating GAD, due to the aforementioned avoidance of negative imagery as evidenced by the absence of right hemisphere activity in these people.

**Art Therapy**

Art therapy utilizes the art making process to address the mental health of clients of all ages and experiencing a variety of psychological or physiological issues (American Art Therapy Association [AATA], 2011). The ETC developed by Vija Lusebrink (1990) provided a model
explaining the effectiveness of different art experientials conducted during art therapy. The ETC consists of four levels of artistic expression. In ascending order, these levels are kinesthetic/sensory, perceptual/affective, cognitive/ symbolic, and creative (Lusebrink, 1990). According to Lusebrink (1990), the kinesthetic half of the first level of the continuum addresses the pleasurable nature of physical activity in artistic expression; the sensory component relates to sensory interaction with art media. The perceptual portion of the second level targets formal elements of artistic expression, while the affective component addresses emotions experienced and released through the artistic process. The cognitive half of the third level is concerned with problem solving and the logical organization of artistic expression; the symbolic portion focuses on visual metaphor and the formation of meaningful symbols through artistic expression. Creativity allows movement throughout the different levels of the ETC and is also the fourth level, reflecting a combination of the three previous levels.

The ETC is useful in addressing why certain art experientials requiring a client to operate on one or more levels of the continuum are appropriate during certain interventions. Experientials encouraging artistic expression at any and all of the levels can be incorporated into therapeutic approaches for anxiety in general and specifically PDA. Expression at the cognitive/ symbolic level is essential to meet the goal of cognitive restructuring in CBT interventions, but experientials incorporating lower levels of the ETC could also enhance an approach to treatment. Expression on the perceptual/ affective level may come more naturally to those clients which Perry (2002) described as having difficulty with the purported lack of emotional logic in CBT. Expression on the kinesthetic/ sensory level is also essential in treatment of PDA as the symptoms are largely physiological; therefore, the body should be addressed during art therapy interventions for clients.
Art Therapy and Anxiety, Panic

Studies have demonstrated the efficacy of art therapy in reducing anxiety in general (Curry & Kasser, 2005; Chambala, 2008); these studies incorporate art experientials encouraging expression across the levels of the ETC. The drawing or coloring of mandalas, circular geometric patterns, is a commonly used experiential in art therapy sessions to reduce anxiety. Curry and Kasser (2005) found the coloring of mandalas or other complex geometric forms significantly reduced the anxiety of graduate students; there was no reduction in anxiety for participants allowed to color and draw free-form on a blank sheet of paper. According to Curry and Kasser, the results suggested that participants required enough structure in a geometric design to both keep the activity engaging and not require too much thought in order to achieve a meditative state. This coloring of geometric forms allows participants to operate on the kinesthetic level (through the repetitive motion of coloring) and the perceptual level (through the engagement with the formal elements of the geometric design).

Studies have also shown the effectiveness of engagement at higher levels of the ETC in reducing anxiety. Chambala (2008) found art therapy with participants at an inpatient psychiatric facility to be a helpful intervention for anxiety comorbid with various other psychological disorders. Art directives included sculpting an image of anxiety, drawing or painting a safe place, and creating images based on guided imagery exercises. These directives engaged participants to create work primarily at the cognitive/ symbolic level of the ETC, requiring problem solving and the creation of symbols to represent abstract forms; however, the use of clay engaged clients to create work at the kinesthetic/ sensory level as well.

Less empirical support exists regarding the effectiveness of art therapy specifically for the treatment of symptoms of Panic Disorders. Albertini (2001) combined autogeneous training
with painting in a group art therapy intervention for a woman with PDA. According to Albertini, autogenous training consisted of a series of commands to the body in order to promote relaxation and calm. Participants were asked to paint freely following autogenous training and discuss their artwork over the course of 12 sessions (Albertini, 2001). This study represented an attempt to integrate kinesthetic components with artistic expression, but the client was not directly encouraged to express herself artistically using any particular level of the ETC. Therefore, the majority of the artistic expression occurred on the cognitive/ symbolic level as the client solved the problem of creating pictorial representations and originated visual metaphors. Albertini found that art therapy eventually increased her participant’s ability to work well within a group, self-acceptance, and willingness to undertake psychotherapy to further address her agoraphobic avoidance; however, effects on symptoms of PDA were not measured.

Crystal (2001) conducted an existential art therapy intervention to increase self-efficacy, self esteem, internal locus of control, mobility, and positive cognitions in participants with PD. Crystal used various art therapy techniques to address participants’ self perception and fears over six sessions including mask-making, three-dimensional representations of safe places, drawings of fears and mastery of fears, collage, and free drawing. The primary focus of these activities was on the cognitive/ symbolic level of the ETC; other levels of the ETC may have been incorporated secondarily. Although sessions included a discussion of cognitive behavioral concepts such as desensitization to fear, the creation of pieces about fear was not used as a form of imaginary desensitization or as a tool to conceptualize a fear hierarchy. The only outcome variable to show significant improvement was the participants’ cognitions. The following section will discuss art therapy interventions where art was used in the desensitization process during CBAT interventions for populations other than people with anxiety disorders.
Cognitive Behavioral Art Therapy

Although an incipient approach in the field of art therapy, a variety of cognitive behavioral techniques have been successfully incorporated into art therapy interventions (Rosal, 2001). Desensitization, the decrease in anxiety provoked by particular stimuli through repeated exposure to those stimuli, is the central process in cognitive behavioral interventions for Panic Disorders and has been incorporated into art therapy interventions for other populations in two distinct ways: flooding and gradual desensitization. The primary focus of many of these exercises is on the cognitive/ symbolic level of the ETC, because a central therapeutic goal is cognitive restructuring; however, expression on the two lower levels, particularly the affective component of the perceptual/ affective level, is also encouraged. In a technique termed “Implosive Art Therapy” (p. 74) or I.A.T., DeFrancisco (1983) used flooding to desensitize a boy to his Specific Phobia of injections and bee stings. The process consisted of repeated therapist-guided drawings, which flooded the participant with anxiety-provoking images; the participant was encouraged to draw quickly and with as much detail as possible. According to DeFrancisco, the participant exhibited anxiety through emotional or graphic responses while drawing. This diminished with repetitions of the flooding process, resulting in desensitization.

Gradual desensitization is the form of exposure therapy most often used in cognitive behavioral interventions for Panic Disorders. Several studies discuss the usefulness of gradual exposure through the creation of stimuli hierarchies during art therapy interventions for participants from various populations (Matto, 1997; Gerber, 1994; Reynolds, 1999). Matto (1997) discussed how art therapy can be used to desensitize clients with eating disorders to anxiety-provoking emotions. Clients with eating disorders underwent in vivo exposure to a hierarchy of affective experiences through art; confrontation and desensitization to these
emotions helped reduce eating patterns provoked by difficult emotions (Matto, 1997). Gerber (1994) found that empathy could be increased in emotionally distant juvenile sex offenders through the depiction of various emotions in a hierarchy ranging from simple to complex. These emotions could in turn be associated with the client in a progression from least to most direct; one participant progressed from depicting emotions in situations he had never experienced to describing moments from his past when he himself had experienced specific emotions. Reynolds (1999) used desensitization to reduce a client’s avoidance of images and feelings associated with unresolved grief. The client ranked photographs from least to most saddening, and proceeded to ascend the hierarchy, looking at the images for extended periods of time. Further desensitization occurred as the client created a tapestry from the images, requiring her to recreate and reflect on the images for an extended period of time.

**Conclusion**

The preceding review of literature discussed theory and studies relevant to the proposed study analyzing the benefits of brief CBAT for PDA and GAD. The characteristics and prevalence of anxiety, panic, agoraphobia, PDA, and GAD were reviewed followed by a discussion of the established efficacy of cognitive behavioral interventions for GAD, PD, and PDA. The components involved in CBT for GAD and PDA were discussed as well as the limitations of standard CBT. Examples of effective brief CBT for PDA were reviewed. Art therapy was defined in relationship to further limitations of CBT; the ETC was defined as a useful model for understanding why different experientials used in art therapy are effective. Art therapy was reviewed as a well-established method for treating daily anxiety, but a less established method for treating symptoms of panic or clinical anxiety. Art therapy treatment methods for anxiety often target artist expression across the levels of the ETC; however, art
therapy approaches for Panic Disorders reviewed here primarily encouraged expression at the cognitive/symbolic level. Examples of CBAT using the technique of desensitization, whether gradual or through flooding, were reviewed. Although these techniques primarily targeted expression at the cognitive/symbolic level as well, they incorporated techniques that encouraged expression at lower levels.

The following section details the methods for a brief CBAT intervention for PDA and GAD. This intervention addressed limitations of standard CBT through condensation of sessions into a brief treatment approach, Internet video sessions for the participant with GAD, and the addition of art therapy. The intervention will also address limitations of previous art therapy approaches for Panic Disorders through experientials that encourage expression at lower levels of the ETC as well as the cognitive/symbolic level.
CHAPTER THREE
METHODS AND PROCEDURES

In the following section, the brief CBAT intervention for the symptoms of PDA and GAD is delineated. Art therapy experientials will be incorporated into a seven-session cognitive behavioral model developed by Marchand et al. (2007). It is hypothesized that the brief CBAT intervention will improve the symptoms of PDA (i.e. decreasing frequency of panic attacks, fear of future panic attacks and their implications, and agoraphobia) and GAD (i.e. generalized anxiety). The single subject quasi-experimental design for Case 1 with PDA and Case 2 with GAD will be detailed followed by a description of the participants and instruments to be used. The treatment procedures for the seven sessions in both cases will be described. Internal and external validity of the study will be discussed as well as graphs and statistical techniques to analyze the results.

Research Design

The following study is a single subject quasi-experimental design with two volunteers, one meeting full criteria for PDA and one meeting full criteria for GAD, from the student population of a state university. Using an A-B format, the baseline (A) period consisted of two weeks followed by a seven-week intervention period (B) (Table 1). Participants received seven individual weekly, one-hour sessions combining art therapy with CBT, based on a condensed version of PCT developed by Marchand et al. (2007), during the intervention period. Sessions in Case 1 for PDA were conducted in face-to-face meetings, whereas sessions in Case 2 for GAD were conducted through Internet video chats. A manual detailing the procedures used in the sessions as well as instructions for cognitive behavioral art homework was given to each participant.
Both participants tracked symptoms of their respective anxiety disorders during the baseline and intervention periods using a rating diary (De Beurs et al., 1997). Tracked symptoms for PDA included: panic frequency, duration, and symptoms; daily measures of fear of fear (panic expectancy, expected aversiveness, fear of panic); daily measures of agoraphobia (anxiety about leaving the place of residence, whether avoidance occurred, and the inconvenience experienced due to any avoidance); daily general anxiety; and daily general feelings of goodness. Tracked symptoms of GAD included: daily general anxiety and general feelings of goodness.

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<tr>
<th>Table 1</th>
<th>Research Design in Case 1 and Case 2</th>
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<td>Phase</td>
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<td>CBAT Sessions</td>
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**Participants**

Two university students were included in the study on a volunteer basis; the study was advertised through flyers in the university’s counseling center. In an intake interview, their respective diagnoses of PDA and GAD were verified using the ADIS-IV based on DSM-IV criteria (Brown, DiNardo, & Barlow, 1994). The participants also consented to begin tracking their symptoms of PDA and GAD using a ratings diary for nine weeks during a baseline and intervention period, participate in seven weekly, therapist-guided sessions, and allow the photographing of artwork made during sessions (see Appendix C).
Case 1: Jessica

Jessica was a 22-year-old white female in her first graduate year of law school. She met full criteria for Panic Disorder with Agoraphobia at the time of the intake interview. Although Jessica indicated that she had had panic attacks since a young age, a recent traumatic experience with recreational drugs had worsened the attacks. Jessica estimated that she experienced 8-12 panic attacks per month, 2-3 per week. She experienced a number of physiological symptoms during these attacks; the most distressing being depersonalization and nausea/ stomach distress. Jessica experienced severe apprehension about experiencing future attacks as well as their implications, especially embarrassment. She also met criteria for agoraphobia, facing some situations and activities with extreme apprehension, such as graduate classes, and avoiding others if possible, such as bars, parties, crowds, and riding in the cars of others. Although Jessica had experienced some past trauma, there was no indication that she met criteria for any comorbid psychological disorders.

Jessica also indicated that she found law school very demanding and experienced consistent general anxiety. Although she had no outstanding health or financial issues, her sister’s drug addiction and involvement with the legal system was stressful. Also, Jessica’s ex-boyfriend harassed her in-person and over the phone before and during the study. She also stated that she had difficulty making close friends at the university and that her support system was largely in her hometown. Jessica was not on any medications during the study, but she saw an individual counselor at the university counseling center twice during the nine-week period.

1 Names of both participants are pseudonyms.
Case 2: Aurelia

Aurelia was a 19-year-old white female in her first year of a teaching zoo college program. She met full criteria for Generalized Anxiety Disorder at the time of the intake interview. Aurelia cited moving away from home and her family and the beginning of her college career as the catalyst for her increased anxiety. Aurelia indicated that she was continually worried about multiple areas of her life, especially school and social situations, and she found these anxious thoughts difficult to control. Aurelia also stated she worried more days than not. Although this worry was always underlying her thought processes, the thoughts were only severe a portion of the time, especially in social situations. She also experienced a variety of psychophysiological symptoms characteristic of GAD and autonomic restriction, rating restlessness, distractibility, and difficulty sleeping as the most severe. Aurelia indicated that her anxious thinking caused severe interference with her life. Although she had experienced two panic attacks in previous years, Aurelia no longer felt any panic-like symptoms.

Aurelia lived within a few hours driving distance from family members and had some close friends in school, but she indicated that she had difficulty making new friends. Recent illnesses of her family members had also added to her anxieties. The semester prior to that of the study, she had withdrawn from all her courses due to stress and failing grades. Although Aurelia did not meet criteria for any comorbid diagnoses, she did have features of Attention Deficit Hyperactivity Disorder, which interacted with the distraction of her worrisome thinking to make school more difficult. She was attempting to take these courses again at the time of the study. Aurelia had been taking an antidepressant for anxiety a few years previously, but she had elected to stop it due to ineffectiveness a year before the study began.
Instruments Used

The reported study used instruments both to confirm the diagnoses of PDA and GAD in the two participants and to measure the symptoms of PDA and GAD before and during the intervention. As previously stated, the ADIS-IV was used to confirm diagnoses. This instrument, which is based on DSM-IV criteria for anxiety disorders, is a revised version of the ADIS-R based on DSM-III-R criteria. The ADIS-R was found to have test-retest reliability in the range from .57 to .82 in diagnosing anxiety disorders (Brown, DiNardo, & Barlow, 1994).

Symptoms of PDA and GAD were measured through daily self-report measures. Both participants completed a ratings diary (De Beurs et al., 1997), tracking relevant symptoms of their respective anxiety disorders. Jessica noted the duration and features of any panic attack that occurred and rated her daily fear of fear (panic expectancy, expected aversiveness, maximum fear of panic), daily anxiety, and daily feelings of goodness. Aurelia rated her daily general anxiety and feelings of goodness. The reliability and validity of De Beurs et al.’s panic diary was tested using 37 participants over the course of two weeks. Test-retest reliability values of .78, .77, .84, .81, .91, and .77 were found between week one and two for measures of panic frequency, fear of panic, panic expectancy (aggregated), panic expectancy (next week), expected aversiveness (aggregated), and expected aversiveness (next week), respectively. As to convergent validity, panic frequency correlated moderately with panic expectancy and fear of panic (aforementioned aspects of fear of fear), but not with expected aversiveness. According to De Beurs et al., measures included in the panic diary also correlated with results of other established instruments, including the Panic Appraisal Inventory (PAI) and the Panic Disorder Severity Scale (PDSS).

Additional items pertaining to Agoraphobia were added to Jessica’s ratings diary in order to track the symptoms of her agoraphobia. She was asked to indicate whether she avoided any
activities each day. Two other items on scales from 1 to 10 (similar to the preexisting scales in
the diary) included a rating of daily anxiety about leaving her place of residence and the
inconvenience experienced due to any aforementioned avoidance.

Procedures Followed

Following the selection of two participants who met diagnostic criteria for PDA and
GAD, they attended a preliminary meeting and consented to complete the ratings diary for nine
weeks including a two-week baseline and seven-week intervention period, engage in seven-
weekly one-hour sessions, and allow the photographing of artwork created during sessions. A
description of the content of the seven sessions to be completed with Jessica in Case 1 for PDA
follows. The alterations in the protocol with Aurelia in Case 2 for GAD are then highlighted (see
Table 2).

Case 1: Jessica

Session 1. The first session included psychoeducation concerning the nature and
prevalence of PDA, the three components that contribute to PDA (physiology, cognitions, and
behavior), the model and cycle of PDA, and why panic attacks are not physically harmful.
Experientials included making personal lists of the three components: physiological symptoms,
cognitions, and behaviors. Jessica then created “My Panic Cycle,” a diagram of the development
of her PDA with the drawing material of her choice. For homework, she was asked to continue
her panic diary. She was given the first booklet in their manual.

Session 2. The second session focused on breathing retraining, progressive muscle
relaxation, and slow breathing. Experientials included incorporating watercolors into breathing
retraining and the creation of a two or three-dimensional piece following progressive muscle
relaxation and guided imagery. Homework was to continue the panic diary and practice
breathing retraining and muscle relaxation at home and outside the home incorporating sensory materials if possible. Jessica was given the second booklet in her manual.

**Session 3.** The third session targeted cognitive restructuring. Experientials included listing cognitions experienced during panic and anxiety, such as “I’m going to die,” or “I’m going crazy;” discussing likely vs. unlikely events during panic attacks; and comparing ratings of how realistic cognitions seem during panic and during moments of calm on a 10-point scale. Jessica was asked to create a two or three-dimensional piece based on an “unlikely” cognition during panic. Discussion focused on scaling down the likelihood of this cognition to the level perceived during a moment of calm. For homework, Jessica was asked to depict a more “likely” version of this cognition in two or three dimensions and continue her panic diary. She was also given the third booklet in their manual.

**Session 4.** The fourth session’s focus was interoceptive exposure. After a planned discussion of the piece created for homework, experientials included vigorous kinesthetic art-making activities to expose Jessica to physiological cues associated with panic, such as a large scribble chase and painting with shoes or feet while running, spinning, and jumping. Jessica was asked to repeat those activities that were more uncomfortable or distressing to her if possible. Jessica was encouraged to practice slow breathing and realistically rate cognitions when distressed by exercises. Homework was to extend tools from the session to naturalistic activities inducing these physiological cues, such as exercise, and to continue the panic diary. Jessica was also given the fourth booklet in their manual.

**Session 5.** The fifth session concentrated on imaginal exposure to agoraphobically avoided situations and the creation of a feared-situation hierarchy. Experientials included guided imaginal exposure to help clarify more and less feared situations and the eventual ranking of
three avoided situations. Jessica was asked to begin an art desensitization series by creating a two or three-dimensional image of her least feared situation out of three. Instructions were to practice slow breathing and relaxation while concentrating on depicting the situation and the details of the image for at least thirty minutes. For homework, she was asked to continue her panic diary and complete the remaining two pieces in ascending order, spending thirty minutes to an hour creating the images in detail. Before the next session, Jessica was also instructed to face her first situation while employing slow breathing and cognitive restructuring. She also received the fifth booklet in her manual.

**Session 6.** The sixth session’s intended focus was in vivo exposure to agoraphobically avoided situations and reframing through the making of a mastered-situation hierarchy. The experiential was intended to be a thirty-minute two or three-dimensional piece depicting Jessica’s mastery of her recently faced first situation, or at least a realistic depiction of what occurred. The planned homework was to face the remaining two situations in ascending order and create two or three-dimensional pieces (again spending at least thirty minutes to an hour) depicting mastery or realistic accomplishments made in these situations. Jessica was asked to continue her panic diary and received the sixth manual booklet.

**Session 7.** The seventh and final session included a progress review and a focus on relapse prevention. Jessica reviewed and discussed all pieces created during sessions and any progress made as shown in their artwork and/or their panic diary. The intended experiential was a “Bridge Drawing,” made in two or three dimensions, depicting Jessica’s progress towards her goals thus far. Jessica was given her art piece to take home as a record of their progress, but turned in her panic diary. She also completed a written evaluation of the study.
Case 2: Aurelia

The protocol planned for Aurelia to address symptoms of GAD was very similar to that of Case 1 with minor alterations (Table 2). In each experiential, the concept of “panic attacks” was replaced with the concept of “worrisome thinking and anxiety.” For example, in the first session, Aurelia was asked to complete a cycle of her anxious thinking as opposed to a panic cycle. The interoceptive exposure session was removed due to its focus on desensitization to symptoms of autonomic hyperarousal; these symptoms are a hallmark of PDA but people with GAD tend to be autonomic restrictors. A session focusing on the identification and development of support systems was added in the second week, and the relaxation exercises session was moved after this and the cognitive restructuring session. Aurelia did not complete any of the ratings in the diary related to panic attacks; she only rated her daily general anxiety and feelings of goodness. Therefore, Aurelia was also asked to create mandalas in open circles as a means of assessment as well as an intervention. As previously stated, a further difference between Case 1 and Case 2 is the fact that the majority of the sessions with Aurelia were conducted through Internet video chats. This was intended to test the efficacy of this more accessible method for sessions. The intake interview and final session with Aurelia were conducted in person.

<table>
<thead>
<tr>
<th>Session</th>
<th>Focus</th>
<th>Art Experientials</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Psychoeducation</td>
<td>“My Panic Cycle”</td>
<td>Panic diary</td>
</tr>
<tr>
<td>2</td>
<td>Relaxation exercises</td>
<td>Guided imagery; response pieces</td>
<td>Panic diary; At-home practice</td>
</tr>
<tr>
<td>3</td>
<td>Cognitive restructuring</td>
<td>Depict “unlikely” cognition</td>
<td>Panic diary; Depict more “likely” version</td>
</tr>
<tr>
<td>4</td>
<td>Interoceptive exposure</td>
<td>Kinesthetic art-making activities</td>
<td>Panic diary; naturalistic activities</td>
</tr>
</tbody>
</table>
Table 2 Continued

<table>
<thead>
<tr>
<th>Session</th>
<th>Focus</th>
<th>Art Experientials</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Imaginal exposure</td>
<td>Guided imaginal exposure; fear hierarchy; least-feared situation piece</td>
<td>Panic diary; moderately and most-feared situation pieces; facing least-feared situation</td>
</tr>
<tr>
<td>6</td>
<td>In vivo exposure</td>
<td>Mastery of least-feared situation piece</td>
<td>Panic diary; facing moderately to most-feared situations and mastery pieces</td>
</tr>
<tr>
<td>7</td>
<td>Relapse prevention</td>
<td>Bridge drawing; plan for panic attacks</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Brief Cognitive Behavioral Art Therapy Course of Treatment for GAD

<table>
<thead>
<tr>
<th>Session</th>
<th>Focus</th>
<th>Art Experientials</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Psychoeducation</td>
<td>“My Anxiety Cycle”</td>
<td>Anxiety diary</td>
</tr>
<tr>
<td>2</td>
<td>Identification of Support Systems</td>
<td>“My Support Systems”</td>
<td>Anxiety Diary; Complete support systems chart</td>
</tr>
<tr>
<td>3</td>
<td>Cognitive restructuring</td>
<td>Depict “unlikely” cognition</td>
<td>Anxiety diary; Depict more “likely” version</td>
</tr>
<tr>
<td>4</td>
<td>Relaxation exercises</td>
<td>Guided imagery; response pieces</td>
<td>Anxiety diary; At-home practice</td>
</tr>
<tr>
<td>5</td>
<td>Imaginal exposure</td>
<td>Guided imaginal exposure; fear hierarchy; least-feared situation piece</td>
<td>Anxiety diary; Moderately and most-feared situation pieces; Facing least-feared situation</td>
</tr>
<tr>
<td>6</td>
<td>In vivo exposure</td>
<td>Mastery of least-feared situation piece</td>
<td>Anxiety diary; Facing moderately to most-feared situations and mastery pieces</td>
</tr>
<tr>
<td>7</td>
<td>Relapse prevention</td>
<td>Bridge drawing</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Internal Validity**

Threats to internal validity for the reported study include participant characteristics, mortality, external events, testing, and attitude of subjects. The study employed a single subject experimental design; only two students participated in two case studies. Therefore, the presence of certain participant characteristics, such as age, gender, ethnicity, art experience, medications, and minor comorbidities, depended on who was willing to participate. Mortality was also a
threat due to the small number of participants. External events can increase or decrease stress in participants’ lives. Also, features of testing threatened internal validity, because participants self-reported symptoms on a daily basis. Participants may have recorded more or less panic attacks and anxiety due to the fact that they themselves were tracking these symptoms of PDA and GAD. Finally, the attitude of participants toward different modes of therapy, art, and a variety of other components of the experiment could affect results. Components of the study that helped ensure internal validity were consistency of instrumentation and implementation.

**External Validity**

External validity of the study is low. Only two participants were included in the study; therefore, these participants are not necessarily representative of all people with PDA or GAD. An experimental design comparing a random sample randomly assigned to a treatment and control group would be ideal to ensure external validity, but this was not feasible with the population of people with PDA or GAD. Results of the study would be generalizable to people with PDA or GAD only when replicated with a larger number of participants.

**Analysis**

Visual analysis is the primary form of analysis for single subject experimental designs (Behling & Merves, 1984). Line graphs will be created for self-reported measures of PDA and GAD in the ratings diary for each participant over the nine-week period, including panic frequency, each measure of fear of fear (daily panic expectancy, expected aversiveness, and maximum fear of panic), general anxiety level, feelings of goodness, and agoraphobia (daily anxiety about leaving the place of residence and inconvenience experienced due to any avoidance). A *celeration line procedure* will be performed for each graph to assess if significant decreases occurred in symptoms of PDA and GAD from the baseline to intervention period.
The celeration line procedure assumes that the data from the baseline period are normally distributed and represent typical behavior. A celeration line following the trend of baseline data is continued into the intervention phase of the graph. The proportion of data points lying above or below the line of celeration (depending on the desired result) were placed on a probability table to determine if any change occurring was significant at the .10 level (Behling & Merves, 1984). Although the more stringent .05 or .01 levels are more traditional, the .10 significance level is often employed in exploratory or pilot research such as the reported study. If the decrease in all or some of the symptoms of PDA or GAD is significant, then the hypotheses that brief CBAT would improve symptoms of PDA and GAD will be upheld or partially supported, respectively.

**Conclusion**

The reported study analyzed the therapeutic gains of a brief cognitive behavioral art therapy intervention for people with PDA and GAD. The review of literature revealed the prevalence of this disorder and the established usefulness of CBT for PDA and GAD; however, standard CBT has certain limitations. Brief CBT has been shown to be effective and addresses the issue of inaccessibility common to standard CBT for anxiety disorders. Art therapy is an established intervention for anxiety in general and could be effectively incorporated into a brief CBT model for PDA and GAD, especially if experientials addressed multiples levels of the ETC. This would in turn address a further limitation of standard CBT: its purported lack of emotional logic.

The following section includes a report of quantitative and qualitative results of the study as well as the results of both participants’ written evaluations. The details of session interactions
and artwork created are included. The final section provides a discussion of these results in a more generalized format.
CHAPTER FOUR

RESULTS

Quantitative and qualitative results were obtained from both participants. As previously discussed, both participants completed ratings diaries of symptoms of PDA and GAD. Jessica also tracked frequency, duration, and features of her panic attacks. In addition to these measures of participant outcome, Jessica and Aurelia also completed a variety of art pieces during and out of sessions over the course of the intervention period. Photographs and descriptions of the artwork, statements and actions during sessions, and the final written evaluations are reported as qualitative data. This section will conclude with a cross-comparison of qualitative and quantitative data in both cases.

Quantitative Results

Quantitative measures included scales completed in a daily ratings diary. Aurelia rated measures of general anxiety and feelings of goodness each day for 57 days. Jessica, however, recorded her general anxiety and feelings of goodness as well as measures of fear of fear (panic expectancy, expected aversiveness, and maximum fear of fear), measures of agoraphobia (agoraphobic anxiety, inconvenience, and whether activities were avoided) and frequency, duration, and symptoms of panic attacks each day during the baseline period and then once a week throughout the intervention period. Using the celeration line procedure, a trendline based on data from the baseline period was extended into the intervention period to determine if any significant change occurred in the measures using rating scales.

Case 1: Jessica

Hypothesis 1a. It was hypothesized that brief cognitive behavioral art therapy would reduce the symptoms of PDA, including frequency of panic attacks, anxiety about attacks, and
agoraphobia. This hypothesis was partially met. Panic attacks were significantly reduced in frequency (see Figure 1). Beginning with an average of 2.5 panic attacks per week, Jessica’s panic attacks were reduced to 1 per week during the intervention period. The majority of the intervention range of data fell below the range of baseline data.

![Figure 1. Case 1 number of panic attacks per week. This line graph shows Jessica’s number of panic attacks per week during the baseline and intervention period. The highlighted band indicates the range of baseline data, which is largely above the range of intervention data.](image)

Some features of panic attacks were also reduced over time based on the average rating within panic attacks during the baseline period compared to the average rating within panic
attacks during the intervention period (see Table 3). Most notable is the reduction in the features previously discussed as most distressing to Jessica: depersonalization and nausea/stomach distress. Despite these reductions and the overall decrease in panic attacks by more than half, several other features became more severe within the intervention period panic attacks.

<table>
<thead>
<tr>
<th>Features</th>
<th>Baseline χ</th>
<th>Intervention χ</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortness of breath</td>
<td>1.8</td>
<td>3.33</td>
<td>+1.53</td>
</tr>
<tr>
<td>Dizziness</td>
<td>2.4</td>
<td>1.5</td>
<td>-0.9</td>
</tr>
<tr>
<td>Palpitations</td>
<td>3.2</td>
<td>4</td>
<td>+0.8</td>
</tr>
<tr>
<td>Trembling</td>
<td>1.4</td>
<td>3.33</td>
<td>+1.93</td>
</tr>
<tr>
<td>Sweating</td>
<td>3</td>
<td>3.67</td>
<td>+0.67</td>
</tr>
<tr>
<td>Choking</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Nausea</strong></td>
<td><strong>3.6</strong></td>
<td><strong>2.33</strong></td>
<td><strong>-1.27</strong></td>
</tr>
<tr>
<td><strong>Depersonalization</strong></td>
<td><strong>2.8</strong></td>
<td><strong>2</strong></td>
<td><strong>-0.8</strong></td>
</tr>
<tr>
<td>Numbness</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flashes/chills</td>
<td>0.8</td>
<td>1.83</td>
<td>+1.03</td>
</tr>
<tr>
<td>Chest pain</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fear of dying</td>
<td>1.4</td>
<td>1.17</td>
<td>-0.23</td>
</tr>
<tr>
<td>Fear of going crazy</td>
<td>0</td>
<td>1.5</td>
<td>+1.5</td>
</tr>
</tbody>
</table>

Two out of three scales measuring anxiety about attacks, or fear of fear were significantly reduced. Panic expectancy, or Jessica’s rating of the likelihood that she would have a panic attack, was significantly reduced at the .05 level (see Figure 2). All of the weekly measures fell below the celeration line based on the upward trend of the daily baseline data. Expected aversiveness, or Jessica’s rating of the potential negative results of a panic attack, was also significantly reduced at the 0.5 level (see Figure 3). All of these weekly measures also fell below the celeration line based on the similar upward trend of daily baseline data. Maximum
fear of panic experienced throughout the day was not significantly reduced. However, the decrease was on the margin of significance; the majority of intervention points were below the celeration line (see Figure 4).

![Panic Expectancy Graph](graph.png)

*Figure 2. Case 1 ratings of panic expectancy. This scatter plot shows Jessica’s rating on a scale from 1-10 of the likelihood that she would have a panic attack on the day of the rating. These ratings were completed each day during the baseline period and once per week during the intervention period. All of the intervention data points fall below the trendline based on baseline data.*
Figure 3. Case 1 ratings of expected aversiveness. This scatter plot shows Jessica’s rating on a scale of 1-10 of the potential negative results of a panic attack. These ratings were completed each day during the baseline period and once per week during the intervention period. All of the intervention data points fall below the trendline based on baseline data.
Figure 4. Case 1 ratings of maximum fear of panic. This scatter plot shows Jessica’s rating on a scale of 1-10 of her maximum fear of panic experienced on the day of the rating. These ratings were completed each day during the baseline period and once per week during the intervention period. The majority of the intervention data points fall below the trendline based on baseline data.

Scales and other measures of agoraphobia were also partially reduced. The overall proportion of days during which Jessica agoraphobically avoided activities or situations was reduced by half from baseline to intervention period (see Table 4). Although the inconvenience of this avoidance was not significantly reduced at the .05 level, the last two weeks show a rating of no inconvenience, which may indicate overall improvement (see Figure 5). Measures of
agoraphobic anxiety were not significantly reduced, but, like maximum fear of panic, the majority of intervention points were below the baseline celeration line (see Figure 6).

<table>
<thead>
<tr>
<th></th>
<th>Baseline ρ</th>
<th>Intervention ρ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline ρ</td>
<td>0.33</td>
<td>0.17</td>
</tr>
</tbody>
</table>

*Figure 5.* Case 1 ratings of inconvenience due to agoraphobic avoidance. This scatter plot shows Jessica’s rating on a scale of 1-10 of the inconvenience she experienced due to her agoraphobic avoidance of activities. These ratings were completed each day during the baseline period and once per week during the intervention period. The majority of the intervention data points lie above the trendline based on baseline data.
Hypothesis 1b. In Case 1, it was also hypothesized that brief cognitive behavioral art therapy would improve overall quality of life for the participant with PDA, including decreasing general daily anxiety and increasing daily feelings of goodness. This hypothesis was not met. Jessica’s general anxiety did not decrease significantly over the course of the intervention period at the .05 level (see Figure 7). Her anxiety had begun to decrease in the baseline period, reflected by the declining trendline. Although the majority of her intervention ratings of general
anxiety were below 5 on the 1-10 scale, there was not a significant difference from the baseline and the majority of intervention data entries were above the trendline based on baseline data.

Figure 7. Case 1 ratings of general anxiety. This scatter plot shows Jessica’s rating on a scale of 1-10 of her general anxiety throughout the day of the rating. These ratings were completed each day during the baseline period and once per week during the intervention period. The majority of the intervention data points lie above the trendline based on baseline data.

Similarly, Jessica’s overall feelings of goodness had begun to increase throughout the baseline period, reflected by the ascending trendline, but the majority of the intervention data points did not continue this trend (see Figure 8). There was not a significant improvement from
the baseline data at the .05 level; the majority of intervention data points fell below the trendline based on baseline data.

Figure 8. Case 1 ratings of general feelings of goodness. This scatter plot shows Jessica’s rating on a scale of 1-10 of how good she felt overall throughout the day of the rating. These ratings were completed each day during the baseline period and once per week during the intervention period. The majority of the intervention data points lie below the trendline based on baseline data.

Case 2: Aurelia

Hypothesis 2b. In Case 2, it was hypothesized that brief cognitive behavioral art therapy would improve overall quality of life for the participant with GAD, including decreasing general daily anxiety and increasing daily feelings of goodness. This hypothesis was not met at the .05
significance level. The reduction in general anxiety was on the margin of significance, however, with the majority of intervention data points below the baseline celeration line (see Figure 9).

Figure 9. Case 2 ratings of general anxiety. This scatter plot shows Aurelia’s rating on a scale of 1-10 of her general anxiety throughout the day of the rating. These ratings were completed each day during the baseline period and intervention periods. The majority of the intervention data points, 25 out of 43, lie below the trendline based on baseline data.

Overall feelings of goodness did not increase significantly at the .05 level from baseline to intervention period (see Figure 10). A minimal upward trend was evidenced in the baseline, which the majority of the intervention points did not follow. The majority of points fell below the celeration line.
Figure 10. Case 2 ratings of general feelings of goodness. This scatter plot shows Aurelia’s rating on a scale of 1-10 of how good she felt overall throughout the day of the rating. These ratings were completed each day during the baseline period and intervention periods. The majority of the intervention data points lie below the trendline based on baseline data. Only 14 out of 43 lie above the trendline.

Qualitative Results

Various qualitative results can also be considered in conjunction with the aforementioned quantitative results. Both participants were offered seven one-hour therapy sessions. Aurelia participated in all seven sessions of Case 2 for GAD, but Jessica was only able to participate in six sessions of Case 1 for PDA. The statements and actions of both participants within session are presented in narrative form as qualitative data along with a description and photographs of
artwork created during and out of sessions. Both participants also completed written evaluations of the study at the end of the final sessions, and their answers to these questions are also presented.

**Case 1: Jessica**

As previously discussed, Jessica, 22-year-old white female in her first graduate year of law school. She met full criteria for PDA, suffering from 2-3 panic attacks per week, severe anxiety about future attacks and their implications, and agoraphobic avoidance of parties, crowds, and bars. Jessica also noted that she found depersonalization and nausea/stomach distress most distressing of all the features of her panic attacks. After confirming her diagnosis and gathering this and other intake information in an initial interview, Jessica consented to receive seven one-hour therapy sessions as well as tracking the symptoms of her PDA using a ratings diary. The results of this ratings diary were previously reported.

**Sessions.** The focus of the initial session was psychoeducation regarding panic attacks, but it began with a ten-minute debriefing concerning the baseline period. Jessica discussed her ratings diary and the tracking of symptoms during the debriefing discussion. She indicated that she had experienced five panic attacks over the two-week period, but she felt that her attacks were declining due to her anticipation of beginning the study. Jessica discussed specific causes for the attacks during baseline, including stress and medication taken for a severe migraine. Taking prescription or recreational substances often triggered Jessica’s fears of depersonalization. Jessica then participated in a fifteen-minute brainstorming session with the art therapist about the features of her panic attacks, anxiety, and agoraphobia (see Figure 11). Jessica highlighted her feelings of a loss of control, depersonalization, feelings of death and embarrassment, and the positive and negative sides of the fight or flight reaction.
Jessica spent the latter half of the session, 35 minutes, creating and discussing a visual representation of her panic cycle from a choice of various collage and drawing materials. She chose to find and cut out various magazine photos and draw with chalk pastels and colored pencils (see Figure 12). During processing of the image, Jessica indicated that she drew eyes and found images of wide-eyed birds to demonstrate her consistent autonomic hyperarousal. She drew hearts and beads of sweat as well as cutting out images of women touching a heart and a woman clutching her ear to portray heart palpitations and blood pounding in her ears. The cutout image of a woman in a fighting stance portrayed her fight or flight response. Drawn images of the planets and drugs as well as cutout images of a doctor and a skull illustrated her aforementioned feelings of depersonalization and their triggers. She completed the cycle image.
with a cutout of hands and words pertaining to her coping skills of breathing, relaxing, and pinching herself.

Figure 12. Case 1, session 1 panic cycle. Magazine photographs, chalk pastels, colored pencils on drawing paper; 18x24”. This photograph shows the visual panic cycle created by Jessica.

The second session focused on breathing retraining. The art therapist instructed Jessica about the differences between chest and abdominal breathing as well as slow breathing in through the nose and out through the mouth. Jessica indicated that chest breathing as well as longer breaths made her feel lightheaded. Jessica engaged in the watercolor breathing technique, selecting a relaxing color and painting a stroke with each exhale (see Figure 13). Jessica used
the technique to find the length of breath with which she was most comfortable; she initially preferred shorter breaths, tried for longer, and ultimately found a more moderate length to be most relaxing.

Figure 13. Case 1, session 2 watercolor breathing technique. Watercolor on drawing paper; 18x24”. This photograph shows Jessica’s watercolor strokes with each exhale as she practiced slow, abdominal breathing.

The art therapist then led Jessica in a progressive muscle relaxation, tensing and relaxing various muscle groups, and a guided imagery exercise intended to help her visualize a safe place. Jessica was given the option to portray an image from the exercise using clay or watercolors. Jessica chose to use watercolors to paint a scene from her childhood (see Figure 14).
During the guided imagery, she had visualized a memory on the beach in Ocean City, MD; Jessica used to sit in the shade under the boardwalk with her grandmother and look out across all the different umbrellas. She described her grandmother as a guardian figure who made her feel safe. Jessica also made several insights in response to this exercise; she noted the stark contrast in her feelings of safety as a child and her current constant hyperarousal. She also attributed the beginnings of this hyperarousal to the divorce of her parents and the breakup of the peaceful family she remembered.
In the third session, Jessica worked towards restructuring her negative and anxious thinking surrounding panic attacks. Throughout the first half of session, Jessica discussed several negative or irrational thoughts occurring during a panic attack or anxious times. These included her fear of fainting, being judged by others for panicking, not finding a bathroom, snapping at others or fleeing a location, and losing a sense of reality. The art therapist led Jessica in a series of evidence-based questions to consider the likelihood of these thoughts. Jessica then originated more likely cognitions for each previous cognition, including not actually fainting, being briefly noticed by others rather than judged, and regaining reality through observation.

In the latter half of the session, Jessica was asked to create an image of one of her less likely cognitions. Jessica portrayed other people judging her panic reactions (see Figure 15).

*Figure 15. Case 1, session 3 “unlikely” cognition drawing. Colored pencils on drawing paper; 18x24”. This photograph shows Jessica’s image of others judging her panic reactions.*
Jessica used colored pencils to portray several of her common, panic reactions, including blushing, sweating, trembling, and depersonalization. She drew a phone and camera to portray her fear that others may watch or even record her panic attack. She also depicted a negative grade on an assignment and others discussing her in response to her panic attack. For homework, Jessica was asked to depict one of her more “likely” cognitions discussed in session.

The fourth session, focused on interoceptive exposure, induced panic-like feelings in Jessica. Jessica indicated she had not been able to complete the art homework from the previous session due to her commitments to the law school. Jessica then engaged in several kinesthetic artmaking activities. The first involved rapid scribbling with markers in an effort to cover a large piece of butcher paper within a time limit (see Figure 16).

Figure 16. Case 1, session 4 scribbled drawing. Markers on butcher paper; 5x3’. This photograph shows Jessica’s first kinesthetic artmaking exercise attempting to cover this page with scribble marks within a time limit.
After spending several minutes on this first activity, Jessica was asked to sit, color a mandala (see Figure 17), and practice slow, abdominal breathing to reduce her heightened heart rate. After successfully decreasing her heart rate and slowing her breathing, Jessica was next asked to dip her shoes in tempera paint and run and jump on a large piece of butcher paper to cover it within a time limit (see Figure 18). After working further on the mandala and engaging in slow, abdominal breathing, Jessica was successful in reducing a more elevated heart rate than before.

Figure 17. Case 1, session 4 mandala. Colored pencils on a preprinted mandala pattern; 8.5x11”. This photograph shows the mandala on which Jessica continually worked throughout the fourth session as a tool to calm herself down and reduce symptoms of autonomic hyperarousal.
At this point, the smell of the tempera paint in the research room unintentionally triggered Jessica’s feelings of depersonalization; she became concerned that the paint would make her feel intoxicated. The art therapist engaged Jessica in a series of tools previously
learned in the study to help her calm down, including changing locations to another room, continued slow breathing, and cognitive restructuring. Jessica indicated that she wanted to complete the last kinesthetic exercise: spinning. This activity brought back her feelings of depersonalization and derealization, however, so the art therapist again led her in a series of cognitive restructuring questions. Jessica was able to successfully calm herself down through several insights, such as the fact that the art therapist had not become intoxicated by the paint. She also continued to color the mandala. By the end of the session, she indicated that her symptoms of hyperarousal had subsided.

Jessica felt intimidated about her future sessions after experiencing panic-like feelings, but she returned for the fifth session focused on imaginal exposure. Throughout the first half of the session, Jessica created a hierarchy of avoided situations from least to most feared. The art therapist helped Jessica reflect on the past six weeks in the study and determine the three situations that she would most like to try and face. Jessica indicated almost immediately that she would like to try to take a road trip with friends even though these had been stressful, panic-inducing situations in the past. Road trips combined several of her fears together, including car rides, new locations, and the potential for alcohol and drug consumption by friends. She decided that the road trip was her least feared situation if allowed to drive. She listed riding in someone else’s car as her moderately feared situation and going to a bar far away from her home as her most feared situation.

During the second half of session, Jessica spent half an hour depicting and discussing the first situation on her list: a road trip (see Figure 19). She used both magazine cutouts and colored pencils. Jessica indicated that there were two sides to her drawing, including anxiety about new experiences and excitement about new places, foods, and people. Jessica appeared to
progressively become more relaxed while making the image and even discussed some other unrelated concerns about her sister’s drug addiction and her ex-boyfriend. For homework, Jessica agreed to complete the two other desensitization drawings as well as face one of her feared situations. Although the road trip was the lowest on her hierarchy, Jessica chose to ride in a car with a friend due to feasibility in the next week.

![Figure 19. Case 1, session 5 least-feared desensitization image. Magazine cutouts and colored pencils on drawing paper, 18x24”. This photograph shows Jessica’s collage and drawing of a road trip, the first avoided situation on her fear hierarchy.](image)

The following week’s intended focus was in vivo desensitization, but Jessica’s sister was arrested. She was forced to leave town and miss the sixth weekly session. Jessica was unable to
complete the ratings for the sixth week or the art and desensitization homework. These personal concerns and the increasing workload as finals approached caused Jessica’s general anxiety to rise. Although she was maintaining a low level of panic attacks, her general anxiety rose and feelings of goodness declined. Jessica indicated later in the eighth week that she might not be able to return for the final session or complete any more homework for the study, including facing all three situations and creating artwork about having faced these situations. The art therapist suggested that Jessica come in for a final abbreviated session to complete an art review, discuss her progress, and debrief after the study. Jessica agreed.

Jessica participated in a final half-hour session focused on progress review and relapse prevention. She had been unable to complete any of the desensitization homework (facing all three situations) or art homework (completing the desensitization images and the mastery images after facing the situations). Due to the shortened nature of the final session, Jessica also did not complete the bridge drawing. Instead, she and the art therapist reviewed all her artwork and her ratings diary to discuss progress. Jessica concluded that it was helpful to externalize her feelings in a tangible form. Due to the distressing nature of her depersonalization, Jessica indicated that her artwork made her feelings and thoughts visible and real, which made her feel less irrational or insane. She also indicated that the artwork from early weeks in the study, such as the “unlikely” piece from the third session, now looked less severe than they did at the time they were made. Jessica congratulated herself on being proactive, addressing her issues of panic through the study and other interpersonal concerns through the counseling center. Jessica also discussed her positive feelings of surprise in the beauty of her artwork; she was excited to keep several of the pieces and display them in her home.
**Evaluation.** Jessica also completed a written evaluation in this final session. When asked if she noted any changes in her panic and anxiety, Jessica wrote:

*They have reduced in frequency and I have felt less powerless against them. Gaining the ability to overcome feelings of panic and lost sense of reality.*

When asked if her artwork reflected this change, Jessica wrote:

*Yes, being able to express how I felt at that moment is a way to document the event (makes it visible and real) and shows progress/validates my emotions.*

When asked what the most useful parts of the sessions were, Jessica wrote:

*The breathing exercises were very helpful as was being able to express my emotions through the art. The mandalas were very helpful and were the part I most enjoyed.*

When asked what she would change about the sessions, Jessica wrote:

*Email correspondence would help (with papers and reminders).*

Finally, when asked if she would use any of the tools from the sessions in the future, Jessica wrote:

*The mandalas, the breathing exercises, and picturing my “happy place.”*

**Case 2: Aurelia**

The protocol conducted in the second case with Aurelia was similar to that of Case 1 as previously discussed. Aurelia was a 19-year-old white female in her first year of a teaching zoo college program. She met full criteria for Generalized Anxiety Disorder at the time of the intake interview, continually worrying about multiple areas of her life, especially school and social situations. In an initial face-to-face interview, Aurelia’s diagnosis was confirmed, and she consented to seven one-hour therapy sessions. The first six sessions were conducted over Internet video chats, and the final session was again face-to-face.
**Sessions.** The focus of the initial session was psychoeducation regarding anxiety, but it began with a debriefing concerning the baseline period. Aurelia discussed her ratings diary and the tracking of symptoms during the debriefing discussion. She indicated that the previous week home with her parents had increased her feelings of anxiety; she was anxious to return to her own apartment. Aurelia then participated in a ten-minute brainstorming session with the art therapist about the features of her anxiety and its triggers (see Figure 20).

*Figure 20.* Case 2, session 1 anxiety brainstorm. Markers on butcher paper; 5x3'. This photograph shows the visual brainstorm created by the art therapist based on Aurelia’s commentary on the features of her anxiety and its triggers.
Aurelia cited stress related to school and her family as well as most social situations as triggers for increased anxious thinking. She also discussed coping skills of nervous habits, distracting herself, and talking to others. Aurelia again indicated that she feels constant underlying anxiety that flares up on certain days in particular situations or after certain thoughts.

Aurelia spent the majority of the latter half of the session, 20 minutes, creating and discussing a visual representation of her anxiety cycle from a choice of various collage and drawing materials. Like Jessica, she chose to find and cut out various magazine photos as well as draw and write with pens (see Figure 21).

Figure 21. Case 2, session 1 anxiety cycle. Magazine photographs, pens, and markers; 18x18”. This photograph shows the visual anxiety cycle created by Aurelia.
During processing of the image, Aurelia indicated that she cut out the image of the girl in the upper left, because she looked worried. Written thought bubbles illustrate Aurelia’s constant underlying anxiety. The words “On the Brink” represent the times when her continual anxiety escalates to more severe anxiety, symbolized by the fluttering hummingbird. This severe anxiety then leads to an image of an elephant; Aurelia feels like the “elephant in the room” when she is anxious in social situations. The eye to the left of the elephant became a symbol of the judgments of others for Aurelia. Her anxiety cycle ends with her coping skill of isolation and taking a walk, represented by a cutout image of the woods.

In the last ten minutes of session, the art therapist encouraged Aurelia to complete her first mandala (see Figure 22). Aurelia used a pen to draw a fairly structured mandala with wavy vertical divisions and intermittent horizontal lines filling in alternating spaces. Aurelia would later reflect that she created more structured mandalas when feeling more anxious and more organic, free form mandalas when she felt relaxed. As evidenced by her ratings diary, Aurelia was feeling moderate to high anxiety on this day: 6 out of 10. Aurelia created another mandala in class in between the first and second session (see Figure 23). This mandala is still somewhat structured with wavy, jagged lines continuing in a pattern across the circle, but the variance in the lines appears freer and more organic than the previous mandala. Aurelia rated low anxiety on the day of the second mandala: 2 out of 10. The use of a pen for both of these mandalas is also indicative of the need for a structured, resistive material.

The second session focused on identification and development of support systems. Aurelia also utilized this session to identify some of her coping skills. During the first fifteen minutes of session, Aurelia discussed her anxiety levels over the past week. Aurelia felt less anxious since she left her parents’ house to return to her own apartment. She also stated that she
Figure 22. Mandala 1. Pen on drawing paper, 5x7”. This photograph shows Aurelia’s first mandala drawing, creating during session 1 on day 15 of the study.
had been less active and social over the past week, because there had not been as many
preplanned or structured events. She indicated that it was helpful to structure her free time, such
as planning her meals. She indicated that she found using the mandala booklet helpful during
anxious times in class. In discussing her ratings diary, she also discussed the fact that feelings of
goodness were not always inversely related to her general anxiety, i.e. sometimes she felt both good and anxious or neither good nor anxious. Aurelia also stated that she would begin to see a new therapist for issues tangential to her anxiety the following week.

During the next 25 minutes of the second session, Aurelia created and explained an image of her support systems/coping skills (see Figure 24). Given the option of a variety of two and three-dimensional materials, Aurelia chose to use colored pencils. The path represents Aurelia’s progression from left to right through various coping skills, symbolized by trees. The skills on the far left, such as nervous habits, anxious thinking, and distractions, are Aurelia’s first and automatic responses to her fears and anxiety. If these are ineffective, Aurelia indicated that she might engage in checking behaviors to assuage her fears. Finally, if she is still unable to control her anxious thinking, she turns to friends and family to discuss her anxiety.

During the discussion of her image, Aurelia gained the insight that her automatic skills are effective in the short term and do not require much effort, but they do not have long-lasting effects on her anxiety. Conversely, the supports on the right side, such as speaking with family, required maximum effort, but they often had longer-lasting effects on anxiety. When asked about restructuring anxious thoughts, i.e. debating her own negative thinking, Aurelia indicated this process was often effective, but could be exhausting and anxiety-provoking itself. In the last ten minutes of session, Aurelia began a support systems chart delineating when members of her support system were available to talk (see Figure 25). She completed this chart for homework.

By the third session, Aurelia indicated she was feeling less anxious overall by keeping busy. This session’s focus was the coping skill of restructuring anxious thinking. Throughout the first 35 minutes, Aurelia discussed several negative or irrational thoughts occurring during severe anxiety. The majority of thoughts were related to the judgments of others, i.e. other
Figure 24. Case 2, session 2 support system drawing. Pencil on drawing paper, 18x24”. This photograph shows Aurelia’s drawing of her support systems and coping skills during anxiety from first to last resort.

Figure 25. Case 2, session 2 support systems chart. This photograph shows three members of Aurelia’s support system and when they are available to speak with her about her anxiety.
people thinking her appearance or behavior is strange. Other anxious cognitions were
catastrophic interpretations of events or noises, i.e. a rustling outside her window is an intruder.
The art therapist led Aurelia in a series of evidence-based questions to consider the likelihood of
these thoughts. Aurelia then originated more likely cognitions for each previous cognition,
including the fact that other people are mostly thinking about themselves as opposed to her.

During the next ten minutes, Aurelia was asked to create an image of one of her less
likely cognitions using the two or three-dimensional materials of her choice (see Figure 26).
Aurelia chose to depict the cognition of other people judging her. She also selected chalk
pastels, a material more fluid that her previously selected pens and collage. As mentioned in the
description of the first session, the large eye served as a symbol of the judgments of others to
Aurelia. Aurelia described her consistent fear that others were watching and judging her. She
drew herself in the lower right corner as proportionately small and powerless next to the
judgments of others. Aurelia was given the choice to begin her art homework, depicting a more
“likely” version of this image, or creating a mandala.

She elected to create a mandala (see Figure 27), because she needed more time to plan for
her art homework. Aurelia used the fluid material of chalk pastels in multiple colors to fill the
open-circle mandala. Her marks were loose and kinesthetic. Although Aurelia indicated in the
final session that she chose to use fluid, unstructured materials and different colors in this
mandala because her anxiety was lower, her overall anxiety rating for this day was 6 out of 10.
It is possible, however, that the art therapy session was a less anxious portion of her day.
The fourth session focused on breathing retraining and relaxation. First, however, Aurelia discussed her art homework with the art therapist for ten minutes. Instructed to depict a more “likely,” restructured version of the art piece created in the third session, Aurelia was given the option to use a variety of two or three-dimensional materials. She chose to use tempera paint (see Figure 28). Aurelia indicated that she was the figure in the middle. She was often thinking about “Them,” or the people around her. The other people surrounding her were not watching or judging her, however. They were all thinking about themselves: “Me.”
Figure 27. Mandala 3. Chalk pastels on drawing paper, 5x7”. This photograph shows Aurelia’s third mandala drawing, creating during session 3 on day 29 of the study.
The art therapist then informed Aurelia of the differences among chest, abdominal, and slow breathing (in through the nose and out through the mouth). Much like the session with Jessica, Aurelia engaged in the watercolor breathing technique, selecting a relaxing color and painting a stroke with each exhale (see Figure 29). Aurelia used the technique to find the length of breath with which she was most comfortable. Like Jessica, Aurelia initially preferred shorter breaths. She slowly progressed to moderately longer breaths in the final three rows of marks, but never attempted exhales as long as Jessica. For the next fifteen minutes, the art therapist then led Aurelia in a progressive muscle relaxation, tensing and relaxing various muscle groups, and a
guided imagery exercise intended to help her visualize a safe place. Aurelia used the length of breath with which she was comfortable during this time.

Aurelia was given the option to portray an image from the exercise using clay or watercolors in order to use a fluid, unstructured material with a sensory component. Aurelia chose to use clay to create an image of the boat she had visualized\(^2\). During the guided imagery, she had visualized a boat rocking gently on the waves. Aurelia had positive, relaxing memories from her childhood of sailing on a boat. The rocking motion of waves also mimics the movement of breath flowing in and out. After discussing her boat, the art therapist encouraged Aurelia to begin thinking about activities or places she was avoiding due to anxiety. Although

\(^2\) The boat is not pictured here, because it fell apart before Aurelia could bring it to the art therapist in the final session.
Aurelia did not meet criteria for agoraphobia, she had indicated that certain situations were more anxiety-provoking than others, and she often avoided social interactions.

In the last five minutes of session, Aurelia chose to create another mandala (see Figure 30). Aurelia later indicated that this mandala appeared fairly structured to her using structured materials, which she chose when she was feeling more anxious. Her overall rating of anxiety for this day was moderately high: 6 out of 10. However, Aurelia had indicated that she felt relaxed after completing the clay sculpture. It is possible that Aurelia wished to return to more resistive materials and a structured pattern after using clay. Between sessions 4 and 5, Aurelia also chose

Figure 30. Mandala 4. Marker on drawing paper, 5x7”. This photograph shows Aurelia’s fourth mandala drawing, creating during session 4 on day 36 of the study.
to create another mandala (see Figure 31). Like her third mandala created during session 3 (see Figure 27), she used chalk pastels to create an organic, semi-structured pattern. Aurelia later indicated that she thought this mandala, like the fourth mandala, reflected her need for structure while feeling anxious. Also like the fourth mandala, her overall rating of anxiety for this day was 6 out of 10.

![Mandala 5](image)

*Figure 31. Mandala 5. Chalk pastel on drawing paper, 5x7". This photograph shows Aurelia’s fifth mandala drawing, creating between session 4 and 5 on day 41 of the study.*

Like the Case 1 protocol, session five of Case 2 was focused on imaginal exposure. The one-hour session was shortened to 45 minutes due to initial difficulty maintaining an Internet signal for the video chat. During the first fifteen minutes after establishing consistent video feed,
Aurelia discussed avoided activities and created a hierarchy of feared situations. Aurelia indicated that she often avoided going out by herself as well as accepting the invitations of others to social events. The art therapist helped Aurelia reflect on the past six weeks in the study and determine the three situations that she would most like to try and face. Aurelia determined that she wanted to approach someone in class as her least feared situation. As her moderately feared situation, she wanted to allow a friend to introduce her to a new person. Finally, as her most feared situation, she wanted to approach by herself in a public situation.

Figure 32. Case 2, session 5 least-feared desensitization image. Colored pencil on drawing paper, 8.5x11”. This photograph shows Aurelia’s drawing of approaching someone in class, the first avoided situation on her fear hierarchy.
During the second half of session, Aurelia spent 20 minutes depicting and discussing the first situation on her list: approaching a classmate (see Figure 32). She used colored pencils to portray her prediction of how this situation might occur. Aurelia drew herself on the left; she shows herself speaking in a stumbling, awkward fashion. On the right, she drew thought bubbles from the minds of her classmates. They are both thinking judgmental thoughts about the way Aurelia is speaking and are wondering why she is approaching them in the first place. The content of this image resembles a scaled down version of Figure 26, in which Aurelia depicted the large eye of judgment. For homework, Aurelia agreed to complete two other desensitization drawings as well as face her first feared situation, approaching someone in class.

Aurelia also created her sixth and final mandala between sessions 5 and 6 using pen to create a freely flowing scribble (see Figure 33). During the final session, Aurelia indicated that this drawing, with its kinesthetic and organic form, was created when she was least anxious out of all the mandala drawings. Her ratings diary, however, indicated that she experienced high anxiety on the day it was created: 7 out of 10. As previously stated, it is possible that the mandala was created during a less anxious portion of the day, but Aurelia indicated that she used the mandalas as a means to calm down. With the exception of the second mandala, all the mandalas were created on days with moderate to high anxiety (6 or 7 out of 10), suggesting that Aurelia made use of this tool when she experienced some anxious thinking, rather than little anxiety or extreme anxiety. She was correct in noting that some of her mandalas display greater structure and planning with more resistive materials, such as her first, second, and fourth mandalas (see Figures 22, 23, and 30). Also, other mandalas exhibit a more organic evolution with kinesthetic markmaking and, at times, more fluid materials, such as mandalas three, five, and six (see Figures 27, 31, and 33). Despite these insights on Aurelia’s part, all six mandalas
still display abstract patterns with moderate perseveration, which is characteristic of anxiety at the moderate to high level.

*Figure 33.* Mandala 5. Pen on drawing paper, 5x7”. This photograph shows Aurelia’s sixth and final mandala drawing, creating between sessions 5 and 6 on day 46 of the study.
After completing her art homework, including the last mandala, and facing her first feared situation, Aurelia returned for her sixth session. She had only been able to finish her second imaginal desensitization art piece for homework (see Figure 34). She spent the first ten minutes of the session discussing this drawing.

Figure 34. Case 2, session 5 moderately-feared desensitization image. Colored pencil on drawing paper, 8.5x11”. This photograph shows Aurelia’s drawing of being introduced to a new person by a friend, the second avoided situation on her fear hierarchy.
The three links represent herself, a friend, and the new person to whom she is being introduced. Aurelia noted that the arrows go between herself and her friend as well as between her friend and the new person, but no direct connection exists between herself and the new person. She then discussed the experience of her first in vivo desensitization, approaching someone in class. Aurelia was pleasantly surprised that was able to face this situation twice throughout the week. She felt awkward at first, but was then able to ease into a discussion with these classmates.

*Figure 35. Case 2, session 6 least-feared mastery image. Colored pencil on drawing paper, 8.5x11”. This photograph shows Aurelia’s drawing of her achievements while facing the first, or least-feared, situation on her fear hierarchy, approaching a classmate.*
The art therapist then asked Aurelia to create a two or three-dimensional mastery image with the materials of her choice emphasizing her achievements in facing this first situation. She was asked to consider her initial desensitization image (see Figure 32) when creating this new piece. Aurelia chose to use colored pencils and spent only ten minutes creating a sequential drawing of her discussion with a classmate (see Figure 35). On the left, she depicted herself experiencing some anxiety at first, but eventually deciding to ask her classmate about the activity they’re both working on. Later in the conversation, both she and her classmate are smiling and talking. She depicted herself thinking that the conversation was going well as opposed to engaging in negative or anxious thinking. As the drawing illustrates, Aurelia was initially preoccupied about what to say next, but was later distracted by the conversation itself. Aurelia was proud that she was able to find common ground with this classmate. In the discussion following the processing of this image, Aurelia indicated that she was not too intimidated to try the other two situations on her fear hierarchy, but she was unsure what to say without any common ground between herself and another person.

The art therapist suggested that Aurelia begin her last desensitization image in the remaining time, because she was unable to complete this piece for homework. Aurelia was again given her choice of a wide array of materials and encouraged to spend a total of at least thirty minutes on the image. Typical of her previous images, Aurelia again selected colored pencils and spent ten minutes creating her final desensitization image (see Figure 36). Aurelia described her drawing and her feelings about facing her most-feared situation in the last ten minutes of the session. The circles around herself and the other person contain their thoughts; Aurelia called the bubble around herself a “bubble of fear.” There is also a thick barrier between the two people with the words “No Common Ground.” This was Aurelia’s largest anxiety about
Figure 36. Case 2, session 6 most-feared desensitization image. Colored pencil on drawing paper, 8.5x11”. This photograph shows Aurelia’s drawing of approaching a person by herself in public, the third avoided situation on her fear hierarchy.

approaching a stranger, as evidenced by the rambling thoughts written inside her bubble. A positive aspect about the image noted by Aurelia, however, was the positive thinking within the stranger’s bubble. Rather than judging Aurelia, the other girl is hoping Aurelia will speak to her as well as thinking about aspects of her own day. This shift away from the large judging eye depicted in session 3 (see Figure 26) and the negative thoughts from her first desensitization image (see Figure 32) reflects Aurelia’s internalization of her cognitive restructuring insight from Figure 28: others think largely about themselves as opposed to judging her. For homework,
Aurelia was asked to face the two remaining situations and create two mastery images, if possible.

Aurelia did not have the opportunity to face her moderately-feared situation until the day before her final session, so she did not create a mastery image nor face the final situation by the final face-to-face session. Aurelia indicated that the second situation on her fear hierarchy was also less anxiety-provoking than she expected. Although she did not know the girls to whom her friend introduced her, they quickly established common ground and were very friendly. When asked what her mastery image might have looked like, Aurelia stated she would have drawn the three links from her previous image (see Figure 34), but the links on the far side, representing herself and the new people, would now have arrows indicating a direct connection.

After discussing this in vivo desensitization exercise, Aurelia spent over half an hour reviewing her artwork with the art therapist and discussing her progress and achievements. Aurelia noted that she was good at symbolizing her cognitions, such as the frequently drawn eye or the “bubble of fear.” The artwork helped her conceptualize amorphous thoughts in a tangible form. After looking at her initial image of her anxiety cycle, Aurelia stated that her issues were the same as those portrayed, but she now felt she could cope better with her anxiety. This first image now looked like an “exaggeration” to her.

Aurelia used colored pencils to create a bridge drawing to represent her progress visually (see Figure 37). The grass in the upper left represents Aurelia’s cognitions prior to the study. The black grass, represents the thoughts she felt unable to control, and the green grass are the thoughts she was able to control. The grass in the lower left is representative of her current cognitions. The black grass, or uncontrollable thoughts, had been reduced to small patches. Aurelia drew a strongly structured bridge (“Bridge Towards My Future”) constructed with the
areas on which she still wanted to improve: “social skills,” “support methods,” “positive mindset,” and “productive thinking.” On the far right under the sun lay another patch with even smaller patches of black grass among the green. Aurelia indicated that she would always have some thoughts that she could not control, but she wanted to reduce these even further.

![Figure 37. Case 2, session 7 bridge drawing. Colored pencil on drawing paper, 18x24”. This photograph shows Aurelia’s bridge drawing representing her progress throughout the study.](image)

**Evaluations.** Aurelia spent the last fifteen minutes of the final face-to-face session completing a written evaluation similar to that of Case 1. When asked if she noted any changes in her symptoms of anxiety, Aurelia wrote:
Improved better understanding of causes, mindset to minimize situations, and relaxation/distraction methods.

When asked if her artwork reflected this change, Aurelia wrote:

*I feel it showed my mindset becoming more positive and accepting about situations that make me anxious.*

When asked what the most useful parts of the sessions were, Aurelia wrote:

*The ways to talk myself through situations and minimize my reaction to them.*

When asked what she would change about the sessions, Aurelia wrote:

*More general skills to deal with anxiety as opposed to in the face of certain issues.*

Finally, when asked if she would use any of the tools from the sessions in the future, Aurelia wrote:

*Mandala as distraction/relaxation. Artwork to express emotions or thoughts. Talking myself through situations.*

**Conclusion**

These qualitative results in both cases corroborate the quantitative results previously discussed. Panic frequency and some features of fear of fear (panic expectancy and expected aversiveness) and agoraphobia (amount of avoidance) were significantly reduced in Case 1 with PDA. Reductions in other measures of fear of fear (maximum fear of panic) and agoraphobia (agoraphobic anxiety) were marginally significant in Case 1 as was reduction in general anxiety in Case 2 with GAD. There was no significant change in general anxiety in Case 1 or general feelings of goodness in either Case 1 or Case 2. The following chapter will provide a more generalized discussion of the results in the reported study. A summary of results is included along with a cross-comparison of Cases 1 and 2 and a comparison to previous literature. The
limitations of the study as well as suggestions for future research and art therapists are also
detailed.
CHAPTER FIVE
DISCUSSION

In this study, the effectiveness of incorporating art therapy components into a brief cognitive behavioral intervention to reduce the symptoms of PDA (i.e. panic attacks, fear of future panic attacks and their implications, and Agoraphobia) and the symptoms of GAD (i.e. generalized anxiety) was addressed. Using a single subject experimental design for two case studies, art therapy directives were integrated into the goals of psychoeducation, identification and development of support systems, breathing retraining, cognitive restructuring, interoceptive exposure, imaginal desensitization, in vivo desensitization, and relapse prevention. Each session involved an art experience, and several sessions requested the completion of art homework by the participants. A manual including psychoeducational components, tools to address anxiety, and reminders for the homework assignments was also given to each participant. The research design incorporated a two-week baseline period and a seven-week intervention period with seven individual, one-hour therapy sessions. All sessions for the participant with PDA, Jessica, were conducted through face-to-face sessions, but six out of seven sessions with the participant with GAD, Aurelia, were conducted through Internet video chats.

Outcomes of the study were measured using qualitative data, including artwork completed during sessions and for homework, as well as quantitative data from daily ratings diaries. In Case 1, the following two hypotheses were tested for PDA using face-to-face sessions: 1a) Brief cognitive behavioral art therapy will reduce the symptoms of PDA, including frequency of panic attacks, anxiety about attacks, and agoraphobia, 1b) Brief cognitive behavioral art therapy will improve overall quality of life for the participant with PDA, including decreasing general daily anxiety and increasing daily feelings of goodness. In Case 2, the
following hypothesis was tested in the case study of GAD using Internet video sessions: 2a) Brief cognitive behavioral art therapy will improve overall quality of life for the participant with GAD, including decreasing general daily anxiety and increasing daily feelings of goodness.

**Summary of Results**

In Case 1, the components of the first hypothesis were mostly met. Panic attacks did decrease significantly in frequency as well as two out of three measures of panic-related anxiety (panic expectancy and expected aversiveness). Jessica’s agoraphobic avoidance behaviors also decreased by 50%. Daily maximum fear of panic, agoraphobic anxiety, and agoraphobic inconvenience were not significantly different from baseline to intervention, but the decreases in maximum fear of panic and agoraphobic anxiety were on the margin of significance at the .05 level. The second hypothesis for Case 1, an increase in overall quality of life, was not met. Jessica’s ratings of general anxiety and general feelings of goodness did not change significantly from the baseline to intervention period. Although the hypothesis for Case 2 was also not met due to a similar lack of significance in change from baseline to intervention period on the measures of general anxiety and general feelings of goodness, Aurelia’s decrease in general anxiety was on the margin of significance.

Qualitative results were gathered in the form of artwork created in and out of session as well as notes taken during session regarding participant statements and interactions with the art therapist. An examination of the evolution of the artwork as well as the details of the therapy sessions supports the aforementioned analysis of the ratings diaries. By their own choice, both participants moved gradually from more structured, resistive media, such as pens and collage materials, to more fluid, unstructured media, such as paints and chalk pastels, and eventually back to more resistive media again. Although this follows the natural arc of many art therapy
treatment protocols, it may also reflect a gradual decrease in anxiety and comfort with art materials followed by a preparation for therapeutic termination as well as increase in general daily stress. The use of more structured materials during the final few sessions may also reflect the increased cognitive demand of the art directives.

Both participants were also forthcoming and insightful regarding their symptoms of anxiety and/or panic and willingly participated in session art directives and discussions. Aurelia, the participant with GAD, was able to participate in all seven sessions as well as complete all therapeutic homework assignments except for the final two in vivo desensitizations and mastery art pieces. Jessica, however, the participant with PDA, missed the sixth meeting, abbreviated the seventh meeting, and was unable to complete any art or desensitization homework assignments due to family and school-related stress near the end of the study. Despite these modifications to the protocol, the results of the reported study clearly showed a larger effect size in Case 1 for Jessica’s symptoms specific to PDA than any other dependent variables in either case. The following section will provide a more detailed cross-comparison of the two cases.

**Cross-Comparison of Cases 1 and 2**

As evidenced by the summary of results, Case 1 and Case 2 shared many aspects both in instruments and protocol. Although only one participant experienced panic attacks, both had heightened general anxiety. Therefore, both completed daily measures of general anxiety and feelings of goodness. Other quantitative measures, including daily ratings of panic-related anxiety and agoraphobia, were unique to Case 1 for PDA. Many of the session focuses and directives of the brief CBAT intervention were also similar across the two cases; interoceptive exposure in Case 1 was replaced with identification and development of support systems in Case
The following section will compare both the quantitative and qualitative results of Cases 1 and 2.

**Quantitative Results**

The brief CBAT protocol had the largest effect size on symptoms specific to PDA, significantly reducing frequency of attacks, some measures of panic-specific anxiety, and some measures of agoraphobia. However, a cross-comparison of the results of ratings completed by both participants, general anxiety and feelings of goodness, reveals information about the effects of the treatment and the similarities and differences between their diagnoses. Jessica and Aurelia rated daily feelings of general anxiety each day of the baseline period; Aurelia continued to rate this measure daily throughout the intervention period, whereas Jessica rated this measure each week (see Figure 38). In Case 1, the trendline indicates that Jessica’s general anxiety was decreasing throughout the baseline period and remained relatively low except for one particularly anxious day during the intervention period. The intervention trendline indicates a slight upward slant. In Case 2, however, both baseline and trendline are relatively flat, with a slight increase in anxiety throughout the baseline period and a slight decrease throughout the intervention period. The variance of the data also differs; Case 1 has higher variance than Case 2 in both the baseline and intervention periods. Jessica rated both higher and lower measures of general anxiety than any of Aurelia’s measures.

Information inferred from the differences in slope and variance across Case 1 and 2 reflects features of the diagnoses of GAD and PDA. Aurelia has a consistent range of general anxiety all the time within a fairly consistent variance; half the time she experiences moderate anxiety, and the other half of the time, she experiences somewhat lower or higher anxiety. Jessica’s general anxiety, however, is less consistent. The majority of days, she has moderate to
low anxiety, but she occasionally experiences extreme anxiety. Aurelia appears to experience similar general anxiety despite the relative stressfulness of external events, and the intervention served to slightly decrease these feelings throughout the intervention period. Jessica’s general anxiety, however, does appear to be influenced more by external events and the intervention, decreasing in anticipation of the intervention and remaining relatively low except for during particularly stressful events occurring later in the study. These stressful events, particularly her sister’s arrest in week six, caused an extreme rise in general anxiety and a rise to two panic attacks in the same week (see Figure 1). It is notable, however, that Jessica’s panic attacks did not rise as high as may be expected given her general anxiety or low general goodness on this week; this suggests that the benefits for her panic attacks may have occurred despite increased general anxiety.

**Comparison: General Anxiety**

![Comparison: General Anxiety](image)

*Figure 38.* Cross-comparison of case 1 and case 2 general anxiety. This line graph juxtaposes the baseline and intervention measures of general anxiety in case 1 and case 2. Trendlines based on baseline as well as intervention data of both cases are included.
Figure 39. Cross-comparison of case 1 and case 2 general feelings of goodness. This line graph juxtaposes the baseline and intervention measures of general feelings of goodness in case 1 and case 2. Trendlines based on baseline as well as intervention data of both cases are included.

A comparison of general feelings of goodness in Cases 1 and 2 yields similar information (see Figure 39). General goodness and general anxiety appear to have a slight inverse relationship. In Case 1, Jessica’s feelings of goodness rose throughout the baseline period, assumedly due to anticipation of the intervention. She then experienced mostly moderate feelings of goodness with some extreme highs and lows. Like her general anxiety, she began with little variance during the relatively stable baseline period and then exhibited extreme variance due to external events throughout the intervention period, such as extreme feelings of goodness right after beginning the intervention and extremely low feelings of goodness during the stressful sixth week. Although Aurelia did exhibit somewhat higher variance in general
feelings of goodness during the baseline and the beginning of the intervention, she still had lower variance than Jessica throughout the intervention period. Both trendlines in Case 2 are again relatively flat, except goodness rose slightly both in baseline and intervention periods. Overall, Aurelia again appears to vary within a moderate range especially towards the end of the intervention period, whereas Jessica rates extreme high and low levels of goodness depending on levels of life stress.

**Qualitative Results**

In addition to these quantitative measures of progress in Cases 1 and 2, both participants also participated in several one-hour therapy sessions and completed artwork during and out of session. Jessica and Aurelia also completed written evaluations during the final session. Commonalities and differences between the qualitative results of Case 1 and Case 2 are discussed in the following section.

**Sessions, Artwork.** Despite the slight differences in the protocol, both participants progressed similarly through the sessions as evidenced by the interactions with the art therapist as well as the features of the artwork produced. Jessica and Aurelia willingly discussed the symptoms of their anxiety disorders throughout sessions and were able to brainstorm about the different features of GAD and PDA and potential solutions. The artwork created and media choices also reflect similarities between the participants.

Both participants chose to use magazine cutouts along with drawing materials to create their cycle (see Figure 12, 21). Magazine images are highly structured and resistive, which may reflect the anxiety of both participants. As the sessions progressed, both participants moved towards using more fluid, less structured materials when given a choice. Aurelia moved from pen and magazine images (see Figure 21) to colored pencils (see Figure 24) to chalk pastels (see
Figure 26) and eventually to tempera paint (see Figure 28). Jessica moved from magazine cutouts and chalk pastels (see Figure 12) to colored pencils without cutouts (see Figure 15). Both participants also transitioned back towards more structured, resistive materials near the end, sessions 5-7. Aurelia chose to complete her last five pieces of artwork, not counting mandalas, in colored pencils (see Figures 32, 34-37), and Jessica completed her last image (also her first desensitization image) using magazine cutouts (see Figure 19). The shift to more fluid materials probably reflects decreased anxiety and increased comfort with art materials, but the shift back to more structured materials may be for a variety of reasons.

Despite the aforementioned similarities, several differences exist between the actions of the two participants and the artwork produced. As previously indicated, Aurelia was generally less talkative and spent less time completing her artwork. Discussions and art directives that often took Jessica half an hour usually took ten minutes for Aurelia. Jessica was very talkative and generally more energetic than Aurelia. It is evident from the art products that Aurelia has more previous experience and comfort with art materials, which may explain her ability to finish pieces more quickly as well as her willingness to try using clay as well as paints when given a choice. Another marked difference between the two participants was Aurelia’s greater availability and ability to complete art homework assignments. Largely due to events in her personal life as well as a demanding graduate program, Jessica missed the sixth session, participated in an abbreviated seventh session, and was unable to complete any artwork outside of sessions. She did, however, make detailed ratings regarding her panic attack symptoms. It is possible, along with other participant variables, that the increased convenience of Internet video sessions encouraged Aurelia to also devote more time to the study through art homework.
**Evaluations.** A final comparison can be made between participants in Case 1 and Case 2 based on their final written evaluations. The changes indicated by the two participants are different, which makes sense due to their differing presenting problems. Jessica noted less panic attacks and depersonalization, whereas Aurelia noted increased understanding and coping skills for her anxiety. Both discussed the benefit of the artwork as a tangible record of progress. They differed on the aspects of the study that were most helpful to them; Jessica discussed the breathing retraining session and the mandalas from the interoceptive exposure session, while Aurelia indicated the cognitive restructuring was most helpful. The participants also differed on their suggestions. Jessica requested email correspondence, and Aurelia asked for more general skills. It is understandable that Aurelia would desire more general skills to address symptoms of GAD as opposed to desensitization exercises, which are traditionally used with panic attacks and phobias. Both girls noted that they would use their respective favorite parts of the study in the future: breathing retraining for Jessica and cognitive restructuring for Aurelia. A final commonality was the assertion by both participants that they would continue to utilize artwork therapeutically, such as mandalas, images of safe places, and artwork as a visual means of expressing emotions.

**Comparison of Results to Previous Literature**

An examination of previously conducted studies in comparison to the reported study can serve to generalize the results to a larger body of work on the subject of anxiety disorders. Both the execution, including therapeutic protocol, and the measured efficacy of previous studies may be compared to the reported study of a brief cognitive behavioral art therapy intervention for PDA in Case 1 and GAD in Case 2. The following section will draw from studies previously
discussed in the literature review in the areas of GAD studies, PD/PDA studies, and studies utilizing art therapy to treat anxiety.

**Panic Disorder with and without Agoraphobia Studies**

As previously discussed in the literature review, CBT interventions are established as the most effective psychotherapeutic treatments for anxiety disorders in general and Panic Disorder specifically. Over 25 studies have demonstrated the effectiveness of CBT interventions for PD and PDA (Marchand et al., 2007). Therefore, the reported study aligned with the longstanding tradition of CBT as well as the more recent trend of condensing CBT into briefer, more accessible sessions. Components unique to the reported study, however, are art therapy and Internet video sessions. Six of the seven treatment goals incorporated into the sessions of the reported study are often included in the most effective treatments for PDA: psychoeducation, breathing retraining, cognitive restructuring, interoceptive exposure, in vivo desensitization, and relapse prevention. Identification and development of support systems was added in Case 2 for GAD as a replacement of interoceptive exposure.

The reported study was loosely based on a condensation of Panic Control Treatment (PCT), a therapeutic model for anxiety, PD, and PDA developed by Craske and Barlow (2000), which includes the aforementioned six components and a manual. PCT has been extensively studied; therefore, its efficacy has been demonstrated beyond the capacity of the reported pilot study. According to Craske and Barlow, PCT was more effective in reducing frequency of panic attacks than wait-list groups and relaxation exercises. Seventy-five to eighty percent of participants were panic-free after PCT, 50-70% were maintaining a high-end level of functioning, and many maintained these results at two-year follow-ups. Although Jessica, the participant with PDA in the reported study, was not panic-free at the end of the brief CBAT
intervention, she was maintaining a high-end level of functioning despite anxiety and occasional panic. Due to the declining trend in Jessica’s panic frequency (Figure 1), it is likely that she may have been panic-free had she completed the protocol or extended the sessions. Although PCT trials did not report changes in panic-related or general anxiety, a similarity between the results of the reported study and controlled PCT trials are clinically significant reductions in agoraphobic avoidance. Jessica’s agoraphobic avoidance was cut in half, and 69% of participants in the agoraphobia portions of PCT also reported significant decreases.

PCT is three times as long as the reported protocol, including 14 one-hour sessions focused on panic attacks and related anxiety and an additional seven one-hour sessions for agoraphobia; therefore, the reported study can be compared more closely to previous studies that have also condensed the number of CBT sessions. Deacon and Abramowitz (2006) found a two-day, intensive CBT intervention effective in reducing the symptoms of PD for ten individuals from a rural population; 60% were panic-free at the end of treatment, and reductions in anxiety sensitivity, body vigilance, anxiety, and depression were significant for the group as a whole. As previously indicated, Jessica was not panic-free at the end of the reported study, but she did demonstrate significant reductions in panic frequency. She also showed significant and marginally significant reductions in panic-related anxiety, although the features tested were slightly different than those measured by Deacon and Abramowitz. The reported study also did not measure depression, but agoraphobic avoidance was significantly reduced as previously indicated. Although similarities exist between the two-day, intensive protocol and that of the reported study, such as psychoeducation, interoceptive and in vivo exposure, and a manual, the reported study spread seven one-hour sessions across a seven-week intervention period as opposed to two intensive days.
The brief CBT treatment most closely resembling the reported study, however, is the condensed seven-session version of PCT employed by Marchand et al. (2007). Like the reported study, these seven sessions were based on PCT goals and incorporated self-help materials in a manual. A group receiving standard, weekly CBT for fifteen weeks was compared to groups receiving the seven-session intervention with and without a partner. Differences between the protocol of condensed CBT and the reported study include this inclusion of a partner and the spreading of the seven sessions over fifteen weeks as opposed to every week during seven weeks. Marchand et al. reported comparable results to the brief CBAT intervention in all three groups, finding clinically and statistically significant changes on a variety of variables, including body vigilance, agoraphobic avoidance and anxiety, global assessment of severity, and state and trait anxiety. The reported study did not measure body vigilance or global assessment of severity, but it found similar reductions in agoraphobic avoidance and state, or panic-related anxiety. Agoraphobic anxiety was on the margin of significance. The primary difference was that the reported study did not find any significant difference in general anxiety.

Although the reported study only included a pilot case study for PDA without any controlled comparison to medications, the qualitative information provided by the participant with PDA can be considered in relationship to previous studies comparing CBT interventions to medications. According to Craske and Barlow (2000), studies comparing PCT to pharmacological treatments show that it is at least as or more effective in reducing panic than many antidepressants and benzodiazepines, such as alprazolam or imipramine. Barlow, Gorman, Shear, and Woods (2000) also compared the efficacy of CBT, the antidepressant imipramine, and a combination of the two treatments. Both treatments were better than pill placebo, but the combination of the two treatments was not significantly better than either treatment alone.
Although the imipramine treatment resulted in more significant improvement in symptoms of PDA than CBT after the acute period, participants experienced significantly more relapse after being weaned from the medication than those receiving CBT. Jessica’s case information corroborates the assertion of these studies that medication may not be a long-lasting treatment for CBT. Medication of any kind was a trigger for Jessica due to her traumatic past experience. Although it may have been helpful eventually in conjunction with psychotherapy, Jessica would never be able to begin medication without concurrent therapy.

**Generalized Anxiety Disorder Studies**

Just as the Case 1 results for PDA, the Case 2 results for GAD may also be compared to previous literature. The Case 2 protocol is based on PCT, or the Mastery of Your Anxiety and Panic (MAP) Program, which is similar to the protocol developed by Craske, Barlow, and O’Leary (1992) for GAD: Mastery of Your Anxiety and Worry (MAW). The MAW also uses psychoeducation, cognitive restructuring, exposure exercises, validation rather than rejection of client’s concerns, and a workbook. Participants in the MAW program found the program to be more effective when they were empowered to draw conclusions through the Socratic method rather than receiving solely psychoeducational lectures. The reported study also allowed Aurelia to achieve her own conclusions through the creation of artwork. Craske et al. found individual administration of CBT components, like that in the reported study, to be as effective in groups. Craske et al. recommend using the ADIS-IV to confirm a diagnosis and the MAP if a participant with GAD also has panic attacks. Craske et al. also discussed the fact that many people with GAD should not increase psychotropic medications when beginning psychotherapy, and that medication could interfere with treatment. Qualitative information gathered from Aurelia supports this conclusion; she found previously taken medications to be ineffective.
As previously discussed in the literature review, Borkovec and Ruscio (2001) reviewed 13 controlled studies in which CBT was more effective than control groups receiving no treatment as well as other psychotherapeutic treatment methods, such as psychodynamic approaches. Like the reported study, Borkovec and Ruscio found that integrating both cognitive and behavioral components, such as cognitive restructuring and exposure therapy, was more effective than either alone. The authors also found a low drop out rate among participants. Qualitative data from Aurelia also corroborates this fact, because, out of the two participants, she consistently attended video sessions and completed most homework assignments.

Art Therapy and Anxiety Studies

The reported study may also be compared to the previously discussed literature involving art therapy and anxiety. Curry and Kasser (2005) also conducted their efficacy study with college students; testing the efficacy of mandalas in reducing anxiety. Their participants did not have psychological diagnoses, however, unlike Jessica and Aurelia. Curry and Kasser found that coloring pre-structured mandalas and complex plaid designs were more effective in reducing anxiety than drawing freely. This conclusion corroborates qualitative results in Case 1 and Case 2; both participants indicated that they found the mandalas to be helpful and would continue to use them to reduce their anxiety in the future. Also, the fact that coloring more structured images was more anxiety-reducing than free drawing parallels Aurelia’s assertion; she indicated that creating more structure within her own mandalas helped her relax on more anxious days.

Many similarities also exist between the reported study and that of Chambala (2008). Chambala reported on the results of a variety of art therapy interventions with residents of an inpatient psychiatric facility. Although these participants also had clinical panic attacks and anxiety like those in the reported study, they also had various comorbid diagnoses of mood,
personality, and psychotic disorders unlike Jessica and Aurelia. Chambala also used directives similar to those of the reported study to address the anxiety of participants, especially those on higher levels of the ETC. Participants engaged in psychoeducational sessions, guided imagery and muscle relaxation, and development of coping skills and support systems. After the completion of sessions, Chambala held an exhibit of participant artwork and catalogued the most common features between pieces created by participants with anxiety. These features, including the use of abstract symbols, a wide array of colors, and rapid work, were also common in Jessica and Aurelia’s artwork.

As previously stated, past art therapy research specifically with PD/PDA has not shown as conclusive results. It also did not always employ art directives across levels of the ETC. Albertini (2001) combined autogenic training with painting in a group art therapy intervention for a woman with PDA. Paintings were made largely on the cognitive/symbolic level of the ETC despite previous muscle relaxation. Crystal (2001) investigated whether art therapy could improve the self-efficacy, self esteem, internal locus of control, mobility, and positive cognitions in participants with PD, but the directives were also largely focused on the creation of symbolic artwork, such as mask making. Some of the directives, such as desensitization images, overlapped with the reported study, but participants did not engage in kinesthetic artmaking like the interoceptive exposure exercises or watercolor breathing of the reported study.

The protocol of the reported study and its inclusion of both cognitive/symbolic art directives as well as kinesthetic/sensory components was justified through the need for directives across the ETC. Part of the criteria essential to achieve a diagnosis of PDA or GAD include physical symptoms; therefore, the reported study incorporated physically focused artmaking into CBT to address these issues. As indicated by both the quantitative and qualitative results, the
pilot study showed that art therapy was effective in reducing the symptoms of PDA and marginally significant in decreasing general anxiety in the participant with GAD. Neither Albertini (2001) nor Crystal (2001) measured the effects of their treatments on the symptoms of PD/PDA, but Crystal (2001) only found significant improvement in one measure: positive cognitions. Whether the greater efficacy of the reported study was due to directives on the kinesthetic/sensory level is impossible to determine in a pilot study of this nature, however.

**Generalization of Implications of Results**

Quantitative results of Case 1 showed significant improvement in several symptoms of PDA, including frequency of attacks and some features of fear of fear and agoraphobia, and quantitative results of Case 2 showed marginally significant improvement in general anxiety of GAD. Both participants also discussed additional improvements in their evaluations as a part of the study’s qualitative results. Considering these results, the reported study suggests that the incorporation of art therapy components into CBT may be an effective treatment for PDA, and the incorporation of art therapy and Internet video sessions into CBT may be effective for treating GAD. Both cases involved as much verbal therapy as art therapy during sessions and behavioral as well as art homework assignments outside sessions, and participants cited art therapy directives as well as verbal and behavioral exercises as the most useful treatment components and tools they would use in the future. These evaluations suggest that traditional CBT features and art therapy worked effectively together.

The previous section compared the reported study to previous literature, including CBT studies with PDA and GAD and studies using art therapy to treat anxiety. The results of the reported study are consistent with those of many of these studies. The quantitative results are comparable to those of other CBT studies for PD/PDA. The marginally significant results for
treatment-resistant GAD suggest comparability of the reported study to previous CBT studies for GAD. Behling and Merves (1984) suggested that marginally significant results, at higher significance levels than .05, should be considered and explored in pilot studies. The quantitative and qualitative results of the reported study are also consistent with the tradition of art therapy literature extolling the efficacy of art therapy interventions for anxiety; however, this study represents the first in art therapy to show significant reductions in the symptoms of PDA.

Craske et al. (1992) asserted that empowering clients to reach their own conclusions regarding their anxiety and originate their own solutions is more effective than “spoon-feeding” psychoeducational information. Art therapy may be one way in which some people with PDA and GAD can be empowered to literally create their own image of their fears and envision solutions. Art therapy provides an outlet for clients to be more active participants in their own therapy, and some clients may be more able to internalize CBT concepts through visual and tactile experiences. This alternative, visual means of expression along with the possible of Internet video sessions can also increase the accessibility of CBT for a wider range of clients.

Limitations

Despite the potential implications of the results of the study, there are limitations to the study. In the chapter discussing methods and procedures, the threats to internal and external validity were discussed. Although both participants noted a decrease in symptoms, this cannot be confidently attributed to the treatment alone. Several confounding variables existed related to the personal characteristics of the participants. Although neither was taking medication, both Jessica and Aurelia were seeing other therapists concurrently with the CBAT intervention. Neither met criteria for comorbid diagnoses, but Jessica and Aurelia each had psychological issues in addition to their anxiety disorders, such as past trauma in Jessica’s case and attention
deficit issues in Aurelia’s. The low sample size rendered this study particularly vulnerable to mortality. Although neither participant quit the study, external events, such as family issues and increased stress close to college finals, affected both participants’ ability to participate in the study. Also, the therapeutic variables within the intervention were not separated. Even if the treatment was the reason for the improvement of both participants, it would be difficult to determine whether the CBT components alone, the art therapy with CBT, or the medium of Internet video sessions were independently effective.

External validity for the study was also low. The results do indicate that incorporating art therapy into CBT for PDA and art therapy and Internet video sessions for GAD may be effective, but the two participants are not necessarily representative of all people with these anxiety disorders. In addition to the previously mentioned personal characteristics, both participants were white females. The reported study only included one participant with each disorder; therefore, these personal characteristics could not be controlled for.

**Future Research**

Many of these issues could be ameliorated through future research building on the results of this pilot study. Rather than individual case studies, group efficacy studies would provide more generalizable results. Although it is not necessarily feasible to acquire a random sample of people with anxiety disorders in outpatient or academic settings, convenience group samples of people with PD/PDA and GAD could be obtained. With a larger group, personal characteristics, mortality, and external events would be less threatening to the study’s validity. For each disorder, a group receiving brief cognitive behavioral art therapy could be compared to a group receiving traditional cognitive behavioral therapy, and no treatment. Brief cognitive behavioral
art therapy in person and using Internet video sessions could also be two permutations of the treatment provided.

**Suggestions for Art Therapists**

In addition to these suggestions for future research, aspects from the study can also be utilized in clinical practice with people with anxiety disorders, including panic attacks and general anxiety, as well as nonclinical anxiety. Just as the reported study added kinesthetic/sensory directives to physiological cognitive behavior exercises, art therapists may find that using directives on all levels of the ETC is more effective than only cognitive/symbolic directives. Whether a client has clinical or nonclinical anxiety, there are always physical components, even as simple as muscle rigidity, which may be unbeknownst to the client. It is important to utilize all levels of the ETC and varying media to address the multiple facets of anxiety and/or panic attacks, including cognitions, physiology, and behavior. For example, clients should be encouraged to symbolize their fears and represent their cognitions as a part of cognitive restructuring, but watercolors and tactile media may also be used to accompany breathing exercises.

The reported study also vindicates the advice provided by Craske et al. (1992) regarding the Socratic method. Although providing psychoeducational information to clients experiencing anxiety is useful, it should be coupled with the opportunity to come to one’s own conclusions, using artwork as a means of gaining insight and solving problems. Clients should be validated and supported, but not “spoon-fed” solutions. For example, after engaging in a discussion with a client regarding a cognitive behavioral tool, the client should be allowed to interpret and execute the tool in the manner they find most useful. Artwork can provide this outlet. Open directives,
such as “represent one of your anxious thoughts using the two or three dimensional material of your choice,” simultaneously afford structure and the opportunity for empowerment.

Finally, the study shows that it is important to be flexible when working with clients who have anxiety disorders. Clients may or may not be experiencing a variety of issues related to their family, friends, or school that increase their anxiety. They may miss or need to reschedule appointments. Depending on the nature of their anxiety, clients may have difficulty leaving their home, using public or personal transportation, and/or being in certain rooms or buildings. In the beginning, it is important to make treatment as accessible as possible, including providing phone or Internet sessions or meeting in an alternate location. Treatment should progress, however, to encourage clients to face their phobias or locations in which they are uncomfortable as well as maintain a more structured schedule. In fact, these boundaries and requirements may or may not help a client with anxiety feel more secure.

**Conclusion**

The reported study was intended to determine whether the incorporation of these art therapy components as well as Internet video sessions into a brief cognitive behavioral protocol could reduce the symptoms of PDA and GAD. The quantitative and qualitative results indicate that the brief CBAT intervention may be effective in reducing the symptoms of PDA and GAD. Future research needs to be completed to explore the effectiveness of CBAT for anxiety disorders, especially incorporating group samples and comparisons of the treatment group to traditional CBT and no treatment. The reported study can inform future research as well as clinical practice. Art therapy may provide an alternate means of learning and expressing CBT concepts as well as empower clients experiencing anxiety to find their own solutions.
APPENDIX A

COGNITIVE BEHAVIORAL ART THERAPY FOR PANIC DISORDER WITH AGORAPHOBIA MANUAL

SESSION 1- PSYCHOEDUCATION

Takeaways:

• **Panic Disorder** (PD) involves repeated panic attacks, or sudden rushes of fear or discomfort, made up of multiple physical symptoms (increased heart rate, dizziness, etc.) and cognitive symptoms (fear of dying or going crazy). Panic attacks are unexpected. The person with PD also experiences persistent anxiety for at least one month about having another attack or what may happen if one occurred.

• **Agoraphobia** may occur with PD (PDA) and involves the avoidance of situations where escape may be difficult, because a panic attack would be inconvenient or embarrassing in these situations. A person with PDA may still face these situations with significant dread or distress.

• Prevalence in US Population for PD or PDA:
  - 2.3% in the last 12 months
  - 3.5% over a lifetime
  - 3.3-4.6% more experience nonclinical panic attacks (as high as 8% total)

• Panic attacks manifest in physical sensations, cognitions, and behaviors. These may interact in a unique cycle for each person, influencing each other.

• Panic is different from anxiety:
  - Panic involves feelings of imminent danger, help-seeking or escape behaviors, and abrupt arousal (i.e. fight-or-flight response).
  - Anxiety involves future threat, behavioral disruption or avoidance, and tension.

• Panic attacks often occur due a person’s misinterpretation of body sensations, but these misinterpretations can be corrected. Anxiety sensitivity, or perceiving anxiety as harmful, can also predispose someone to PD, but this sensitivity can be lessened.

• Although stress contributes to panic attacks, misinterpretations of bodily sensations and anxiety about future panic attacks maintain PD.

• People with PD may have inherited a general biological vulnerability to anxiety or mood disorders, but this does NOT mean PD will always occur and does NOT mean that panic attacks will always persist through life.

• Some means of coping, such as avoidance, safety objects, and drugs and alcohol, are understandable, but are unhelpful.

• It is important to track symptoms in the moment, because anxiety can sometimes distort recollections.

Tools:

• Increased knowledge of panic triggers and personal panic cycle.

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Homework:
• Continue tracking the occurrence of panic attacks with panic attack forms.
• Switch from daily rating form to weekly form every Friday beginning Friday, March 8.

SESSION 2- BREATHING RETRAINING

Takeaways:
• Hyperventilation often accompanies panic attacks. It is the result of an imbalance in the blood between oxygen and carbon dioxide and the effect of reduced levels of carbon dioxide in combination with increased alkalinity of the blood.
• Slow, long breaths in through the nose and out through the mouth and involving the abdomen may be the most restful and calming.
• Incorporating sensory experiences (such as squeezing clay) or using guided imagery (such as imagining a flower opening in one’s chest) can enhance the relaxing qualities of deep breathing.
• Excessive muscle tension can contribute to feelings of anxiety and fear.
• Progressively tensing and relaxing various parts of the body can reduce this tension.

Tools:
• Progressive Muscle Relaxation
• Deep Breathing Retraining
• Guided Imagery Exercise
• Increased knowledge of panic triggers and personal panic cycle.

Homework:
• Continue tracking the occurrence of panic attacks and completing weekly rating form each Friday.
• Practice progressive muscle relaxation and deep breathing at home 2-3 times per week:
  -Before bed.
  -Before activities that provoke anxiety.
  -During panic attacks or panic-like symptoms.

SESSION 3- COGNITIVE REFRAMING

Takeaways:
• Anxiety and negative thinking can influence and feed one another, which relates to the important and natural processes of avoiding danger.
• You may not be fully aware of automatic thought processes that contribute to unexpected panic attacks.

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• Identifying specific thoughts, such as predictions, hypotheses, or interpretations, in particular situations and learning to reframe and restructure these thoughts can help reduce anxiety about future panic attacks.

• Emotions derive from interpretations and reactions to events rather than the events themselves.

• During anxiety and panic, two types of mistaken thinking occur:
  - Jumping to conclusions: overestimating the risk of a negative event.
  - Blowing things out of proportion: viewing relatively harmless events as if they were intolerable or much worse than they are in actuality.

• In order to reframe jumping to conclusions, it can be useful to challenge thoughts experienced during anxiety and panic and rate their likelihood.

• In order to reframe blowing things out of proportion, it is important to evaluate the actual severity of consequences and view events as manageable and time-limited.

• Although many events are uncomfortable or, at times, embarrassing, they are not insufferable.

• Questions to ask yourself when you experience an anxious thought:
  - Has this ever occurred before? If so, what evidence do I have? How strong is the evidence?
  - If it has occurred before, what percentage of times has it happened out of every possible scenario?
  - How likely is it that it is occurring now (rate from 1-10)?
  - If it is likely, how likely is it that the consequences will be unbearable? Are there times in the past that I have survived/endured similar consequences?
  - How likely is it that I will be able to endure the consequences if this occurs?

Tools:
• Cognitive Reframing: Rating Likelihood and Evaluating Severity
• Progressive Muscle Relaxation
• Deep Breathing Retraining
• Guided Imagery Exercise
• Increased knowledge of panic triggers and personal panic cycle.

Homework:
• Continue tracking the occurrence of panic attacks and completing weekly rating form each Friday.
• Practice progressive muscle relaxation and deep breathing at home 2-3 times per week.
• Create an art piece depicting a more “likely” version of cognition experienced during panic in 2 or 3 dimensions (if this was completed during session, create another two pieces: “unlikely” and “likely” for another cognition experienced during panic).
SESSION 4- INTEROCEPTIVE EXPOSURE

Takeaways:
- Panic attacks often occur due to a misinterpretation or misappraisal of a physical sensation associated with panic (increased heart rate, dizziness, feelings of unreality, etc.) accompanied by mistaken thinking.
- In order to reduce the onset of panic attacks, it is important to face feared physical symptoms using breathing retraining and cognitive reframing.
- Repeated exposures provide evidence that feared sensations are not harmful and can increase your confidence in your ability to handle these sensations.
- Skills used to face these sensations during therapy can be extended to naturalistic activities, such as drinking coffee, exercise, watching thrilling movies, sex, etc.
- Experiencing a panic attack or anxiety during this phase of treatment does not signal a relapse. Use your ability to face any feelings of panic during this time as further evidence of your ability to use tools to face these feelings.

Tools:
- Experience facing feared bodily sensations.
- Cognitive Reframing: Rating Likelihood and Evaluating Severity
- Progressive Muscle Relaxation
- Deep Breathing Retraining
- Guided Imagery Exercise
- Increased knowledge of panic triggers and personal panic cycle.

Homework:
- Continue tracking the occurrence of panic attacks and completing weekly rating form each Friday.
- Practice progressive muscle relaxation and deep breathing at home 2-3 times per week AFTER INCREASING HEART RATE, such as after exercise.

SESSION 5- IMAGINAL EXPOSURE

Takeaways:
- Once panic attacks and fear of panic attacks are addressed, the Agoraphobia or avoidance of particular situations can be addressed.
- During Agoraphobia, certain situations may be avoided because panic attacks have been previously experienced in these scenarios or because a panic attack would be inconvenient or embarrassing.
- If these situations are not avoided, they may be endured despite significant distress or dread.

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• The development of a hierarchy of feared/avoided situations (from least feared to most feared) can help conceptualize the situations that are avoided and the level of anxiety experienced about these situations.

• Imaginal exposure, or picturing feared situations using guided imagery and artwork, can provide an important first step to actual exposure and increase your feelings of mastery and ability to cope.

Tools:
• Practice using guided imagery to imagine encountering feared situations.
• Experience facing feared bodily sensations.
• Cognitive Reframing: Rating Likelihood and Evaluating Severity
• Progressive Muscle Relaxation
• Deep Breathing Retraining
• Guided Imagery Exercise
• Increased knowledge of panic triggers and personal panic cycle.

Homework:
• Continue tracking the occurrence of panic attacks and completing weekly rating form each Friday.
• Complete two other imaginal exposure pieces in 2 or 3 dimensions in ascending order, spending at least 30 minutes on each.
• Face the least feared situation in person (use deep breathing and cognitive reframing).

SESSION 6- ACTUAL EXPOSURE

Takeaways:
• Regular, actual exposure to feared situations and events is necessary to decreasing Agoraphobia.
• While undergoing exposures, it is important to note more subtle avoidance or continued mistaken or negative thinking in order to completely face and eliminate fears associated with situations.
• The need to escape a situation is not a failure, but a result of the fear that remaining in a situation will result in a catastrophic consequence.
• Breathing retraining and cognitive reframing can be used before facing feared situations to reduce anxiety as well as during feared situations to manage panic-like bodily sensations and to decrease the need to escape as well as distress.
• Feared situations may be faced with a friend or loved one as a coach who is knowledgeable about your anxiety.
• Eventually, it is important to attempt to face feared situations without previous coping strategies or safety signals (safe person, safe object, drugs and alcohol, etc.).
• Be careful not to criticize yourself too harshly after facing feared situations and note your accomplishments realistically.

Tools:

- Experience facing and mastering feared situations.
- Practice using guided imagery to imagine encountering feared situations.
- Experience facing feared bodily sensations.
- Cognitive Reframing: Rating Likelihood and Evaluating Severity
- Progressive Muscle Relaxation
- Deep Breathing Retraining
- Guided Imagery Exercise
- Increased knowledge of panic triggers and personal panic cycle.

Homework:

- Continue tracking the occurrence of panic attacks and completing weekly rating form each Friday.
- Face the remaining two situations in person (use deep breathing and cognitive reframing)
- Complete two other mastery pieces in 2 or 3 dimensions each after facing the situation, spending at least 30 minutes on each.

SESSION 7- RELAPSE PREVENTION

Takeaways:

- It is important to continue working towards short and long term goals for panic, anxiety, and Agoraphobia after termination of treatment to maintain and extend benefits.
- The continued facing of previously avoided situations and bodily sensations after termination is also important to maintain benefits.
- A plan identifying support systems as well as resources available when panic-like feelings occurs can actually help prevent these feelings from occurring.

Tools:

- Support System/Resource Checklist
- Experience facing and mastering feared situations.
- Practice using guided imagery to imagine encountering feared situations.
- Experience facing feared bodily sensations.
- Cognitive Reframing: Rating Likelihood and Evaluating Severity
- Progressive Muscle Relaxation
- Deep Breathing Retraining
- Guided Imagery Exercise
- Increased knowledge of panic triggers and personal panic cycle.
APPENDIX B

COGNITIVE BEHAVIORAL ART THERAPY FOR GENERALIZED ANXIETY DISORDER

MANUAL

SESSION 1- PSYCHOEDUCATION

Takeaways:

• Generalized Anxiety Disorder (GAD) involves excessive anxiety and worry more days than not for at least six months about a range of different events, activities, or occurrences. Physical or psychophysiological symptoms accompany GAD, including restlessness, difficulty sleeping or lack of sleep, muscle tension, distractibility or difficulty concentrating, etc. ¹⁰

• The worry and anxiety are difficult to control and are out of proportion to the actual events or activities on which it focuses.

• Prevalence for GAD:
  -3% in the last 12 months
  -5% over a lifetime

• Anxiety manifests in physical sensations, cognitions, and behaviors. These may interact in a unique cycle for each person, influencing each other.

• Anxiety is different from panic:
  -Anxiety involves future threat, behavioral disruption or avoidance, and tension.
  -Panic involves feelings of imminent danger, help-seeking or escape behaviors, and abrupt arousal (i.e. fight-or-flight response).

• People with GAD may have inherited a general biological vulnerability to anxiety or mood disorders, but this does NOT mean GAD will always occur and does NOT mean that severe anxiety will always persist through life.

• Some means of coping, such as avoidance of situations, safety objects, and drugs and alcohol, are understandable, but are often unhelpful.

• It is important to track anxiety and thoughts in the moment, because anxiety can sometimes distort recollections.

• Although people with GAD often report feeling anxious their entire lives, GAD can be made more manageable especially through psychotherapy, medication, or a combination.

Tools:

• Increased knowledge of anxiety triggers and personal anxiety cycle.

Homework:

• Continue daily ratings.

• Begin daily mandalas (or whenever possible), spending at least 15 minutes on each mandala.

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SESSION 2- IDENTIFYING SUPPORT SYSTEMS

Takeaways:
• A plan identifying support systems as well as resources available when anxious thoughts or feelings occur can actually help prevent these feelings from occurring.
• An ordered chart can identify when each resource is available and most appropriate to use, which can increase your feelings of safety as well as improve relationships with friends and loved ones within your support system.

Tools
• Support System/Resource Chart
• Increased knowledge of anxiety triggers and personal anxiety cycle.

Homework:
• Continue daily ratings and mandalas.
• If not completed during session, research aspects of your support system. Make a chart detailing when, where, and how often each person, place, or activity is available, and how to access them.

SESSION 3- COGNITIVE REFramING

Takeaways:
• Anxiety and negative thinking can influence and feed one another, which relates to the important and natural processes of avoiding danger.
• You may not be fully aware of automatic thought processes that contribute to increases and maintenance of anxiety.
• Identifying specific thoughts, such as predictions, hypotheses, or interpretations, in particular situations and learning to reframe and restructure these thoughts can help reduce anxiety.
• Emotions derive from interpretations and reactions to events rather than the events themselves.
• During anxiety, two types of mistaken thinking that may occur are:
  -Jumping to conclusions: overestimating the risk of a negative event.
  -Blowing things out of proportion: viewing relatively harmless events as if they were intolerable or much worse than they are in actuality.
• In order to reframe jumping to conclusions, it can be useful to challenge thoughts experienced during anxiety and rate their likelihood.
• In order to reframe blowing things out of proportion, it is important to evaluate the actual severity of consequences and view events as manageable and time-limited.
• Although many events are uncomfortable or, at times, embarrassing, they are not insufferable.
• Questions to ask yourself when you experience an anxious thought:
  -Has this ever occurred before? If so, what evidence do I have? How strong is the evidence?

- If it has occurred before, what percentage of times has it happened out of every possible scenario?
- How likely is it that it is occurring now (rate from 1-10)?
- If it is likely, how likely is it that the consequences will be unbearable? Are there times in the past that I have survived/endured similar consequences?
- How likely is it that I will be able to endure the consequences if this occurs?

Tools:
- Cognitive Reframing: Rating Likelihood and Evaluating Severity
- Support System/Resource Chart
- Increased knowledge of anxiety triggers and personal anxiety cycle.

Homework:
- Continue daily ratings and mandalas.
- Create an art piece depicting a more “likely” version of cognition experienced during anxious period in 2 or 3 dimensions (if this was completed during session, create another two pieces: “unlikely” and “likely” for another cognition).

SESSION 4- BREATHING RETRAINING

Takeaways:
- Hyperventilation often accompanies panic attacks, but may be involved with anxiety as well. It is the result of an imbalance in the blood between oxygen and carbon dioxide and the effect of reduced levels of carbon dioxide in combination with increased alkalinity of the blood.
- Slow, long breaths in through the nose and out through the mouth and involving the abdomen may be the most restful and calming.
- Incorporating sensory experiences (such as squeezing clay) or using guided imagery (such as imagining a flower opening in one’s chest) can enhance the relaxing qualities of deep breathing.
- Excessive muscle tension can contribute to feelings of anxiety and fear.
- Progressively tensing and relaxing various parts of the body can reduce this tension.

Tools:
- Progressive Muscle Relaxation
- Deep Breathing Retraining
- Guided Imagery Exercise
- Cognitive Reframing: Rating Likelihood and Evaluating Severity
- Support System/Resource Chart
- Increased knowledge of anxiety triggers and personal anxiety cycle.

Homework:

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• Continue daily ratings and mandalas.
• Practice progressive muscle relaxation and deep breathing at home 2-3 times per week:
  - Before bed.
  - Before activities that provoke anxiety.
  - During more anxious periods.

SESSION 5- IMAGINAL EXPOSURE

Takeaways:
• Once anxiety and negative thinking are addressed, the avoidance of particular situations due to anxiety can be addressed.
• During avoidance (or Agoraphobia in severe situations), certain situations may be avoided because panic attacks or severe anxiety have been previously experienced in these scenarios or because a panic attack or severe anxiety would be inconvenient or embarrassing.
• If these situations are not avoided, they may be endured despite significant distress or dread.
• The development of a hierarchy of feared/avoided situations (from least feared to most feared) can help conceptualize the situations that are avoided and the level of anxiety experienced about these situations.
• Imaginal exposure, or picturing feared situations using guided imagery and artwork, can provide an important first step to actual exposure and increase your feelings of mastery and ability to cope.

Tools:
• Practice using guided imagery to imagine encountering feared situations.
• Progressive Muscle Relaxation
• Deep Breathing Retraining
• Guided Imagery Exercise
• Cognitive Reframing: Rating Likelihood and Evaluating Severity
• Support System/Resource Chart
• Increased knowledge of anxiety triggers and personal anxiety cycle.

Homework:
• Continue daily ratings and mandalas.
• Complete two other imaginal exposure pieces in 2 or 3 dimensions in ascending order, spending at least 30 minutes on each.
• Face the least feared situation in person (use deep breathing and cognitive reframing).

SESSION 6- ACTUAL EXPOSURE

Takeaways:

- Regular, actual exposure to feared situations and events is necessary to decreasing avoidance of these situations (or Agoraphobia).
- While undergoing exposures, it is important to note more subtle avoidance or continued mistaken or negative thinking in order to completely face and eliminate fears associated with situations.
- Breathing retraining and cognitive reframing can be used before facing feared situations to reduce anxiety as well as during feared situations to manage anxiety as well as distress.
- Feared situations may be faced with a friend or loved one as a coach who is knowledgeable about your anxiety.
- Eventually, it is important to attempt to face feared situations without previous coping strategies or safety signals (safe person, safe object, drugs and alcohol, etc.).
- Be careful not to criticize yourself too harshly after facing feared situations and note your accomplishments realistically.

Tools:

- Experience facing and mastering feared situations.
- Practice using guided imagery to imagine encountering feared situations.
- Progressive Muscle Relaxation
- Deep Breathing Retraining
- Guided Imagery Exercise
- Cognitive Reframing: Rating Likelihood and Evaluating Severity
- Support System/Resource Chart
- Increased knowledge of anxiety triggers and personal anxiety cycle.

Homework:

- Continue daily ratings and mandalas.
- Face the remaining two situations in person (use deep breathing and cognitive reframing)
- Complete two other mastery pieces in 2 or 3 dimensions each after facing the situation, spending at least 30 minutes on each.

SESSION 7- RELAPSE PREVENTION

Takeaways:

- It is important to continue working towards short and long term goals for anxiety after termination of treatment to maintain and extend benefits.
- The continued facing of previously avoided situations after termination is also important to maintain benefits.
- Using the chart identifying support systems as well as resources available when anxiety occurs can continue to help prevent these feelings from occurring.

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Tools:
• Experience facing and mastering feared situations.
• Practice using guided imagery to imagine encountering feared situations.
• Progressive Muscle Relaxation
• Deep Breathing Retraining
• Guided Imagery Exercise
• Cognitive Reframing: Rating Likelihood and Evaluating Severity
• Support System/Resource Chart
• Increased knowledge of anxiety triggers and personal anxiety cycle.
APPENDIX C

INFORMED CONSENT FORM

FSU Behavioral Consent Form
Brief Cognitive Behavioral Art Therapy for Anxiety Disorders

You are invited to be in a research study of the benefits of cognitive behavioral art therapy for Panic Disorder with Agoraphobia or Generalized Anxiety Disorder. You were selected as a possible participant because you volunteered after seeing flyers/advertisements for the study. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Frances Morris, Department of Art Education, The Florida State University.

Background Information:

The purpose of this study is to assess whether cognitive behavioral art therapy can decrease symptoms of Panic Disorder with Agoraphobia, including panic attacks, anxiety, and agoraphobia (fear or leaving the home or being in situations you can’t easily escape) or Generalized Anxiety Disorder, including general anxiety.

Procedures:

If you agree to be in this study, we would ask you to do the following things: participate in the Anxiety Disorders Interview Schedule IV to assess whether you meet criteria for Panic Disorder with Agoraphobia or Generalized Anxiety Disorder, complete a ratings diary for nine weeks, and attend seven weekly, one-hour therapist-guided sessions. There will also be art homework between some of the sessions you will be asked to complete. You will not be asked to stop receiving other therapy you may be receiving.

Risks and benefits of being in the Study:

The study has several risks. First, some sessions will require you to think about, discuss, and make artwork concerning thoughts, feelings, and behaviors experienced during panic attacks or anxiety as well as situations that make you feel panicked or anxious. These aspects of panic attacks and anxiety may be emotionally painful to discuss. Second, these sessions and a particular session that requires more vigorous art making may cue feelings of panic-like feelings during session.

If any sessions result in a noticeable worsening of panic attacks, panic-like symptoms, or anxiety outside of session, the investigator may judge your participation in the study should be terminated.
The potential benefits to participation are a decrease in your symptoms, including panic attacks and/or anxiety and agoraphobia.

Confidentiality:

The records of this study will be kept private and confidential to the extent permitted by law. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records. Photographs of your artwork and results of the study, however, may be used for educational or professional publication purposes. No identifying information will be revealed.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is Frances Morris. You may ask any question you have now. If you have a question later, you are encouraged to contact her at * or * or contact her advisor, Marcia Rosal, at 850.644.2926 or mrosal@fsu.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), you are encouraged to contact the FSU IRB at 2010 Levy Street, Research Building B, Suite 276, Tallahassee, FL 32306-2742, or 850-644-8633, or by email at humansubjects@magnet.fsu.edu.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

Signature                                          Date

Signature of Investigator                    Date
APPENDIX D
IRB APPROVAL LETTER

Office of the Vice President For Research Human Subjects Committee Tallahassee, Florida 32306-2742

(850) 644-8673 · FAX (850) 644-4392 APPROVAL MEMORANDUM Date: To:

Address: Dept.: From: Thomas L. Jacobson, Chair Re: Use of Human Subjects in Research

The application that you submitted to this office in regard to the use of human subjects in the research proposal referenced above has been reviewed by the Human Subjects Committee at its meeting on 01/09/2013 Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 01/08/2014 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing, any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research
projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: HSC No.

01/23/2013

Frances Morris *

ART EDUCATION

Brief Cognitive Behavioral Art Therapy for Panic Disorder with Agoraphobia

Marcia Rosal <mrosal@fsu.edu>, Advisor
REFERENCES


BIOGRAPHICAL SKETCH

EDUCATION

MS, Art Therapy, Florida State University (2013), 4.0 GPA
Thesis (2013) *Brief Cognitive Behavioral Art Therapy for Anxiety Disorders*
Phi Kappa Phi Member (2013)

BA, Art; Minor, Education, Vassar College (2010), 3.76 GPA
General and Departmental Honors
Lewis Rubenstein Award for studio art

EXPERIENCE

**Big Bend Hospice**, Tallahassee, FL (August 2012-April 2013)
Treat hospice patients, their families, and bereaved community clients in individual, family, couples’ and group therapy. Treatment included the administration of assessments, development and implementation of treatment plans, and outcome measurement. Individual and group sessions in a variety of settings, including patients’ homes; elementary, middle, and high schools; and various county hospice offices. Provided in-service presentations to hospice staff members and a culminating collaborative staff self-care activity.

**Florida State Hospital**, Chattahoochee, FL (January 2012-April 2012)
Facilitated group therapy in civil and forensic units with a variety of foci, including substance abuse, vocational rehabilitation and life skills, DBT/mindfulness, music therapy, hortitherapy, and open arts studio. Founded a voluntary, resident-led Art Club and facilitated a client exhibition.

**Americorps VISTA/ Y.E.S.**, Mentor Coordinator, Charleston, SC (June 2010-June 2011)
Planned and facilitated support group meetings for at-risk adolescent girls, including Department of Juvenile Justice students, to develop self-esteem and empowerment. Recruited, screened, trained, matched, and monitored mentors with girls. Developed a training program in order to train these mentors. Served as the liaison from Youth Empowerment Services (Y.E.S.) for the Department of Juvenile Justice.

**SC Department of Juvenile Justice**, Mentor (May 2009-June 2009) Juvenile Detention Center, Main Campus, Columbia, SC
Provided individual mentoring and support, including therapeutic art directives, to girls. Served as a teacher’s assistant in two boys’ art classrooms.

**Graduate Assistant**, Department of Art Education, (September 2011-April 2013) Florida State University, Tallahassee, FL
Research, edit, file, and coordinate submissions to The Wiley-Blackwell Handbook of Art Therapy, a comprehensive textbook on art therapy with over 85 chapters.
Teacher’s Assistant, Wimpfheimer Nursery School (August 2007-May 2010) Vassar College, Poughkeepsie, NY
Facilitated classroom lessons, including art, for children 2 to 6 years of age.

PRESENTATIONS/PUBLICATIONS
American Art Therapy Association 44th Annual Conference (2013), Seattle, WA
Join the Art Club: Exploring Social Empowerment Art Therapy

Instilling Hope II: Trauma Informed Care Conference (2013), Tallahassee, FL
Art Therapy and Trauma: A Therapeutic Approach with Children

SPECIAL PROJECTS

Seven Days of Opening Nights Annual Mural (2013; 2012), Tallahassee, FL
Designer, Volunteer Coordinator, and Monitor

PROFESSIONAL MEMBERSHIPS
American Art Therapy Association
Student Member (2013; 2012)

Florida State University Art Therapy Association
President (2012-2013); Member (2011-2012)

Phi Kappa Phi
Member (2013)

Student Leadership Council, Florida State University
Editorial Board, SIX Magazine, College of Visual Arts, Theatre, and Dance (2012-2013)