Exposure with Acceptance-Based versus Habituation-Based Rationale

For Public Speaking Anxiety

A Thesis

Submitted to the Faculty

of

Drexel University

by

Erica Lee England

in partial fulfillment of the

requirements for the degree

of

Doctor of Philosophy

May 2010

Dedications

To my mother, Patty, for all of your love and support, and for being the best mom anyone could ask for. I can only do what I do because of you.

To my dad and stepmom, Jeff and Michele, for always being there to feed me and for making me believe.

To my brother, Cole, for teaching me to make coffee, without which I could not have completed my dissertation.

To Matthew, who has spent countless hours studying in coffee shops with me. Thank you for making my return to Maine even better than I expected it to be.

To the rest of my family, I am so thankful to have you in my life. To my Uncle Steve and cousin Jessica, thank you for making LOST night so entertaining. To my grandparents, Nana, Grampa, and Nana Kate, for love and wisdom. Auntie, Nicole, Isabel, Auntie Lynne, and Dugan, thank you for being there. Last but not least, thanks to Gizmo, Dolce, and Rufus, for helping us to remember what's really important. I love you all.

Acknowledgements

I would like to thank my mentor and committee chair, Dr. James Herbert, for making this project possible. Thank you for all of your help and guidance over the past five years, and for helping to make my graduate school experience so positive and rewarding. To my co-mentor, Dr. Evan Forman, thank you for your kindness and support throughout my time at Drexel. I could not have asked for a better team of mentors, and I am truly grateful for all you both have done for me.

Thank you to my dissertation committee members, Drs. Rosette Biester, Douglas Chute, and Kirk Heilbrun, for contributing your time, knowledge, and expertise not only to my dissertation, but also to my clinical and research training over the past several years.

To my co-therapists, Stephanie Rabin and Adrienne Juarascio, I am extremely grateful for your assistance throughout this project. It is because of you that our participants benefitted as much as they did. To my research assistants, Stephanie Goldstein, Amanda Barbieri, Adriana Del Vecchio, and Catherine Venable, thank you so much for all of your help with assessments, role-plays, and data management. Faheem Johnson, thank you for your generous help with video ratings. Without all of you, this study would not have been possible. Thank you for all of your time and for carrying on with the study after I left for internship. I never had to worry knowing that I had such a wonderful team working for me.

Thank you to all of my other lab members and fellow Bellet-dwellers for assisting with role-plays.

Finally, I owe a great debt of gratitude to the participants who volunteered for the study. Thank you for speaking up.

Table of Contents

List of Tables

List of Figures

Abstract
Exposure with Acceptance-Based versus Habituation-Based Rationale For Public
Speaking Anxiety
Erica L. England
James D. Herbert
Evan M. Forman

Social Anxiety Disorder (SAD) is a potentially debilitating condition affecting

approximately 12% of the population at some point in their life (Ruscio et al., 2008).

SAD is divided into two subtypes: generalized and nongeneralized. Nongeneralized SAD

refers to individuals whose fears are limited to one or two social situations, most

commonly public speaking. Empirically supported treatments for public speaking anxiety

generally include an exposure component (usually in vivo/simulated exposure). Exposure

is often presented within the context of a habituation rationale, but cognitively- based

therapies utilize a rationale for exposure based on cognitive restructuring and belief

modification. Research investigating the incremental benefit of adding other treatment

components to exposure has yielded mixed results; however, there is preliminary

evidence that the context in which exposure is presented can have an impact on treatment

outcome. Recently, acceptance-based therapies have begun to frame exposure as an

opportunity to increase one's willingness to experience anxiety while engaging in valued

behaviors, rather than as a vehicle for modifying maladaptive cognitions and reducing

anxiety. However, little research has been conducted on the efficacy of acceptance-based

therapies for public speaking anxiety, and no component control studies have examined

the utility of an acceptance/cognitive defusion rationale and context for exposure. The

present study compared exposure within an acceptance/defusion context to exposure with

a habituation-based rationale in the treatment of public speaking anxiety. Treatment was

delivered in a group format over 6 weekly sessions. The hypothesis of superior outcomes for the acceptance-based group was not supported by the data; no significant differences were found between the two treatment conditions. All participants improved on outcome measures of social/public speaking anxiety and speech quality (social skills).

CHAPTER 1: INTRODUCTION

Social anxiety disorder (SAD), also referred to as social phobia, is characterized by a persistent fear of humiliation or embarrassment in social situations (*Diagnostic and Statistical Manual of Mental Disorders,* 4th ed., text revision; *DSM-IV-TR*; American Psychiatric Association [APA], 2000). The disorder tends to follow a chronic course, usually beginning by early adolescence (Wittchen & Fehm, 2003). Estimates of the lifetime prevalence of SAD range from 3-13% of the general population (APA, 1994); the recent National Comorbidity Survey Replication (NCS-R) estimated the lifetime prevalence of the disorder at 12.1% (Ruscio et al., 2008). SAD is typically associated with significant functional impairment and high rates of comorbidity (e.g., Vriends, Becker, Meyer, Michael, & Margraf, 2007). Individuals with SAD typically avoid feared social situations, or otherwise participate in them with severe anxiety (Turk, Heimberg, & Hope, 2001). Impairment is evident in both occupational and social settings; individuals with SAD are less likely than individuals with other anxiety disorders to be married (Sanderson, DiNardo, Rapee, & Barlow, 1990) and are often unemployed or underemployed (Turk et al., 2001).

Data from the NCS-R (Ruscio et al., 2008) indicate that nearly two-thirds of individuals with SAD meet criteria for at least one comorbid *DSM-IV* disorder, and that rates of comorbidity are positively correlated with the number of feared situations. The most common comorbid disorders are other anxiety disorders, followed by mood disorders (Ruscio et al.; M. B. Stein & Chavira, 1998); comorbidity also exists with impulse-control and substance use disorders (Ruscio et al.). Due in part to overlapping diagnostic criteria, SAD is highly comorbid with avoidant personality disorder,

particularly in more severe cases (e.g., Herbert, Hope, & Bellack, 1992; Turner, Beidel, & Townsley, 1992). Onset of SAD tends to predate that of comorbid disorders (Kessler, Stein, & Berglund, 1998).

People suffering from SAD often go untreated, in part because seeking treatment constitutes a feared social situation for many people with SAD (M. B. Stein & Chavira, 1998). Additionally, treatment resources for SAD are very limited, due to barriers such as lack of insurance coverage and inadequate awareness of SAD by health care professionals (Olfson et al., 2000). In particular, although empirically supported treatments for SAD exist, they are often unavailable due to various factors, such as a lack of professionals qualified to deliver such treatments. A study conducted by the Harvard/Brown Anxiety Disorders Research Program revealed that only 34% of a treated sample (including generalized anxiety disorder, panic disorder, and social phobia) had received a form of cognitive or behavioral therapy (Goisman, Warshaw, & Keller, 1999). Epidemiological studies (Kessler et al., 1998; Ruscio et al., 2008) indicate that approximately two-thirds of lifetime social phobics receive no treatment specifically for their social anxiety, and one-third never receive any mental health treatment whatsoever. Although people with more generalized social anxiety (i.e., a greater number of feared social situations) are more likely to receive treatment than those with fewer feared situations, the reverse is true in cases without a comorbid disorder (Ruscio et al.). Thus, a significant percentage of people with potentially incapacitating SAD are not being treated.

1.1. Distinction Between Generalized Social Phobia and Public Speaking Anxiety

The most recent versions of the Diagnostic and Statistical Manual of Mental Disorders (*DSM-IV-TR*, APA, 2000; *DSM-IV,* APA, 1994; *DSM-III-R,* APA, 1987) include a "generalized" subtype, distinguished by a fear of "most social situations." The lack of specification of what constitutes "most" situations has led to a proliferation of proposed classification systems. These include detailed distinctions between generalized and nongeneralized or specific social phobia (see Hook & Valentiner, 2002), subtype models based on types of situations feared (e.g., Eng, Heimberg, Coles, Schneier, & Liebowitz, 2000; Holt, Heimberg, Hope, & Liebowitz, 1992), and continuum models reflecting number of situations feared and level of impairment (Ruscio et al., 2008; Vriends et al., 2007).

Prior to the publication of the DSM-IV, several subtyping options were suggested in order to clarify the distinction between generalized and nongeneralized social phobia. Heimberg and Holt (1989) proposed a three-subtype model of the disorder. Their division consisted of a generalized group (those comprised of people who fear most social situations), a circumscribed group (those who fear a limited number of discrete situations), and an intermediate group referred to as nongeneralized (people who fear less than most but more than one or two situations, including social interaction situations). The DSM-IV social phobia subworkgroup (Task Force in DSM-IV, APA, 1991) also considered a three-subtype model, based upon the types of situations feared. Their proposed subtypes included a Generalized Type (fears of most social situations), a Limited Interactional Type (fears of one or two social interaction-related situations), and a Performance Type (fears limited to public speaking and performance situations). These

classification systems were ultimately rejected from consideration for the DSM-IV because there was insufficient data to support them (Schneier et al., 1998).

Turner and colleagues (1992) divided their clinical sample into specific and generalized subtypes of social phobia based on the types of situations feared. Individuals were assigned the specific subtype if they feared only performance-oriented situations such as giving speeches or speaking in meetings, or other circumscribed situations, including eating or writing in public and using public restrooms. The generalized subtype was used to identify those who feared most commonly occurring social situations (conversations, parties, etc). Thus, instead of defining "generalized" as "most situations" and "specific" as "only one or two situations," the generalized and specific subtypes were differentiated according to the *frequency* with which the feared situations typically occur. Those who feared more commonly occurring, interaction situations were considered to have generalized social phobia, whereas those with more circumscribed, performance-type situational fears were assigned the specific subtype. Similarly, in their review of social phobia studies, Hook and Valentiner (2002) propose a qualitative distinction between generalized and specific social phobia based in part on the types of situations (i.e., interaction versus performance) in which the fear occurs.

A change in the social phobia subtyping scheme is proposed for the DSM-V. Instead of the optional specifier "generalized," diagnosticians will be able to add the classification "performance only" for individuals whose social anxiety is "restricted to speaking or performing in public" (www.dsm5.org). Alternative classification systems currently under consideration include performance versus interactional (or mixed), and performance versus observational versus interactional. Another alternative being

considered for DSM-V is to provide an updated definition (to be determined) for the generalized subtype. The finalized version of the DSM-V is expected to be released in 2013 (www.dsm5.org).

Using cluster analysis of the Liebowitz Social Anxiety Scale (LSAS; Liebowitz, 1987) from several social phobia treatment studies, Eng and colleagues (2000) identified three subgroups of social phobia: Pervasive Social Anxiety, Moderate Social Interaction Anxiety, and Dominant Public Speaking Anxiety. The Dominant Public Speaking group averaged an older age of onset and older age at intake than the Pervasive group. Also, individuals in the Dominant Public Speaking group had fewer depressive symptoms, less general anxiety, and were less likely to have a comorbid mood disorder or Avoidant Personality Disorder. Notably, individuals in all three groups reported public speaking anxiety, suggesting the pervasive nature of this fear across those suffering from social phobia (Eng et al., 2000).

More recently, large-scale community studies (e.g., Ruscio et al., 2008; Vriends et al., 2007) have found support for a continuum model of social anxiety, rather than discrete subtypes. For example, Ruscio and colleagues (2008) report results from the United States National Comorbidity Survey Replication (NCS-R), and conclude that social anxiety exists on a continuum based on the number of situations feared. Public speaking was the most common social fear, reported by 21.2% of the total sample. Those who had a greater number of feared situations were found to have an earlier age of onset of social anxiety, more avoidance, lower rates of recovery, higher rates of comorbidity, greater impairment, and were less likely to receive treatment for their social anxiety. Due to the linear nature of these correlations, Ruscio and colleagues conclude that social

anxiety exists on a continuum, and that theoretical distinctions based on the type of feared situations (e.g., Hook & Valentiner, 2002; Turner et al., 1992) offer little additional information and in fact can be misleading.

Vriends and colleagues (2007) also found evidence for a continuum of anxiety severity related to the number of situations feared, without a clear-cut delineation between groups. However, the authors did report a differentiation between those with only public speaking fears and those who also had additional fears; the latter group had higher rates of comorbidity, a greater subjective need for therapy, more functional impairment, and more dysfunctional attitudes (Vriends et al., 2007). Although these researchers ultimately argue for a continuum model, it is important to note this distinction between public speaking anxiety and more pervasive social phobia.

In studies that have employed exposure tasks, such as a behavioral assessment test (BAT), individuals have shown different patterns of behavioral and physiological responses depending on whether or not their social anxiety was generalized. When confronted with a speech performance task, those with nongeneralized social phobia tend to show a sharp increase in heart rate at the beginning of the task, whereas people with generalized social anxiety experience a more gradual rise in heart rate and have a slower return to baseline heart rate (Heimberg, Hope, Dodge, & Becker, 1990; Hofmann, Newman, Ehlers, & Roth, 1995; A. P. Levin et al., 1993). Interestingly, when performing a social interaction task, this physiological response pattern in individuals with nongeneralized social phobia has not been shown; instead, generalized and nongeneralized groups have displayed similar patterns of arousal (Boone et al., 1999). Given that the nongeneralized subtype of social anxiety typically includes (and often

consists solely of) public speaking phobics, the disparate responses between generalized and nongeneralized social phobics to a speech task provide empirical support for a distinction between generalized social anxiety and primary public speaking anxiety.

Although there is considerable variability in the ways in which social anxiety has been classified, research generally shows at least some distinction between more and less generalized social phobia. On the more circumscribed end of the spectrum are people with limited, more performance-oriented fears (most commonly, public speaking anxiety), whereas generalized social phobics tend to have higher rates of comorbidity and fear a greater variety of situations, including social interactions. Whether social anxiety is categorized according to discrete subtypes, or is viewed as a continuum, it seems clear that, at the very least, several quantitative and qualitative differences exist between highly generalized, pervasive social anxiety and the most circumscribed public speaking phobia.

The evidence reviewed herein supports the examination of public speaking anxiety as an entity separate from generalized social phobia. The proposed study will focus only on the public speaking phobia subtype of SAD.

1.2. Public Speaking Anxiety

Several terms have been used to describe public speaking anxiety, including "speech anxiety," "stage fright," "audience anxiety," and the somewhat broader term "communication apprehension" (Fremouw & Breitenstein, 1990). In addition to being the most commonly feared situation among individuals with social phobia (Ruscio et al., 2008), a significant portion of the general population experiences public speaking anxiety. Community studies have reported prevalence rates ranging from 20% (e.g., Pollard & Henderson, 1988) to 34% (M. B. Stein, Walker, & Forde, 1996); some authors

estimate that up to 85% of the population experiences at least some level of anxiety in public speaking situations (e.g., Motley, 1995). Public speaking fears have been found to be associated with lower incomes, higher rates of unemployment, and reduced likelihood of postsecondary education; approximately 10% of a community sample reported significant distress or interference with work, education, or social life as a result of substantial public speaking fears (M. B. Stein et al., 1996). Thus, although discrete public speaking phobia is typically less severe than generalized social anxiety (e.g., Vriends et al., 2007), it is clearly a substantial problem that often requires clinical intervention.

1.3. Treatment of Social Anxiety Disorder

Although many of the interventions for SAD have been used primarily to treat the generalized subtype, the same basic principles apply to the treatment of specific SAD, including public speaking anxiety. In fact, many of the treatment studies, particularly analogue investigations, have utilized speech-phobic samples. Therefore, the treatments discussed below are generally applicable to both generalized SAD and public speaking anxiety. Differential treatment effects are discussed where applicable.

1.3.1. Pharmacological treatment. A variety of medications have been used in the treatment of SAD. These include monoamine oxidase inhibitors (MAOIs), benzodiazepines, and beta-blockers (Scholing & Emmelkamp, 1990), as well as antiepileptic drugs, including gabapentin (Pande et al., 1999) and pregabalin (Pande et al., 2004). More recently, selective serotonin reuptake inhibitors (SSRIs) have been shown to be efficacious in treating SAD (see Hedges, Brown, Shwalb, Godfrey, & Larcher, 2007, for a recent meta-analysis). A number of SSRIs, including sertraline (Zoloft) and paroxetine (Paxil), and one serotonin-noradrenaline reuptake inhibitor

(SNRI), venlafaxine (Effexor XR), are currently approved by the U.S. Food and Drug Administration (FDA) for the treatment of SAD (Muller, Koen, Seedat, & Stein, 2005). Most recently, the extended-release formula of the SSRI fluvoxamine (Luvox CR) received approval (FDA, 2008). A recent meta-analysis (Blanco et al., 2003) found that phenelzine produced the largest effect sizes on social anxiety outcome measures relative to drug placebo (overall effect size = 1.02), but found no significant differences between phenelzine and the other drugs included in the studies (e.g., gabapentin, clonazepam, brofaromine, and various SSRIs). Recent studies suggest that escitalopram (Lexapro) is superior to placebo in preventing relapse in individuals with SAD (Stein, Bandelow, Dolberg, Andersen, & Baldwin, 2009). Due in part to their reduced side-effect profile, SSRIs are currently recommended as a first-line pharmacological treatment for SAD (Bandelow, Zohar, Hollander, Kasper, & Möller, 2002). There is also evidence that beta-blockers produce a temporary reduction in anxiety symptoms in discrete performance situations, including public speaking (e.g., Hartley, Ungapen, Davie, & Spencer, 1983).

Despite the efficacy of pharmacological treatments, many individuals would prefer not to use medication, due to unwanted side effects, concerns about physical dependence, or risk of relapse. A number of placebo-controlled drug studies have shown high rates of relapse following discontinuation of medications, including SSRIs such as paroxetine (D. J. Stein, Versiani, Hair, & Kumar, 2002) and sertraline (Walker et al., 2000). Several medications for SAD, including the MAOIs phenelzine (Liebowitz et al., 1999) and moclobemide (Prasko et al., 2003) and the benzodiazepine alprazolam (Gelernter et al., 1991), have shown significantly higher rates of relapse compared to

cognitive-behavioral treatment. Therefore, although promising, pharmacological treatment is not optimal for all individuals with SAD.

    1.3.2. Psychodynamic treatments. Although psychodynamic interventions have been used to treat social anxiety in clinical settings, very little controlled research has been reported on psychodynamic therapy for SAD. Claims of its efficacy are found primarily in case studies (e.g., Zerbe, 1994) and treatment manuals (e.g., Leichsenring, Beutel, & Leibing, 2007). An outcome trial of psychodynamic therapy for SAD revealed no differences between psychodynamic group therapy and a credible placebo treatment (Knijnik, Kapczinski, Chachamovich, Margis, & Eizirik, 2004). Therefore, psychodynamic therapy is not currently scientifically supported in the treatment of SAD and public speaking anxiety.

    1.3.3. Relaxation training and systematic desensitization. An early treatment for SAD was systematic desensitization, a technique involving muscle relaxation while imagining feared stimuli (Wolpe, 1958, 1973). Based on the theory of reciprocal inhibition (Sherrington, 1906), the act of relaxing one's muscles was thought to be incompatible with an anxiety response, thus preventing the latter from occurring in the imagined presence of phobic cues (Wolpe, 1958). Other forms of relaxation training, including progressive muscle relaxation (Bernstein & Borkovec, 1973; Jacobson, 1938) and cue-controlled relaxation (Lent, Russell, & Zamostny, 1981), have been used specifically to treat public speaking anxiety. However, Wolpe's (1958) claim that desensitization reduces anxiety via reciprocal inhibition has been disputed (e.g., Kirsch & Henry, 1977). Although results have been inconsistent, many studies of animal phobias have found no added benefit of relaxation over exposure alone (see R. B. Levin & Gross,

1985, for a review). Research using socially anxious individuals has also tended to suggest that exposure, rather than relaxation, is the crucial component of desensitization. For example, in a study utilizing speech-phobic college students, Osberg (1981) found that applied relaxation (i.e., relaxation during in vivo exposure) produced greater improvement than relaxation alone on self-report and behavioral measures at post-treatment. A study of females reporting anxiety in opposite-sex interactions (O'Brien & Borkovec, 1977) found no differences on behavioral or self-report measures of anxiety between systematic desensitization, non-contiguous exposure and relaxation, and exposure alone (but see Borkovec & Sides, 1979, for a contradictory result in speech phobics). A more recent study failed to demonstrate superiority of systematic desensitization over a credible attention placebo in reducing self-reported public speaking anxiety (Duff, Levine, Beatty, Woolbright, & Park, 2007). Despite variability in the results, the research strongly suggests that exposure is responsible for the efficacy of systematic desensitization in the treatment of social anxiety.

1.3.4. Cognitive treatments. Cognitive therapy (CT) treatments for SAD target the cognitive factors (e.g., negative thoughts and beliefs about one's ability to perform in social situations) that are believed to contribute to social anxiety, while simultaneously reducing behavioral avoidance via exposure to actual and simulated social situations (Hope, Heimberg, & Bruch, 1995). Cognitive-behavioral group therapy (CBGT; Heimberg, 1991; Heimberg & Becker, 2002) is the most thoroughly researched treatment for SAD (see Turk et al., 2001). CBGT integrates simulated (role-played) exposure to feared situations, cognitive restructuring, and homework assignments consisting of in vivo exposure (Heimberg & Becker, 2002). CBGT provides a cognitively-based context

for exposure, based on the rationale that exposure to feared stimuli will allow clients to modify their irrational thoughts (e.g., beliefs regarding catastrophic outcomes in feared situations). CBGT has been shown to be more effective than a credible placebo treatment (Heimberg, Dodge, et al., 1990), and roughly equivalent to phenelzine treatment (although phenelzine produced superior outcomes on some measures; Heimberg et al., 1998). Comprehensive Cognitive Behavioral Therapy, a variation of CBGT, has been shown to be equivalent to fluoxetine in the treatment of generalized SAD (J. R. T. Davidson et al., 2004). In the treatment of performance anxiety, CBGT has been found superior to buspirone (D. B. Clark & Agras, 1991). Treatment gains for CBGT have been maintained at 5-year follow-up (Heimberg, Salzman, Holt, & Blendell, 1993; Nolan, 2005).

D. M. Clark (1997) developed a version of CT based upon D. M. Clark and Wells' (1995) cognitive model of SAD, which focuses on factors that maintain anxiety in social situations. According to this theory, SAD is maintained through four processes: heightened self-focused attention and monitoring, use of misleading internal information resulting in negative inferences regarding self-presentation, excessive use of safety behaviors, and negatively biased anticipatory and post-event processing. D. M. Clark's (1997) treatment consists of interventions designed to reverse these maintenance processes. Studies have shown CT to be superior to exposure plus fluoxetine (D. M. Clark et al., 2003) and exposure with applied relaxation (D. M. Clark et al., 2006).

1.3.5. Other treatments. A number of other treatments, including flooding, social skills training, and virtual reality, have been utilized in the treatment of public speaking anxiety. Flooding (as well as its psychodynamic variant, implosive therapy) involves

exposing a client, either in vivo or imaginally, to high levels of an anxiety-provoking stimulus while simultaneously preventing behavioral avoidance, and has demonstrated some efficacy in the treatment of speech anxiety (see Fremouw & Breitenstein, 1990, for a brief review). Social skills training, while adding to the efficacy of exposure-based treatments for social anxiety (e.g., Herbert et al., 2005), is generally not supported as a stand-alone treatment for public speaking anxiety (see Ponniah & Hollon, 2008). Recently, virtual reality-based exposure (Anderson, Rothbaum, & Hodges, 2003; Anderson, Zimand, Schmertz, & Ferrer, 2007) and internet-based exposure to real audiences (Botella et al., 2007) have shown preliminary but promising evidence for the treatment of public speaking anxiety. Internet-based self-help programs have been found to produce results comparable with those of live therapist-delivered treatment, and have been found generally acceptable to patients (Botella et al., 2009). Online treatment has been shown not only to improve SAD outcomes, but also to reduce comorbid symptoms of depression and GAD (Titov, Andrews, Johnston, Schwencke, & Choi, 2009; Titov, Gibson, Andrews, & McEvoy, 2009). CBT delivered via the internet has demonstrated superior results for the treatment of SAD compared to wait-list control (Berger, Hohl, & Caspar, 2009). Treatment gains for internet-based CBT for SAD have been maintained at 30-month follow-up (Carlbring, Nordgren, Furmark, & Andersson, 2009).

   1.3.6. Summary of treatments for SAD/public speaking anxiety. Most of the empirically supported, non-pharmacological treatments for public speaking anxiety (as well as generalized SAD) highlight exposure as the central active treatment component. Typical formats include imaginal exposure, virtual reality, and most commonly, in vivo/simulated exposure. Although other elements of treatment (e.g., cognitive

restructuring, muscle relaxation) vary across therapies, exposure has consistently been held to be a critical ingredient in treating public speaking anxiety.

1.4. Exposure

Over the past few decades, in vivo exposure, in which the phobic individual confronts the feared stimulus or situation directly, has become prevalent in the treatment of various anxiety disorders, including SAD (see Hofmann, 2008). Although other forms of exposure exist, such as imaginal and virtual reality exposure (see Wolitzky-Taylor, Horowitz, Powers, & Telch, 2008, for a review), in vivo exposure remains an extensively utilized component of social phobia treatment research (Ponniah & Hollon, 2008). In cognitive-behavioral interventions for SAD/public speaking anxiety, simulated in vivo exposure exercises (i.e., role-playing) are a mainstay of treatment (e.g., Herbert & Cardiaciotto, 2005; Heimberg & Becker, 2002).

1.4.1. Mechanisms of action. Understanding of the mechanisms by which exposure exerts its effects has evolved in recent years. Originally, it was believed that habituation (i.e., a decrease in anxiety response following repeated exposure to a feared stimulus; Marks & Tobena, 1990) occurred because repeated presentation of the feared object or situation (conditioned stimulus) without the feared outcome (unconditioned stimulus) led to an unlearning of the anxiety response (Mowrer, 1939). However, more recent evidence from both animals and humans suggests that the extinction of the anxiety response occurs as a result of new learning that suppresses that response (see Hofmann, 2008, and Zlomke & Davis, in press, for reviews of this research).

1.4.2. Clinical application issues. A key issue in the use of exposure-based treatments is the schedule according to which they are delivered, including the number

and spacing of sessions. A single-session treatment for specific phobia, relying heavily on exposure, was developed by Öst (e.g., 1989; see Zlomke & Davis, 2008, for a review of single-session treatments for specific phobias). Conflicting results have been obtained for the relative efficacy of massed (often single-session) versus spaced exposure. Rowe and Craske (1998) compared massed and expanding-spaced (i.e., increasing intervals between sessions) exposure schedules for spider phobia. Whereas the massed exposure group demonstrated a greater decrease in fear at post-treatment, the expanding-spaced schedule was more effective in preventing the reemergence of phobic symptoms at follow-up. In a comparison of massed, uniform- (i.e., evenly spaced) and expanding-spaced exposure schedules for the treatment of public speaking anxiety, Tsao and Craske (2000) found a similar differentiation between massed exposure (which resulted in a return of fear by follow-up) and uniform- and expanding-spaced schedules (in which fear reduction was maintained at follow-up). In contrast, Chambless (1990) obtained comparable results for daily versus weekly exposure sessions in the treatment of specific phobia and agoraphobia. In a trial of cognitive-behavioral group therapy for social anxiety, Herbert, Rheingold, Gaudiano, and Myers (2004) found that extending 12 sessions over a total of 18 weeks produced no additional benefit over holding the sessions over 12 consecutive weeks. Chaplin and Levine (1981) found that continuous exposure for 50 minutes was more effective in the treatment of public speaking anxiety than were shorter sessions divided by a brief interval.

Social anxiety treatment outcome trials incorporating exposure treatment typically range from 4 (Block & Wulfert, 2000) to 20 sessions, with a mean of 12 sessions, usually spaced at uniform, 1-week intervals (see Ponniah & Hollon, 2008, for a review). Herbert,

Rheingold, and Goldstein (2002) utilized a 6-week treatment for social anxiety and found

effect sizes comparable to those obtained in studies of 12-week protocols. Taken

together, these studies suggest that anywhere from 4 to 12 sessions, spaced at 1-week

intervals, are potentially effective in the treatment of public speaking phobia.

1.5. Exposure in the Treatment of SAD/Public Speaking Anxiety

As described above, effective treatments for public speaking anxiety usually

involve exposure. Typical formats of exposure in the treatment of public speaking

anxiety include virtual reality and in vivo exposure, including simulated exposure

exercises. Given that exposure is such a powerful treatment, it is unclear whether the

context, or framework, in which exposure is conducted has a significant impact on

treatment outcome. The context or framework may include a rationale for exposure,

exercises or techniques to help facilitate the practice of exposure, and/or guidelines for

interpreting one's experiences after engaging in exposure tasks. The following sections

will review the research on component studies and context for exposure.

1.5.1. Component studies of exposure-based treatments. Although SAD/speech

anxiety treatments incorporating exposure (especially in vivo, often simulated) have

generally outperformed those that lacked an exposure element, conflicting evidence

exists regarding whether adding other components to exposure produces additional

benefit over exposure alone (Ponniah & Hollon, 2008; Turk et al., 2001). Studies of other

treatment components in combination with exposure have yielded mixed results. Social

skills training has been found to add to the effectiveness of CBGT (which has an

exposure component) in treating generalized SAD (Herbert et al., 2005). However,

another study found that a combination of social skills training, rational emotive therapy,

and in vivo exposure was no more effective in treating social anxiety than was exposure alone (Mersch, 1995). In a dismantling study of Eye Movement Desensitization and Reprocessing (EMDR), the eye-movement component of the treatment produced no added benefit over the exposure component in the treatment of public speaking anxiety (Carrigan & Levis, 1999; P. Davidson & Parker, 2001; Herbert et al., 2000). Results for medications in combination with exposure have also varied. Intranasal oxytocin in combination with exposure has been shown to improve positive self-evaluations of appearance and speech performance relative to exposure-plus-placebo; however, no additional benefit has been found for oxytocin over placebo with respect to SAD symptom reduction or overall treatment outcome (Guastella, Howard, Dadds, Mitchell, & Carson, 2009). Both D-cycloserine (Hofmann et al., 2006) and sertraline (Blomhoff et al., 2001; Haug et al., 2000) have been found to enhance the effects of exposure in treating SAD in the short term. However, whereas D-cycloserine plus exposure continued to outperform exposure alone 1 month after treatment (Guastella et al., 2008), participants in a sertraline-plus-exposure condition deteriorated significantly compared to exposure alone at long-term follow-up (Haug et al., 2003). D-cycloserine is hypothesized to work by strengthening biochemical pathways of learning, thereby facilitating the new learning that takes place as a result of exposure (see Hofmann et al.). Therefore, the fact that D-cycloserine is one of the few interventions that has clearly shown increased efficacy in combination with exposure supports the notion that exposure is the key active component of treatment for SAD.

CBGT has demonstrated efficacy in the treatment of both generalized and nongeneralized SAD (Hope, Herbert, & White, 1995); however, it is unclear whether the

cognitive element of the treatment adds any benefit over the exposure component. For example, a dismantling study of CBGT for social phobia revealed few significant differences between CBGT and exposure alone, and also found that cognitive changes were marginally more extensive in the exposure-only group (Hope, Heimberg, et al., 1995). Meta-analyses by Gould, Buckminster, Pollack, Otto, and Yap (1997) and Feske and Chambless (1995) found no significant differences between exposure alone and exposure plus cognitive restructuring. In Taylor's (1996) meta-analysis, cognitive restructuring plus exposure was the only treatment combination that produced significant effects over placebo; however, effect sizes for combined treatments did not differ significantly from those obtained for exposure alone. Emmelkamp, Mersch, Vissia, and van der Helm (1985) found exposure alone to be as effective as two cognitively-based interventions: rational-emotive therapy and self-instruction. Several more recent studies (Hofmann, 2004; Salaberria & Echeburua, 1998; Scholing & Emmelkamp, 1996) have also failed to demonstrate increased benefit with the addition of cognitive interventions to exposure. Conversely, two older studies did provide some support to the notion that cognitive interventions may produce incremental benefits to exposure alone. Mattick and Peters (1988) found that a combined exposure and cognitive restructuring treatment led to more improved functioning and a greater decrease in behavioral avoidance relative to exposure without cognitive restructuring. Similarly, Butler, Cullington, Munby, Amies, and Gelder (1984) found exposure plus cognitively-based anxiety management to be more effective than exposure alone in reducing social anxiety. Due to the mixed results from this research, it is unclear to what extent adding additional components (such as

cognitive restructuring, social skills training, and medication) to exposure produces

benefit beyond exposure alone in the treatment of SAD/public speaking anxiety.

     1.5.2. Presentation context of exposure. Although the incremental benefit of

adding other components to exposure is uncertain and perhaps even dubious, it is difficult

for exposure to be presented in the absence of any context whatsoever. In clinical practice

as well as in research, exposure is generally presented with some type of rationale,

usually either a habituation model of anxiety reduction (e.g., Salkovskis, Clark,

Hackmann, Wells, & Gelder, 1999) or a cognitive modification model (e.g., Hope,

Heimberg, et al., 1995). There is evidence that the way in which exposure is framed can

affect treatment outcome. In a landmark study, Southworth and Kirsch (1988) led

agoraphobic individuals to believe that they were participating in exposure either for the

purpose of therapy (high expectancy) or for the purpose of obtaining a baseline

assessment of their anxiety levels (low expectancy). In reality, the treatments (10

individual sessions of exposure over a 2-3 week period) were identical across the high

and low expectancy conditions. Results revealed greater pre-to-post-treatment

improvement on behavioral measures for the high expectancy ("treatment") than for the

low expectancy ("assessment") group, and the latter did not differ significantly from a

no-treatment control group on measures of behavioral change. This study indicates that

the context in which exposure is presented can produce a substantial impact on treatment

outcome.

     Prior to the popularization of CBT, exposure was typically presented according to

a habituation model (i.e., prolonged and/or repeated contact with a feared stimulus should

lead to a reduction in anxiety; Lader & Mathews, 1968). More recently, a cognitive

change rationale is often provided (e.g., Heimberg & Becker, 2002). Evidence for the relative efficacy of the habituation model compared to the cognitive restructuring model has been inconclusive. In a small pilot study (*n*=16) of individuals suffering from panic disorder and agoraphobia, a cognitive model of exposure produced greater improvement on self-report and behavioral measures of anxiety, panic, and avoidance than did exposure presented within a habituation context (Salkovskis, Hackmann, Wells, Gelder, & Clark, 2007). Importantly, the rationales presented for the two conditions in this study were roughly equivalent in terms of length and detail in order to reduce the likelihood that the two conditions would produce unequal expectancies for improvement. However, although the difference between the credibility ratings for the two conditions was not statistically significant, the cognitive change condition's credibility was rated almost an entire standard deviation above that of the habituation condition. With a larger sample size, this difference would likely have reached statistical significance. Thus, due to the possibility of differential expectancies, it is difficult to make conclusions regarding the relative efficacy of CBT and habituation rationales for exposure based on this study.

Habituation has also been used as a context for exposure in a control condition. For example, in a dismantling study of CBGT for SAD, Hope, Heimberg, and colleagues (1995) presented their exposure-only group with an explanation of classical conditioning and habituation as a context for exposure. To control for time devoted in the CBGT condition to cognitive restructuring, participants in the exposure-only group were taught attention control procedures, spent time graphing subjective anxiety ratings, and were instructed to identify environmental anxiety triggers. Thus, "exposure alone" generally

refers to exposure with some general form of rationale or context, although studies vary in the degree to which this context is emphasized.

Typically, cognitively-based exposure therapies (e.g., CBGT; Heimberg & Becker, 2002) frame exposure as an opportunity to challenge dysfunctional cognitions (e.g., the belief that negative outcome will result from exposure to feared stimuli), and as a chance to experience the (eventual) reduction of anxiety in feared situations. Although not always explicitly stated, cognitively-based treatments (e.g., Heimberg & Becker) have utilized a form of distancing, or separation, between the client and his or her thoughts and feelings. The process of cognitive restructuring allows clients to "step back" from their thoughts and examine them objectively, creating distance between the client and his or her cognitions (see Beck, 1995). However, because this distancing is not a primary focus in traditional cognitively-based exposure, it is not typically mentioned in the rationale or accompanying exercises for exposure tasks (e.g., Heimberg & Becker).

The so-called "third generation" behavior therapies, such as Acceptance and Commitment Therapy (ACT), explicitly identify the creation of distance between oneself and one's cognitions as a goal of therapy (Herbert, Forman, & England, 2009). These approaches emphasize acceptance of, rather than control over, private experiences (e.g., anxiety), in the context of pursuing value-driven goals (Hayes, Strosahl, & Wilson, 1999). In acceptance-based therapies, exposure is often used as a tool for increasing one's willingness to experience anxiety (rather than as a method for altering one's cognitions or reducing anxiety, as in CBGT). In ACT, exposure is framed as an opportunity to participate in valued actions while accepting and distancing oneself from feelings and cognitions (Orsillo, Roemer, Block-Lerner, LeJeune, & Herbert, 2004). In addition,

exposure in ACT is viewed as an additive process; unlike exposure in traditional CBT, which aims to reduce anxiety symptoms, the goal of exposure in ACT is to *increase* valued behavior (Hayes & Duckworth, 2006). The key processes involved in exposure from an ACT perspective are *cognitive defusion*, or separation from one's thoughts and feelings of anxiety, and *acceptance* of these private cognitive and affective experiences.

1.6. Exposure in the Context of Cognitive Defusion and Acceptance

One of the core components of ACT is "cognitive defusion," or detachment, from one's thoughts, feelings, and experiences. According to the ACT model, if one is defused from his or her thoughts and feelings, it means that one can achieve distance from them and see them merely as mental events, rather than seeing them as part of the self. For example, a person who is highly fused with his or her anxiety might have the thought "I am anxious," whereas a person who is defused from that feeling may think "I am having the feeling of anxiety." According to ACT, being excessively "fused" with one's private experiences can lead to distress, whereas cognitive defusion should be associated with psychological flexibility, positive mental health, and better overall functioning (Hayes, Strosahl, et al., 1999).

Defusion is arguably not an entirely new idea; related constructs such as metacognitive awareness and cognitive distancing show many similarities to defusion. Metacognition, as originally defined by Flavell (1976, p. 232), refers to "one's knowledge concerning one's own cognitive processes or anything related to them." Metacognition, or metacognitive awareness, has been used largely to refer to the understanding of knowledge and of one's own learning processes (e.g., Jacobs, 2004; Vandergrift, 2005). In their research with depressed populations, Teasdale and colleagues

have used the term "metacognitive awareness" to mean "a cognitive set in which negative thoughts/feelings are experienced as mental events, rather than as the self" (Teasdale et al., 2002, p. 275). Furthermore, in contrast to traditional notions of "distancing" or "decentering" (Teasdale, Segal, & Williams, 1995) from one's thoughts and feelings as a means of changing cognitions as used in traditional cognitive therapy (e.g., Beck, 1995), Teasdale and colleagues (2002) use metacognitive awareness to refer to the idea of such distancing for the purpose of changing one's relationship to one's private cognitions, rather than trying to change the cognitions themselves. This definition is very similar, if not identical, to defusion. However, metacognitive awareness has been used mainly in relation to cognitive therapy for depression (e.g., Segal, Williams, & Teasdale, 2002), whereas defusion has been applied more broadly (see Hayes & Strosahl, 2004).

Although research into the effects of defusion and related constructs is still in its early stages, several studies exist comparing the relative effectiveness of control-based versus acceptance-based coping strategies (see Hayes, Luoma, Bond, Masuda, & Lillis, 2006, for a review). These studies tend to incorporate defusion (e.g., from feelings of pain) into their acceptance-based interventions. Analogue pain experiments using the cold-pressor task (e.g., Hayes, Bissett, et al., 1999; Keogh, Bond, Hanmer, & Tilston, 2005) and shock (Gutierrez, Luciano, Rodriguez, & Fink, 2004; McMullen et al., in press) have generally found the acceptance-based interventions to be more effective than control-based strategies. Control- and acceptance-based strategies have also been compared with respect to coping with negative thoughts (Masuda, Hayes, Sackett, & Twohig, 2004) and food cravings (Forman et al., 2007). Control-based strategies used in the analogue studies have included positive self-talk, controlled breathing, positive

imagery, distraction, and body focusing, whereas acceptance-based strategies have included instructions to "disconnect" from the pain or distressing experiences, to allow the private experiences to be there without letting them control behavior, and to see them as separate from the self (Eifert & Heffner, 2003; Forman et al., 2007; Gutierrez et al., 2004; Hayes, Bissett, et al., 1999; Keogh et al., 2005; Masuda et al., 2004). Research on coping with negative thoughts has utilized a technique in which a thought is repeated rapidly until it loses its meaningful associations (Masuda et al.). All of the acceptance-based strategies used in these analogue studies rely heavily on the idea of defusion.

1.7. Acceptance-Based Treatment for Social Anxiety

Currently, published research on ACT for social anxiety is limited. In a pilot study of a 12-session, individual-treatment ACT protocol for generalized SAD, Dalrymple and Herbert (2007) found that ACT produced significant improvement in symptom severity and quality of life, as well as in measures of ACT processes, in a clinical sample (*n*=19). The treatment included exposure to feared social situations based on individualized fear hierarchies (see Wolpe, 1958) in sessions 3 through 12. Exposure exercises included both simulated role-play tasks and in vivo exposure to actual situations. The rationale for exposure was presented from an ACT perspective; exposure was framed as a chance to practice one's willingness to experience anxiety while participating in social situations. The protocol also incorporated other elements of ACT, including clarification of personal values and mindfulness training (see Hayes, Strosahl, et al., 1999). In an uncontrolled pilot study, Ossman, Wilson, Storaasli, and McNeill (2006) reported similar results for a 10-session ACT-based group treatment for SAD.

Although preliminary, these studies provide preliminary evidence of the efficacy of acceptance-based treatment for social anxiety.

Very little published research to date has investigated the efficacy of ACT specifically for public speaking anxiety. Block and Wulfert (2000) semi-randomly assigned an analogue population of undergraduates (n=11) with public speaking anxiety to four weekly sessions of group ACT, CBGT, or waitlist control. The ACT condition incorporated the concepts of willingness, valued action, and acceptance, and exposure was framed as an opportunity just to notice one's thoughts and feelings, rather than to change them. Measures of anxiety tended to decrease, whereas willingness ratings increased, in both active treatment conditions relative to placebo; however, the small sample size precluded statistical analyses. In an extension of this study incorporating a larger sample of undergraduates (n=39) and 6 weeks of treatment, only the ACT group displayed a significantly greater increase in speech length (i.e., decreased behavioral avoidance) relative to no-treatment control, although both active treatment groups showed decreased anxiety and increased willingness (Block, 2003).

Thus far, no component control studies have attempted to augment exposure with an acceptance/defusion rationale. Additionally, there have been no studies of ACT processes in the treatment of a clinical population with public speaking anxiety. Given the varied results of the research on adding components to and modifying the context of exposure, it is unclear whether an acceptance/defusion context for exposure will produce additional benefit beyond exposure with a habituation-based rationale. However, the encouraging results obtained thus far in studies of acceptance-based therapy for social

anxiety and public speaking suggest that this is a logical next step in the treatment

validation process.

1.8. Current Study: Rationale, Design, and Hypotheses

The primary aim of the current study was to examine the efficacy of an

acceptance/defusion framework for exposure in a clinical population of individuals with

public speaking anxiety, relative to a standard habituation rationale for exposure. The

present study compared the efficacy of exposure within the context of acceptance and

defusion (ACT) relative to exposure with a habituation rationale (HAB) for the treatment

of public speaking anxiety. This study utilized a clinical sample whose public speaking

anxiety met *DSM-IV-TR* criteria for nongeneralized (i.e., specific) SAD. Participants

were assessed at baseline, pre-treatment, mid-treatment, post-treatment, and 6-week

follow-up; participants also completed a brief weekly assessment of functioning.

Treatment was administered in a group format consisting of 6 weekly sessions. The

design of the study was a 2 (condition) by 4 (assessment occasion) mixed factorial

design.

The following hypotheses were offered.

1.   Given the promising results obtained for acceptance-based treatment of social

       anxiety/public speaking anxiety thus far, it was hypothesized that participants

       in the ACT condition would experience a greater reduction in anxiety and

       behavioral avoidance, and greater improvement in measures of quality of life,

       compared to participants in the HAB condition, at post-treatment and follow-

       up.

2. Additionally, due to the encouraging results of research targeting ACT's component processes, it was expected that acceptance, defusion, and mindfulness would mediate treatment outcome. Specifically, greater changes on measures of these three constructs were expected to account for a significant portion of the effect of treatment condition on the dependent variables.

3. Consistent with ACT's conceptualization, it was hypothesized that lower baseline levels of public speaking anxiety and overall anxiety would be associated with higher baseline quality of life, mindfulness, acceptance, defusion, and social skills.

4. Baseline levels of acceptance, defusion, and mindfulness were expected to predict overall treatment response, regardless of intervention condition.

5. It was hypothesized that participants in the ACT condition would engage in more between-session exposure (i.e., homework assignments) than would participants in the HAB condition.

6. It was further expected that amount of exposure would mediate the relationship between treatment condition and outcome. Specifically, it was hypothesized that the amount of time spent engaging in exposure exercises outside of sessions would account for a significant portion of the effect of treatment condition on outcome.

CHAPTER 2: METHODS

2.1. Participants

The current study was conducted using a clinical sample of individuals with public speaking anxiety. Participants were recruited from the Greater Philadelphia area. The study was publicized via various media outlets, and through flyers posted throughout the community. Announcements regarding the study were posted on the website of the Drexel University Acceptance-Based Behavior Therapy Program and in other community resources (e.g., Craigslist). All announcements directed interested individuals to contact the Drexel Social Anxiety Treatment Program, or the project coordinator, by phone or email.

Previous studies of CBT (e.g., Heimberg et al., 1998) and ACT (Dalrymple & Herbert, 2007) for the treatment of social anxiety disorder have tended to find large pre-to-post (and, in the case of CBT, between-treatment) effect sizes in outcome measures. According to Cohen's Power Primer (1992), the present study would require 52 participants (26 per group) for a 2-group ANOVA, with a power level of .80 and alpha of .05, to detect a large effect size. Similarly, SamplePower 2.0 (Statistical Package for the Social Sciences, 2000) yields a total of 56 participants for a 2-group ANOVA with the same power, alpha, and effect size. In contrast, according to a power analysis conducted using G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007), only 34 participants (17 per group) would be needed to detect a medium effect size ($f = .25$) with the same power and alpha levels for the interaction term of a 2-group, 2-repetition repeated-measures ANOVA. It is possible that the G*Power analysis is more accurate, given that it is the only model that takes into account the repeated-measures design of the study. Due to

limited resources, the study aimed to recruit 40 participants (20 per condition). This goal was exceeded (see below).

Inclusion criteria included clinically diagnosable public speaking anxiety (per *DSM-IV-TR* criteria for nongeneralized social anxiety disorder), fluency in English, aged 18-65, and residence in the greater Philadelphia area. Exclusion criteria included pervasive developmental disability, acute suicide potential, unwillingness or inability to travel to the treatment site, and certain comorbid Axis I diagnoses, namely: generalized SAD, schizophrenia or other psychotic disorder, and current substance dependence. Comorbid diagnoses of Major Depressive or other mood or anxiety disorders were acceptable ONLY if clearly secondary to the diagnosis of public speaking anxiety.

Of the 132 individuals who underwent a phone screening, 70 met initial inclusion criteria and agreed to participate in the diagnostic interview. Following the interview, 11 were excluded because they did not meet eligibility criteria, and 1 refused to participate, leaving 58 eligible individuals. Of these, 13 dropped out before randomization and were excluded from further analyses. Therefore, a total of 45 individuals were randomized (21 (47%) in the ACT condition, and 24 (53%) in the HAB condition) and attended at least one treatment session. Of these, 35 (16 (46%) ACT, 19 (54%) HAB) were considered treatment completers. Treatment completion was defined as attendance of at least three group sessions, including the last session. Participants who could not attend the final session, but who had attended at least three group sessions, were still considered completers if they were able to attend a final individual session (in person or via phone) and complete at least part of the post-treatment assessment measures.

Of the participants who were enrolled and randomized (n = 45), 36 (80%) were female and 9 (20%) were male. The participants' mean age was 31.93 years (SD = 10.55; range = 19-63), and 46.7% of the sample was single (46.7% married or living with partner, 4.4% divorced, 2.2% declined to answer). Ethnicity of the sample was as follows: 13.3% African American/Black, 8.9% Asian American, 4.4% Asian/Pacific Islander, 64.4% White, 2.2% Latino/Hispanic, 4.4% Multiracial, and 2.2% declined to answer. The majority of participants (75.6%) were students (22.2% undergraduate, 53.3% graduate).

2.2. Measures

2.2.1. Diagnostic Measures

2.2.1.1. Structured Clinical Interview for DSM-IV Axis I Disorders (SCID). The SCID (First, Spitzer, Gibbon, & Williams, 1996) is an extensively utilized structured diagnostic interview based on *DSM-IV* (APA, 1994) criteria. Estimates of interrater reliability range from moderate to high for most Axis I disorders, including social phobia (e.g., Williams et al., 1992; Zanarini & Frankenburg, 2001). In several studies utilizing a longitudinal examination of patient data, the SCID has demonstrated superior diagnostic validity over other structured clinical interviews at intake (Basco et al., 2000; Fennig, Craig, Lavelle, Kovasznay, & Bromet, 1994; Fennig, Naisberg-Fennig, Craig, Tanenberg-Karant, & Bromet, 1996; Kranzler et al., 1995; Kranzler, Kadden, Babor, Tennen, & Rounsaville, 1996). Dalrymple and Herbert (2007) successfully utilized the SCID to identify individuals with generalized social anxiety disorder. According to standard SCID procedure, potential participants in the current study were administered the initial screening portion of the interview, and only the relevant diagnostic modules as

indicated by the screening measure were administered thereafter. All participants were

administered at least the mood and anxiety disorders modules.

2.2.1.2. Anxiety Disorders Interview Schedule (ADIS-IV)—Social Phobia section.

The ADIS-IV (Brown, DiNardo, & Barlow, 1994) is a diagnostic interview schedule used

to assess anxiety disorders according to *DSM-IV* criteria. In the current study, only the

social phobia portion of the ADIS-IV was used to increase reliability in the diagnosis of

nongeneralized SAD. Sufficient inter-rater reliability has been found for the ADIS-IV in

diagnosing SAD, as well as in diagnosing other anxiety disorders (Brown, DiNardo,

Lehman, & Campbell, 2001). The ADIS-IV has been used in studies of social anxiety

(e.g., Dalrymple & Herbert, 2007; Newman, Kachin, Zuellig, Constantino, & Cashman-

McGrath, 2003) to improve diagnostic accuracy.

2.2.2. Outcome Measures

2.2.2.1. Personal Report of Communication Apprehension (PRCA-24). The

PRCA-24 (McCroskey, 1982) is a modified version of the original 25-item PRCA

(McCroskey, 1970). The PRCA-24 consists of 24 self-report items assessing

communication apprehension in four contexts (6 items per context): group discussions,

meetings, interpersonal conversations, and public speaking. Items consist of statements to

be rated on a 5-point Likert-type scale ranging from "Strongly Agree" to "Strongly

Disagree." An example item from the public speaking subscale is "My thoughts become

confused and jumbled when I am giving a speech." The PRCA-24 has demonstrated high

internal consistency, criterion validity, and content validity (McCroskey, Beatty,

Kearney, & Plax, 1985), as well as construct validity (Keaten, Kelly, Begnal, Heller, &

Walker, 1993) and convergent validity (Keaten & Kelly, 1994). Test-retest reliability is

high (Rubin, Graham, & Mignerey, 1990), supporting the use of the PRCA-24 as a trait measure of communication apprehension. Factor analysis of the PRCA-24 has revealed four distinct dimensions based on the four communication contexts assessed, supporting the use of each as an independent factor (Levine & McCroskey, 1990). Several studies (Ayers, 1988; Richmond & McCroskey, 1995; Rubin et al., 1990) have found the four factors of the PRCA-24 to be distinct from one another. The current study, therefore, utilized only the public speaking subscale of the PRCA-24.

2.2.2.2. *Personal Report of Confidence as a Speaker (PRCS)—Short Form.* The PRCS, a self-report measure of confidence in public speaking situations, was originally developed by Gilkinson (1942) and modified by Paul (1966) into a 30-item true/false format. The PRCS has been shown to have significant internal consistency and convergent validity with several other public speaking measures (Daly, 1978). Hook, Smith, and Valentiner (2008) proposed a 12-item version of the PRCS based on their analysis of its factor structure. This short form, comprised only of straightforwardly worded (i.e., not reverse-worded) items, demonstrated internal consistency and construct validity, as well as convergent validity with measures of anxiety, social performance anxiety, shyness, and self-consciousness; its correlations with these measures equaled or surpassed those of the 30-item version (Hook et al., 2008). The short form also showed preliminary evidence of divergent validity with a measure of sociability. Although the authors acknowledge that further investigation is necessary, they conclude that the short form of the PRCS has shown promise for research and clinical settings as a useful measure of public speaking fears.

2.2.2.3. Self-Statements During Public Speaking (SSPS). The SSPS (Hofmann &

DiBartolo, 2000) is a 10-item self-report measure designed to assess cognitions in public

speaking situations. The SSPS contains two 5-item subscales: Positive Self-Statements

(SSPS-P) and Negative Self-Statements (SSPS-N). Items are rated on a 6-point Likert

scale ranging from 0 (do not agree at all) to 5 (agree extremely). Across clinical (social

phobia) and nonclinical samples, both subscales of the SSPS have shown good internal

consistency (Hofmann & DiBartolo, 2000; Hofmann, Moscovitch, Kim, & Taylor, 2004)

and test-retest reliability, as well as convergent and discriminant validity (Hofmann &

DiBartolo). The SSPS-N, which has been found to correlate significantly with

psychopathology (Hofmann & DiBartolo), has demonstrated sensitivity to change as a

result of short-term treatment (Anderson et al., 2003; Hofmann & DiBartolo).

Additionally, individuals who scored high on the SSPS-N reported greater subjective

anxiety and greater negative affect during a speech task, as well as lower expectations for

success prior to and lower satisfaction with their performance after a speech (Hofmann &

DiBartolo).

2.2.2.4. State-Trait Anxiety Inventory (STAI)—State Scale. The STAI

(Spielberger, 1983; Spielberger, Gorsuch, & Lushene, 1970) is a self-report measure

consisting of two 20-item scales (one measuring state anxiety and one measuring trait

anxiety). For the current study, only the state scale (A-State) of the STAI was used. The

A-State instructs respondents to rate, on a 4-point Likert scale ranging from "not at all" to

"very much so," how they feel at the present moment. Example items include "I feel

tense" and "I feel nervous." The two STAI scales have demonstrated high internal

consistency (Spielberger, 1989) and adequate convergent and discriminant validity

(Spielberger, 1983). Additionally, the A-State has shown sensitivity to changes in anxiety over time (Spielberger, 1983), supporting its use as a measure of transitory, situational anxiety. The A-State has also been shown to discriminate between respondents who completed the measure in stressful versus non-stressful conditions (Metzger, 1976). In a study of public speaking anxiety, the A-State has been found to correlate significantly and positively with the PRCA (McCroskey & Beatty, 1984).

2.2.2.5. *Quality of Life Inventory (QOLI).* The QOLI (Frisch, 1994) is a 32-item self-report instrument measuring perceived importance of and satisfaction in 16 life domains, such as health, work, community, and friendships. For each domain, respondents rate the importance of that area on a 3-point scale ranging from 0 (not important) to 2 (extremely important). Respondents also rate their satisfaction in each domain on a 6-point scale ranging from -3 (very dissatisfied) to +3 (very satisfied). The QOLI has demonstrated high test-retest reliability and high internal consistency across clinical and nonclinical samples, as well as good criterion validity (Frisch, Cornell, Villanueva, & Retzlaff, 1992). The QOLI has shown good convergent validity with other measures of subjective well-being, and correlates significantly and negatively with measures of psychopathology, depression, and anxiety (Frisch et al., 1992). In social anxiety treatment research, the QOLI has shown sensitivity to treatment effects of an internet self-help program (Andersson et al., 2006), CBGT (Safren, Heimberg, Brown, & Holle, 1996/1997), and ACT (Dalrymple & Herbert, 2007).

2.2.2.6. *Clinical Global Impression Scale (CGI).* The CGI (National Institute of Mental Health, 1985) is a clinician-rated measure of global symptom severity and improvement. The CGI-Severity (CGI-S) requires the clinician to rate symptom severity

on a 7-point scale, ranging from 1 (normal/not at all ill) to 7 (among the most extremely

ill patients). The CGI-Improvement (CGI-I) asks the clinician to estimate the patient's

improvement over baseline, from 1 (very much improved) to 7 (very much worse). An

early modified version of the CGI for social anxiety has demonstrated good interrater

reliability (Juster, Heimberg, & Mattia, 1993). In a study of the most recent version of the

CGI for SAD, the CGI-S was shown to have good convergent validity with self-report

measures of quality of life, depression, and impairment, and with both self-report and

clinician-administered measures of social anxiety, across assessment time points (Zaider,

Heimberg, Fresco, Schneier, & Liebowitz, 2003). The CGI-I demonstrated adequate

convergent validity with measures of social anxiety symptoms, but not with depression,

quality of life, or impairment. The CGI-S and CGI-I were also found to correlate highly

with one another (Zaider et al., 2003). In the current study, an independent evaluator

completed the CGI-S at baseline, post-treatment, and follow-up, and completed the CGI-I

at post-treatment and follow-up only.

2.2.2.7. Behavioral Assessment Test (BAT). At pre- and post-treatment,

participants completed a brief Behavioral Assessment Test (sometimes referred to as the

Behavioral Avoidance Test; see McGlynn, 1988) consisting of an impromptu speech

before a small audience (i.e., graduate-student confederates). Participants were allowed to

continue speaking for up to 10 minutes (see Beidel, Turner, Jacob, & Cooley, 1989);

length of speech was recorded as a measure of behavioral avoidance. Prior to beginning

the BAT, participants were prompted to choose a speech topic randomly by drawing a

topic from a box. In actuality, each piece of paper in the box listed the same topic:

"Things to do in the Philadelphia area" (at pre-treatment) and "Description of an ideal

vacation" (at post-treatment). The topic was changed from pre- to post-treatment in order

to reduce practice effects. The experimenter provided the participant with a clip-on

"STOP" card, which the participant could hold up to indicate when he or she wished to

stop the speech. In several studies involving extended speech BATs (e.g., Hofmann et al.,

2004; Ries et al., 1998), participants are given the opportunity to use such a visual cue to

end the speech because they may be too anxious or lack the social skills necessary to

verbalize their desire to end the task (McNeil, Ries, & Turk, 1995). The following

instructions regarding exiting the BAT were given prior to initiating the speech: "We

would like you to continue speaking for as long as you can. If you reach a certain time

point, I will tell you to stop. If you wish to stop before then, please say 'I want to stop' or

hold up the "STOP" card that I gave you." Participants were asked to rate their anxiety on

the Subjective Units of Discomfort Scale (SUDS; Wolpe & Lazarus, 1966), which ranges

from 0-100, at the beginning of the BAT session (prior to receiving further instructions)

and again just prior to beginning the actual speech. At the conclusion of the speech,

participants were asked to give another SUDS rating and also to report their highest

SUDS level during the entire BAT. All speeches were videotaped.

The first three minutes (or less, for cases in which the participant failed to speak

for three full minutes) of each BAT speech were evaluated by an independent assessor

blind to treatment condition and assessment time point. The three-minute time frame was

chosen in order to be consistent with previous research on social skills in socially anxious

populations (i.e., Dalrymple & Herbert, 2007). A second assessor rated 30% of the BAT

speeches for reliability purposes. The assessors provided ratings of perceived anxiety,

using the same scale (0-100) that the participants used for their SUDS ratings. Assessors

also rated participants' social skills during the BAT. Using a 5-point Likert scale ranging from 1 (Poor) to 5 (Excellent), assessors rated social skills on three dimensions: verbal content, nonverbal skills, and paralinguistic skills. Assessors also provided a rating of overall social skills, using the same 5-point scale. There is support for the use of social skills ratings in role-play tests, including speech tasks (Herbert et al., 2005). Assessors were trained to a reliability level of .80. Interrater reliability was monitored using intraclass correlations (ICC; see Dalrymple & Herbert, 2007). Final Cronbach's alpha for the ICC was .86.

2.2.2.8. *Between-Session Exposure Exercises.* At the end of sessions 2-5, participants were assigned public-speaking exposure exercises for homework. Participants were asked to record the nature of and amount of time (in minutes) spent in each exposure exercise on a worksheet (see Appendix M for worksheets used in the treatments).

2.2.2.9. *Demographics Questionnaire.* At baseline, participants completed a demographics questionnaire on which they reported their age, occupation, marital status, ethnicity, education level, and treatment history.

2.2.3. *Mediational/Process Measures*

2.2.3.1. *Drexel Defusion Scale (DDS).* The DDS (Forman, Herbert, & Moitra, 2008) is a 10-item self-report measure of cognitive defusion. After reading a 3-paragraph definition of defusion, respondents rate (on a 6-point Likert scale ranging from "not at all" to "very much") their ability to defuse from thoughts or feelings in 10 different domains, such as anger, anxiety, and thoughts about the future. Each item begins with a brief description of the domain to be assessed. An example is the following: "Things

have not been going well at school or at your job, and work just keeps piling up. To what extent would you normally be able to defuse from anxious thoughts like 'I'll never get this done'?"

The DDS has been piloted with a treatment-seeking population (composed of graduate students) in the Drexel University Student Counseling Center, as well as with an analogue sample of undergraduates (Forman, Herbert, et al., 2008). The measure was found to comprise a single factor, consistent with the unidimensional construct of defusion. Internal reliability and inter-item correlations were high. In both the clinical and nonclinical samples, the DDS demonstrated good internal consistency (Cronbach's alpha = .80 for the clinical and .83 for the nonclinical sample), as well as convergent validity with measures of psychological acceptance and quality of life. The DDS was found to correlate significantly and negatively with psychopathology and experiential avoidance. In the clinical sample, the DDS demonstrated incremental validity with measures of psychopathology and quality of life, after controlling for similar constructs. Though preliminary, these results suggest that the DDS is a useful measure of cognitive defusion.

2.2.3.2. Philadelphia Mindfulness Scale (PHLMS). The PHLMS (Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008) is a 20-item self-report measure designed to assess the two key components of mindfulness: moment-to-moment experiential awareness and non-judgmental psychological acceptance. Items are rated on a 5-point Likert scale ranging from "never" to "very often". A sample item from the Awareness subscale is "I am aware of what thoughts are passing through my mind." A sample item from the Acceptance subscale is "I try to distract myself when I feel unpleasant emotions." The measure was validated using clinical and nonclinical samples, and was

able to discriminate between these two populations. Each of the two subscales was found

to be highly internally consistent (Cronbach's alpha = .85 and .87 for Awareness and

Acceptance, respectively); the two subscales were determined to represent independent

dimensions of mindfulness and were not correlated with one another. Evidence was also

found for convergent and discriminant validity with measures of well-being and

psychopathology. The PHLMS has demonstrated adequate concurrent validity with other

measures of mindfulness, although its bidimensional assessment of mindfulness is unique

(Cardaciotto et al., 2008).

   2.2.3.3. Acceptance and Action Questionnaire – II (AAQ-II). The AAQ-II (Bond

et al., 2008) is a 10-item, unidimensional measure of an individual's ability to accept

unpleasant internal experiences while continuing to engage in valued behaviors. Items are

scored on a 7-point Likert scale ranging from "never true" to "always true." An example

item is "Worries get in the way of my success." A higher score on the AAQ-II represents

greater psychological acceptance. The AAQ-II is a revised version of the original

Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004). The original AAQ,

though useful across a number of studies (see Hayes et al., 2006 for a review),

demonstrated some weaknesses, such as problems with internal consistency, as a result of

item wording and item selection procedures; these problems were addressed in the

development of the AAQ-II (Bond et al.) The AAQ and AAQ-II have been found to be

highly correlated with one another ($r = .82$). Preliminary evidence gathered from seven

samples suggests that the AAQ-II possesses adequate concurrent, predictive, convergent,

discriminative, and incremental validities and test-retest reliability (Bond et al.). The

authors found that AAQ-II scores were negatively correlated with depression, stress,

anxiety, and overall psychological distress, and that AAQ-II scores predicted overall distress a year later. Higher scores on the AAQ-II were also found to predict changes in functional performance in the workplace, including increased sales and decreased absence rates.

    2.2.3.4. Before-Session Questionnaire (BSQ). The BSQ (Forman, Chapman, & Herbert, 2008) is a 15-item self-report measure of thoughts and feelings in several domains, such as life satisfaction, anxiety, and progress toward one's goals, during the previous week. Items are rated on a 7-point Likert scale. In a study comparing traditional CBT and ACT, responses to items on the BSQ were found to mediate treatment response and to correlate significantly with measures of depression, anxiety, life satisfaction, acceptance, and believability and frequency of distorted thoughts (Forman et al., 2006). The BSQ was administered at the beginning of each treatment session.

    2.2.3.5. Reaction to Treatment Questionnaire (RTQ). The RTQ (Holt & Heimberg, 1990) is a self-report measure designed to evaluate treatment credibility and outcome expectancy. A modified version, specific to public speaking anxiety, was used in the current study. The first three items, originally constructed by Borkovec and Nau (1972), ask respondents to rate (on a 10-point scale) the general logic and credibility of the treatment. A second section contains two items on which participants rate, again on a 10-point scale, their confidence that the treatment would eliminate fears in anxiety-provoking social situations (Amies, Gelder, & Shaw, 1983). A final section consists of four items asking respondents to rate the current severity, from 1 (not at all severe) to 10 (very severe), of their main fear, as well as how severe they expect their main fear to be at the end of treatment and at one and five years post-treatment. The RTQ has shown

high internal consistency and has been found to correlate negatively with various social anxiety and functional impairment measures, and to have predictive validity regarding treatment outcome (Safren, Heimberg, & Juster, 1997). Participants completed the RTQ at the conclusion of the first session, after they had been presented with the treatment rationale.

2.3. Procedure

Individuals expressing interest in the study were asked to participate in a brief (10-15 minutes) telephone screening in order to provide them with information about the study and to assess their public speaking anxiety. To rule out generalized social anxiety, potential participants were assessed to determine whether they experienced clinically significant fears in social situations other than public speaking. Individuals who were deemed to be likely candidates for the study on the basis of the telephone screening were invited to the anxiety clinic to participate in a diagnostic interview. Trained diagnosticians (graduate and undergraduate psychology students) evaluated potential participants using the anxiety and mood portions of the SCID, as well as the ADIS. Diagnosticians were trained by the clinical supervisor (JDH), who provided an extensive overview of the assessment measures and assisted in practice administrations. After this initial training, diagnosticians then observed 1-2 assessments conducted by an advanced graduate student, and were subsequently observed by an advanced graduate student while administering an assessment. Reliability was assessed by comparing the diagnostic assessments of the diagnostician trainee and the advanced graduate student. All diagnostic evaluations were reviewed with one or both of the clinical supervisors for the study (JDH and EMF, both licensed clinical psychologists) prior to enrolling participants.

Individuals who did not meet criteria for the study, as assessed by the telephone

screening and/or the diagnostic assessment, were referred to appropriate community

resources.

Prior to the first treatment session, participants were assessed using all self-report,

clinician-rated, and behavioral measures. Participants completed the self-report measures

again at mid-treatment (i.e., between the third and fourth sessions). At post-treatment, all

measures (self-report, clinician-rated, and behavioral) were again completed. At 6-week

follow-up, the clinician-rated measures were completed over the phone with the

participant, and participants again completed the self-report measures. Additionally,

participants completed the BSQ at the beginning of each session and the RTQ at the

conclusion of the first session. Table 1 illustrates the assessment schedule. All self-report

measures (with the exceptions of the RTQ and the BSQ) were completed online using

SurveyMonkey.

Table 1. Schedule of Assessments

	Baseline	Pre-Treatment	After 1st session	Mid-Treatment	Post-Treatment	Follow-up	Weekly

Self-report measures	Demographics	AAQ-II
		DDS
		PHLMS
		PRCA-24
		  (Public
		  Speaking
		  Subscale)
		PRCS
		QOLI
		SSPS
		STAI
		  (A-State)
			RTQ	AAQ-II
				DDS
				PHLMS
				PRCA-24
				  (Public
				  Speaking
				  Subscale)
				PRCS
				QOLI
				SSPS
				STAI (A-State)
					AAQ-II
					DDS
					PHLMS
					PRCA-24
					  (Public
					  Speaking
					  Subscale)
					PRCS
					QOLI
					SSPS
					STAI
					  (A-State)
						AAQ-II
						DDS
						PHLMS
						PRCA-24
						  (Public
						  Speaking
						  Subscale)
						PRCS
						QOLI
						SSPS
						STAI
						  (A-State)
							BSQ

Clinician-rated measures	SCID ADIS-IV CGI-S				SCID ADIS-IV CGI-S CGI-I	SCID ADIS-IV CGI-S CGI-I	
Behavioral measures		BAT			BAT		

Treatment groups of 4-8 participants were formed on a rolling admission basis. Groups of participants with a common available meeting time were assigned randomly to one of the two treatment conditions (ACT or HAB). In order to attain relatively equal sample sizes between the two conditions given the varying number of participants in each cohort, a total of four HAB cohorts and three ACT cohorts were treated.

2.3.1. Treatments

Each of the two treatment conditions consisted of 6 two-hour group sessions. The first session consisted primarily of icebreaker activities and an explanation of the rationale (either acceptance/defusion or habituation) to be used in the sessions. Participants were assigned to complete an exposure hierarchy of feared public speaking/performance situations to bring to the second session. Beginning in the second session, participants engage in role-played exposure exercises consisting of various public speaking situations. These exposure exercises involved other group participants as well as confederates. At least 10 minutes of exposure exercises were allotted in each session (2-6) for each group member. In sessions 2-4, these exposure exercises were mainly impromptu speaking situations. In session 5, participants delivered a brief, prepared speech (assigned the week before) on a topic of their choice. The final session exposure consisted of singing karaoke-style in front of the group members and confederates. (Although this was not public speaking per se, it was included because it was considered a performance situation and was listed highly on many participants' exposure hierarchies.) Each session concluded with a brief review and the assignment of homework, consisting of in vivo exposure tasks and exercises specific to the particular treatment modality. Therapists (doctoral students in clinical psychology) were trained by

the project coordinator and the Director of the Anxiety Treatment and Research Program (JDH) in administering each of the treatment protocols. A total of three therapists, including the project coordinator, provided treatment. Two therapists co-led each group; each therapist led at least two cohorts with each of the other therapists, in order to minimize experimenter effects. Junior therapists began by acting as a co-therapist with the project coordinator, gradually carrying more responsibility for sessions as treatment progressed. Weekly supervision meetings were conducted with the project coordinator.

  2.3.1.1. Exposure with acceptance/defusion context (ACT). The treatment delivered in this condition utilized concepts derived from Acceptance and Commitment Therapy (Hayes, Strosahl, et al., 1999). Treatment first focused on the ineffectiveness of participants' past attempts to control or reduce their anxiety in public speaking situations. As an alternative to these control attempts, the notion of acceptance of one's private experiences (thoughts, feelings, sensations) was introduced as a key concept. Treatment focused on "willingness" to experience unwanted thoughts and feelings while simultaneously engaging in valued activities, especially those related to public speaking. A second key concept, cognitive defusion, focused on teaching participants to view themselves as separate from their internal experiences, thereby allowing the private experiences to occur without preventing the participant's engagement in exposure exercises. Techniques designed to foster acceptance and defusion were presented and practiced prior to and during exposure exercises, and were assigned as homework between sessions.

  The techniques used in the sessions (described further in Hayes, Strosahl, et al., 1999) were adapted as needed to suit a group therapy setting, and were also modified for

use as homework assignments. One example of a defusion exercise used in session is "Picking Up The Pen." In this exercise, each group member held a pen in the palm of his or her hand, and repeated the words "I can't pick up the pen" several times while lifting the pen with the opposite hand, thus demonstrating that thoughts are not always true. The practice of mindfulness meditation is similarly versatile. In session, therapists guided all group members simultaneously through the process of mindfulness meditation (using guided imagery, such as imagining one's thoughts placed upon leaves flowing on a stream). As a homework assignment, participants were assigned to practice mindfulness meditation individually, recalling the exercise demonstrated by the therapist. See Appendix A for the ACT treatment manual developed and used for this study.

  2.3.1.2. Exposure with habituation context (HAB). The context for exposure in this condition involved explanations of behavioral principles, including classical and operant conditioning and habituation. The rationale for exposure utilized material from Salkovskis and colleagues' (2007) habituation-based exposure therapy (HBET) condition. Participants were told that, according to principles of classical conditioning, they had learned to associate public speaking situations with unwanted feelings of anxiety. It was explained that, when they avoid or escape public speaking situations, the resulting decrease in anxiety raises the likelihood that they will do so in the future. Participants were then taught the underlying principle of habituation; that is, that anxiety tends to decrease as a result of repeated and prolonged exposure to feared situations. When engaging in exposure exercises (both in session and assigned homework exercises), participants were encouraged to remain in the feared speaking situation until their anxiety (i.e., SUDS rating) decreased.

During sessions, group members were prompted for SUDS ratings at various points during their individualized exposure exercises; these prompts were gradually faded across sessions. These SUDS ratings were charted on a white board in front of the group, in order to demonstrate the pattern of anxious arousal experienced throughout the exposure exercise. Participants were asked to record their anxiety levels in a similar manner (including at least 3 data points) during exposure exercises completed for homework. See Appendix A for the HAB treatment manual developed and used for this study.

2.4. Ethical Issues

Informed consent was obtained from all participants. They were informed that they could refuse to participate or stop at any time. Participants were told that they might experience anxiety during treatment sessions, particularly while completing the exposure exercises. Such anxiety is to be expected given the nature of public speaking fears, and was addressed in treatment sessions. No adverse reactions occurred during the study.

Data has been stored separately from the informed consent forms, and no identifying information has been stored with the data. Each participant's data has been identified by a subject number. Only the project coordinator has access to participants' personal information. All data and informed consent forms will be stored for at least three years following completion of the study, in accordance with Drexel University's IRB guidelines.

CHAPTER 3: RESULTS

3.1. Preliminary Analyses

The two treatment conditions were compared on demographic, outcome, and

process variables using *t*-tests; no pre-existing differences were found between the two

conditions. Data were inspected and tested to ensure that they met the assumptions of an

analysis of variance (ANOVA) model (e.g., normal distribution, homogeneity of variance

and covariance). Data were plotted for visual examination and inspected for outliers and

normal distribution, and tested for skewness and kurtosis. Data were tested using

Levene's test for homogeneity of variance. No extreme problems with distribution were

found; therefore, it was not necessary to transform the data to meet the assumptions of the

ANOVA model. No between-groups differences were found on a measure of treatment

outcome expectancy (RTQ; t (43) = -1.16, p = .25).

3.2. Main Analyses

Unless otherwise specified, all data were analyzed using an intent-to-treat model.

For any participants with missing data points (i.e., dropout), the last completed data point

was carried forward. To address the issue of low power, analyses focused on effect sizes

in addition to significance values. No pre-existing differences were found between

completers and non-completers on either demographic variables or on baseline measures

of public speaking anxiety, state anxiety, quality of life, or any of the treatment process

measures. Descriptive statistics for outcome and process measures at each assessment

point, separated by treatment condition, are displayed in Tables 2-9.

Hypothesis 1. The effects of treatment on the various outcome measures were

assessed via a series of 2 (treatment condition) X 4 (assessment occasion) mixed

repeated-measures ANOVAs, using assessment point (pre-treatment, mid-treatment, post-treatment, and follow-up) as the within-participants variable and treatment condition (ACT or HAB) as the between-participants variable. It was hypothesized that a time-by-condition interaction would occur, with greater improvement on outcome measures for the ACT group. This hypothesis was not supported; there were no significant between-groups differences or interactions between the two conditions on any of the outcome measures. However, there were significant within-groups differences on most of the measures over time. Results for each of the outcome measures are displayed in Table 10 and described briefly below.

Completer analyses revealed no significant differences between conditions on caseness, defined by diagnostic rating on the SCID (F (1, 32) = .52, p = .48, η^2_p = .02), or on clinician severity ratings (F (1, 32) = .46, p = .50, η^2_p = .01). A similar pattern of results was obtained for intent-to-treat analyses (see Table 10). For completers, there was a significant main effect of time on SCID diagnostic rating (F (2, 66) = 129.86, p < .001, η^2_p = .80). This result remained significant when the data were analyzed using an intent-to-treat model (F (2, 86) = 76.45, p < .001, η^2_p = .64). At post-treatment, all but two participants who completed treatment (both in the HAB condition) no longer met criteria for SAD. At 6-week follow-up, all but one completer had improved to either partial or full remission.

Significant improvement was observed on self-report measures of public speaking (PRCA, PRCS, SSPS) for both conditions from pre- to post-treatment; these gains were maintained at 6-week follow-up (see Figures 1-4). Within-subjects effect sizes (η^2_p) for these measures ranged from .43 to .56 (F = 27.85 to 53.32, all p < .001). Between-groups

effect sizes and time-by-condition interactions were generally small and non-significant (see Table 10). There were no differences in BAT speech duration across conditions or assessment points; however, there was a significant reduction in highest self-reported anxiety (SUDS) across conditions from pre- to post-treatment (F (1, 43) = 35.36, $p <$ .001, η^2_p = .45; see Figure 5). A similar reduction from pre- to post-treatment was found for both pre-BAT SUDS and post-BAT SUDS. No between-groups differences in SUDS were observed, with the exception of a small main effect of treatment condition on baseline SUDS (F (1, 43) = 6.97, p = .01, η^2_p = .14). Observer-rated social skills for the BAT improved significantly from pre- to post-treatment (for overall social skills, F (1, 43) = 13.06, $p <$ .001, η^2_p = .23; similar patterns obtained for individual types of social skills) and did not differ between treatment conditions. No significant within- or between-groups differences were observed on self-report measures of overall state anxiety (STAI) or quality of life (QOLI); between-groups effect sizes were small (η^2_p = .01 and .03, respectively).

A significant main effect (increase) was observed for self-reported defusion (DDS; F (3, 99) = 12.03, $p <$ .001, η^2_p = .27; see Figure 6). The between-groups and interaction effects were not significant (see Table 11). No significant within- or between-groups effects were obtained for mindfulness (PHLMS) or for psychological acceptance (AAQ-II), although the within-groups effect for the PHLMS-Acceptance approached significance (F (3, 96) = 2.54, p = .06, η^2_p = .07). These data are displayed in Table 11.

Hypothesis 2. Due to the lack of significant between-groups differences on outcome measures, it was not possible to conduct formal mediational analyses in order to test the hypothesis that acceptance, defusion, or mindfulness would mediate treatment

outcome. Therefore, a partial mediational analysis was conducted by correlating residualized change scores for the predictor variables and outcome variables across overlapping and non-overlapping time points. Changes in the predictor variables (acceptance, defusion, and mindfulness) from pre- to mid- and from pre- to post-treatment were correlated with changes in the outcome variables from mid- to post-treatment and from mid-treatment to follow-up. These relationships were examined both for the overall sample and for each treatment condition separately. A variety of significant correlations were found, although there did not appear to be a clear pattern across specific time frames and measures. In general, the relationships between the process and outcome measures were as expected; that is, increases in defusion, mindfulness, and acceptance generally predicted improvement in the outcome measures. No clear-cut differences were observed between the two treatment conditions with respect to mediation. Significant correlations are displayed in Tables 12-15.

Hypothesis 3. To examine the hypothesized relationships between baseline levels of public speaking anxiety, overall anxiety, quality of life, acceptance, mindfulness, defusion, and social skills, a correlational analysis was used to assess relationships between the behavioral, self-report, and clinician-rated measures at baseline. Higher baseline state anxiety on the STAI was associated with lower baseline scores on the QOLI, PHLMS-Acceptance, and AAQ-II. Greater baseline scores on the SSPS-Negative were associated with lower baseline scores on the PHLMS-Acceptance, AAQ-II, and DDS. These correlations are displayed in Table 16.

Hypothesis 4. To examine the moderating effects of baseline levels of acceptance, defusion, and mindfulness on overall treatment response, a correlational analysis was

used to assess the relationship between baseline measures of these variables and

residualized gain scores on public speaking anxiety, overall anxiety, quality of life, and

social skills. In the ACT condition only, baseline defusion as measured by the DDS was

significantly and negatively correlated with change in overall state anxiety on the STAI

A-State from pre- to post-treatment ($r = -.52$, $p = .03$) and from pre-treatment to follow-

up ($r = -.61$, $p = .001$). For the overall sample, baseline acceptance on the AAQ-II was

significantly and negatively correlated with mid-to-post-treatment change on the STAI (r

$= -.39$, $p = .01$); however, this relationship was not significant within either of the two

treatment conditions when they were examined separately. For the ACT condition,

baseline AAQ-II scores were positively correlated with changes in quality of life (QOLI)

from mid- to post-treatment ($r = .44$, $p < .05$). The opposite was true for the Habituation

condition: baseline AAQ-II scores were negatively correlated with change on the QOLI

from pre-treatment to follow-up ($r = -.43$, $p = .04$). For the overall sample, baseline

mindful acceptance (PHLMS-Acceptance) was significantly and negatively correlated

with mid-to-post-treatment change in the STAI A-State ($r = -.32$, $p = .04$). Within the

ACT condition, baseline PHLMS-Acceptance scores were positively correlated with mid-

to-post-treatment change in public speaking confidence on the PRCS ($r = .45$, $p < .05$).

For the Habituation condition, baseline PHLMS-Acceptance scores were negatively

correlated with mid-to-post-treatment changes on the SSPS-Positive ($r = -.43$, $p < .05$).

For the overall sample, baseline mindful awareness (PHLMS-Awareness) was

significantly and negatively correlated with mid-to-post-treatment change in negative

cognitions related to public speaking on the SSPS-Negative ($r = -.30$, $p < .05$). Baseline

awareness was significantly and positively correlated with changes on the SSPS-Positive

across the following time points: pre-to-post ($r = .43$, $p < .01$), mid-to-post ($r = .32$, $p = .03$), pre-to-follow-up ($r = .52$, $p < .001$), and mid-to-follow-up ($r = .43$, $p < .01$). Similar relationships between baseline PHLMS-Acceptance and the SSPS were found within the two treatment conditions. These correlations are displayed in Table 17.

Hypothesis 5. Total duration of exposure (in minutes) completed for homework was calculated for participants in both treatment conditions. Homework data were available for only 37 participants (19 HAB, 18 ACT). These values were compared using an independent-samples *t*-test to examine between-condition differences. Mean total exposure homework completed was 98.18 minutes for the HAB condition and 97.69 minutes for the ACT condition; this difference was not significant ($t (35) = .01$, $p = .99$).

Hypothesis 6. Due to the lack of significant between-groups differences on amount of exposure homework completed, it was not possible to conduct a formal mediational analysis in order to test the hypothesis that duration of exposure would mediate treatment outcome. A 2 (treatment condition) X 4 (session number) mixed repeated-measures ANOVA was used to examine within- and between-conditions differences in reported homework exposure duration across the four sessions (3-6) for which homework exposure duration was collected. No significant differences were found between conditions ($F (1, 35) < .001$, $p = .99$, $\eta^2_p < .001$) or across sessions ($F (3, 105) = .53$, $p = .67$, $\eta^2_p = .02$). The time-by-condition interaction was also not significant ($F (3, 105) = 2.26$, $p = .09$, $\eta^2_p = .06$). Therefore, no mediational analyses were conducted for exposure homework.

CHAPTER 4: DISCUSSION

The present study examined the relative efficacy of exposure delivered within two contexts (acceptance versus habituation) for the treatment of public speaking anxiety (non-generalized social anxiety disorder) in a clinical population. Treatment was delivered in a group format over 6 weekly 2-hour sessions. Analyses of baseline measures revealed no pre-existing differences between the two treatment conditions on demographic, outcome, or process variables; moreover, treatment expectancies were equal for participants in both treatments. Of the 45 participants who enrolled (i.e., attended at least one treatment session), 35 were classified as completers (19 in the habituation condition, and 16 in the acceptance condition). Data were analyzed using an intent-to-treat model. Contrary to hypotheses, no significant differences were found between the two treatment conditions on outcome or process measures. Between-groups effect sizes were generally small, suggesting that the lack of significant findings was not due to low statistical power. All participants who completed treatment had improved significantly at post-treatment; these gains were maintained at follow-up. Of the treatment completers, all but one no longer met criteria for social anxiety disorder at 6-week follow-up. For participants in both treatment conditions, there was significant improvement on self-reported public speaking anxiety, confidence in public speaking, and self-statements related to public speaking, as well as self-reported anxiety and observer-rated social skills on a behavioral speech task. There was also a significant increase for both conditions on self-reported defusion. These results suggest that exposure with either an acceptance- or habituation-based rationale and context is an effective treatment for public speaking anxiety. No significant changes were observed for

self-reported overall state anxiety, quality of life, acceptance, or mindfulness, or for behavioral avoidance (speech task duration).

In addition to comparing treatment efficacy, a secondary aim of this study was to examine differences in mechanisms of action (mediators) across the two treatment conditions. For both conditions, increases in defusion from pre-to-mid treatment were associated with increases in positive and decreases in negative public-speaking-related cognitions from mid-to-post-treatment. Interestingly, increases in mindful awareness predicted decreases in public speaking anxiety for the habituation group, whereas the opposite was true for the acceptance-based group. This may be due to the difference in the way that anxiety was characterized in the two treatment conditions. In the habituation condition, participants were primed to become aware of decreasing SUDS levels, as they were told that habituation would occur during and across exposure practices. Therefore, it makes theoretical sense that as their awareness increased they became more attuned to the habituation process. Conversely, participants receiving the acceptance-based intervention were taught that anxiety would not necessarily decrease; therefore, these individuals were more likely to notice increased, rather than decreased, anxiety as their awareness was heightened. In contrast, for participants in this condition, increases in mindful acceptance were associated with decreased public speaking anxiety; this is consistent with previous research that has found reduction in symptoms as a result of acceptance-based treatment, despite this not being the focus of the therapy. Finally, for participants in the acceptance-based condition, pre-to-mid-treatment increases in mindful acceptance predicted a temporary (mid-to-post-treatment) decrease in self-reported quality of life; however, this association was no longer present when pre-to-mid-

treatment change in mindfulness was examined in relation to mid-to-follow-up change in outcome.

Despite the minor variations within these findings, no clear patterns of results were observed across the two treatment conditions. Therefore, the results do not appear to provide evidence of differential mediational processes for ACT-based versus habituation-based exposure.

As expected, across conditions, lower overall state anxiety was associated with greater self-reported quality of life, mindfulness, and acceptance, at baseline. Participants with lower baseline levels of negative public-speaking-related cognitions also had greater self-reported mindfulness and acceptance, as well as higher scores on a self-report measure of cognitive defusion. These findings are consistent with ACT's assertion that mindfulness, acceptance, and defusion are associated with greater psychological health and less pathology. As hypothesized, for the overall sample, baseline acceptance and mindfulness moderated treatment response with respect to overall state anxiety and public-speaking-related cognitions. Specifically, greater baseline acceptance (as measured by both the AAQ-II and the PHLMS-Acceptance) predicted mid-to-post-treatment decrease in overall state anxiety, whereas greater mindful awareness at baseline was associated with decreased negative and increased positive self-statements related to public speaking. These patterns were generally consistent across both treatment conditions (although the relationship between acceptance and state anxiety was not significant within either of the two treatment conditions when examined separately). These results suggest that the ability to be mindful and to accept one's internal experiences nonjudgmentally can enhance one's capacity to benefit from exposure

treatment, at least with respect to self-reported anxiety and public-speaking-related cognitions. Again, this is consistent with the notion that these capabilities are associated with psychological flexibility. Interestingly, greater baseline defusion predicted decreases in state anxiety for the ACT condition only. As only the ACT participants were explicitly taught defusion strategies, it is possible that participants in this group who had high baseline defusion skills were better able to utilize specific defusion strategies once they were taught, thus decreasing overall anxiety. Another between-groups difference was the relationship between baseline acceptance on the AAQ-II and changes in quality of life. For the ACT group, this relationship was in the expected direction: greater baseline acceptance predicted improvement in quality of life. However, higher baseline acceptance predicted a decrease in quality of life for the habituation condition. Although it is possible that this result was an artifact, another potential interpretation may be that ACT participants were explicitly told that acceptance would help them, whereas the habituation group was told that their symptoms would change (i.e., they were essentially instructed NOT to accept their unwanted experiences). Therefore, individuals in the habituation group who were already using acceptance strategies may have found it more difficult to utilize non-acceptance-based techniques, which could theoretically have had a negative impact on psychological health. As with the partial mediational analyses above, it is difficult to draw definitive conclusions regarding differential moderation processes between the two treatment conditions based upon these results.

No differences were observed between the two treatment conditions for total amount of homework exposure completed; there were also no within-participants differences across sessions. It is possible that the lack of significant findings is due to the

large rate of non-compliance with homework (at least, in terms of recording exposure

duration). Only 37 of the 45 enrolled participants turned in any recorded homework, and

many of these did not turn in homework every week. It is unclear to what extent the lack

of homework compliance was a reflection of behavioral avoidance due to anxiety, versus

lack of motivation to record exposure practice. Additionally, there was significant

variation in the way that participants reported exposure duration. For example, some

participants would report a 3-hour class in which they participated in class discussion as 3

hours of exposure; others would report only the number of minutes they actually spoke

during the class. Although efforts were made, whenever possible, to determine the actual

number of minutes spent in public speaking situations, the reported homework duration

in this study is likely not a fully accurate reflection of participants' exposure practice.

Future studies should attempt to enforce a more uniform procedure for reporting

homework exposure duration.

Theoretically, the context in which exposure treatment is delivered could lead to

differential effects in two ways: 1) by altering expectations for treatment, or 2) by

changing behavior (i.e., by altering participants' willingness to engage in exposure,

thereby leading them to engage in more or less exposure). There are several possible

explanations for the current study's lack of between-groups differences in treatment

outcome. One possibility, despite the small effect sizes, is that the analyses failed to

detect differences due to insufficient power. A more likely explanation is that exposure-

based treatment, regardless of the context in which it is delivered, is so powerful that it

tends to produce change large enough to obscure any between-groups differences.

Controlling for non-specific treatment factors is essential when comparing treatment

rationales. Perhaps adding more components to the interventions in order to increase the differences between them (e.g., values/motivational enhancement for the ACT group) might have resulted in greater variation. It is also possible that the in-session exposures were not difficult enough to result in differential levels of participation across conditions. A more heterogeneous sample, with a greater range of anxiety severity, might have produced more dramatic between-groups effects. For example, it is possible that individuals with more severe public speaking anxiety may respond differently to exposure treatment depending on the rationale presented. In the same vein, a non-clinical, non-treatment-seeking population may yield differential results depending on treatment context, as was found by Block and Wulfert (2000). Measuring additional variables, such as specific social-skills-related behaviors, physiological indicators of anxiety, and defensive safety behaviors, might also have provided evidence for differential effects.

Finally, mechanisms of action for the two treatment contexts may be more alike than different. Anecdotally, several participants in the habituation condition spontaneously reported using defusion and acceptance strategies. For example, one participant in the habituation condition stated that he could "watch" his SUDS level decrease during public speaking exposure, but that he viewed this as separate from his behavior in the moment ("I can see my SUDS change over *there*, but I'm speaking over *here*"). The idea that individuals may use acceptance and defusion strategies during exposure, even when not explicitly taught to do so, is worthy of further investigation.

4.1. Strengths and limitations. A notable strength of the present study is its experimental design; participants were randomly assigned to treatment condition, thus allowing conclusions to be drawn regarding treatment effects. Additionally, this study

utilized a clinical population, assessed via clinical interview; therefore, results can more readily be generalized to a treatment-seeking population meeting criteria for non-generalized social anxiety disorder. A significant limitation of this study is the small sample size, resulting in lower power for the statistical analyses. Although this limitation was taken into account via the examination of effect sizes, it remains possible that significant effects may have been missed due to insufficient power. Another limitation was the method for recording homework exposure duration. Compliance with homework exposure, at least with respect to recording duration, was less than optimal. In the future, a stricter enforcement procedure for homework recording may produce more valid results.

4.2. Conclusions and future directions. Overall, the present pilot study demonstrated that an acceptance-based exposure intervention can be implemented feasibly in a group setting for the treatment of public speaking anxiety, and that such an intervention may be at least as effective as a more traditional habituation-based exposure treatment. Overall, the exposure treatment was quite effective in reducing public speaking anxiety, as measured by pre-to-post-treatment/follow-up effect sizes. This improvement occurred absent any direct cognitive change strategies, such as those typically used in cognitive therapy. Although no specific conclusions can be drawn on this point due to the absence of an exposure-with-cognitive-change condition, these results nevertheless add to the growing evidence that direct cognitive change interventions may often be superfluous (Longmore & Worrel, 2007).

Despite the lack of between-groups differences, it is possible that some participants may respond more readily to an acceptance-based rationale for exposure, as

opposed to a habituation rationale. Baseline anxiety severity, treatment history (e.g., treatment-resistant versus non-treatment-resistant), and various demographic variables could all be potential moderators of the relationship between exposure rationale and treatment outcome.

The question also remains as to whether or not a rationale for exposure is truly necessary. Although it may be difficult to convince individuals to engage in exposure without an explanation, there may be particular populations who respond best simply to being told what to do (for example, military veterans who are accustomed to taking orders). Further research is needed to elucidate the most effective context for public speaking exposure treatment for a given individual. Larger sample sizes and more effective methods of recording between-session exposures are indicated. More broadly, future research should focus on examining mechanisms of action for exposure treatment, not only for public speaking anxiety, but for other disorders in which exposure is a major therapeutic ingredient.

List of References

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed. revised). Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed. text revision). Washington, DC: Author.

Amies, P. L., Gelder, M. G., & Shaw, P. M. (1983). Social phobia: A comparative clinical study. *British Journal of Psychiatry, 142,* 174-179.

Anderson, P. L., Rothbaum, B. O., & Hodges, L. F. (2003). Virtual reality exposure in the treatment of social anxiety. *Cognitive and Behavioral Practice, 10,* 240-247.

Anderson, P. L., Zimand, E., Schmertz, S. K., & Ferrer, M. (2007). Usability and utility of a computerized cognitive-behavioral self-help program for public speaking anxiety. *Cognitive and Behavioral Practice, 14,* 198-207.

Andersson, G., Carlbring, P., Holmstrom, A., Sparthan, E., Furmark, T., Nilsson-Ihrfelt, E., et al. (2006). Internet-based self-help with therapist feedback and in vivo group exposure for social phobia: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 74*, 677-686.

Ayers, J. (1988). Antecedents of communication apprehension: A reaffirmation. *Communication Research Reports, 5*, 76–83.

Bandelow, B., Zohar, J., Hollander, E., Kasper, S., & Möller, H.-J. (2002). World Federation of Societies of Biological Psychiatry (WFSBP) guidelines for the pharmacological treatment of anxiety, obsessive-compulsive and posttraumatic stress disorders. *World Journal of Biological Psychiatry, 3,* 171-199.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173-1182.

Basco, M. R., Bostic, J. Q., Davies, D., Rush, A. J., Witte, B., Hendrickse, W., et al. (2000). Methods to improve diagnostic accuracy in a community mental health setting. *American Journal of Psychiatry, 157,* 1599-1605.

Beck, J. (1995). *Cognitive Therapy: Basics and Beyond.* New York: Guilford Press.

Beidel, D. C., Turner, S. M., Jacob, R. G., & Cooley, M. R. (1989). Assessment of social phobia: Reliability of an impromptu speech task. *Journal of Anxiety Disorders, 3,* 149-158.

Berger, T., Hohl, E., & Caspar, F. (2009). Internet-based treatment for social phobia: A randomized controlled trial. *Journal of Clinical Psychology, 65,* 1021-1035.

Bernstein, D. A., & Borkovec, T. D. (1973). *Progressive muscle relaxation: A manual for the helping professions.* Champaign, IL: Research Press.

Blanco, C., Schneier, F. R., Schmidt, A., Blanco-Jerez, C. R., Marshall, R. D., Sanchez-Lacay, A., et al. (2003). Pharmacological treatment of social anxiety disorder: A meta-analysis. *Depression and Anxiety, 18*, 29-40.

Block, J. A. (2003). *Acceptance or change of private experiences: A comparative analysis in college students with public speaking anxiety.* Dissertation Abstracts International: Section B: The Sciences and Engineering, 63(9-B), 4361.

Block, J. A., & Wulfert, E. (2000). Acceptance or change: Treating socially anxious college students with ACT or CBGT. *The Behavior Analyst Today, 1(2),* 3-10.

Blomhoff, S., Haug, T. T., Hellstrom, K., Holme, I., Humble, M., Madsbu, H. P., et al. (2001). Randomised controlled general practice trial of sertraline, exposure therapy and combined treatment in generalised social phobia. *British Journal of Psychiatry, 179,* 23-30.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Orcutt, H. K., Waltz, T. et al. (Submitted). Preliminary psychometric properties of the Acceptance and Action Questionnaire – II: A revised measure of psychological flexibility and acceptance.

Boone, M. L., McNeil, D. W., Masia, C. L., Turk, C. L., Carter, L. E., Ries, B. J., et al. (1999). Multimodal comparisons of social phobia subtypes and avoidant personality disorder. *Journal of Anxiety Disorders, 13,* 271-292.

Borkovec, T. D., & Nau, S. D. (1972). Credibility of analogue therapy rationales. *Journal of Behavior Therapy and Expermental Psychiatry, 3,* 257-260.

Borkovec, T. D., & Sides, J. K. (1979). The contribution of relaxation and expectancy to fear reduction via graded, imaginal exposure to feared stimuli. *Behaviour Research and Therapy, 17,* 529-540.

Botella C., Gallego, M. J., Garcia-Palacios, A., Banos, R. M., Quero, S., & Alcaniz, M. (2009). The aceptability of an internet-based self-help treatment for fear of public speaking. *British Journal of Guidance & Counselling, 37,* 297-311.

Botella, C., Guillen, V., Garcia-Palacios, A., Gallego, M. J., Banos, R. M., & Alcaniz, M. (2007). Telepsychology and self-help: The treatment of fear of public speaking. *Cognitive and Behavioral Practice, 14,* 46-57.

Brown, T. A., DiNardo, P. A., & Barlow, D. H. (1994). Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV). Albany, NY: Graywind.

Brown, T. A., DiNardo, P. A., Lehman, C. L., & Campbell, L. A. (2001). Reliability of DSM-IV anxiety and mood disorders: Implications for the classification of emotional disorders. *Journal of Abnormal Psychology, 110,* 49–58.

Butler, G., Cullington, A., Munby, M., Amies, P., & Gelder, M. (1984). Exposure and anxiety management in the treatment of social phobia. *Journal of Consulting and Clinical Psychology, 52,* 642-650.

Cardaciotto, L., Herbert, J. D., Forman, E. M., Moitra, E. & Farrow, V. (2008). The assessment of present-moment awareness and acceptance: The Philadelphia Mindfulness Scale. *Assessment, 15,* 204-223.

Carlbring, P., Nordgren, L. B., Furmark, T., & Andersson, G. (2009). Long-term outcome of internet-delivered cognitive-behavioural therapy for social phobia: A 30-month follow-up. *Behaviour Research and Therapy, 47.* 848-850.

Carrigan, M. H., & Levis, D. J. (1999). The contributions of eye movements to the efficacy of brief exposure treatment for reducing fear of public speaking. *Journal of Anxiety Disorders, 13,* 101-118.

Chambless, D. L. (1990). Spacing of exposure sessions in treatment of agoraphobia and simple phobia. *Behavior Therapy, 21,* 217-229.

Chaplin, E. W., & Levine, B. A. (1981). The effects of total exposure duration and interrupted versus continuous exposure in flooding therapy. *Behavior Therapy, 12,* 360-368.

Clark, D. B., & Agras, W. S. (1991). The assessment and treatment of performance anxiety in musicians. *American Journal of Psychiatry, 148,* 598-605.

Clark, D. M. (1997). *Cognitive therapy for social phobia: Some notes for therapists.* Unpublished manuscript.

Clark, D. M., Ehlers, A., Hackman, A., McManus, F., Fennell, M., Grey, N., et al. (2006). Cognitive therapy versus exposure and applied relaxation in social phobia: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 74,* 568-578.

Clark, D. M., Ehlers, A., McManus, F., Hackmann, A., Fennell, M., Campbell, H., et al. (2003). Cognitive therapy versus fluoxetine in generalized social phobia: A randomized placebo-controlled trial. *Journal of Consulting and Clinical Psychology, 71,* 1058-1067.

Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. G. Heimberg, M. R. Liebowitz, D. A. Hope, & F.R. Schneier (Eds.), *Social phobia: Diagnosis, assessment and treatment* (pp. 69-93). New York: Guilford Press.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112,* 155-159.

Dalrymple, K. L., & Herbert, J. D. (2007). Acceptance and Commitment Therapy for generalized social anxiety disorder. *Behavior Modification, 31,* 543-568.

Daly, J. A. (1978). The assessment of social-communicative anxiety via self-reports: A comparison of measures. *Communication Monographs, 45,* 204-218.

Davidson, J. R. T., Foa, E. B., Huppert, J. D., Keefe, F. J., Franklin, M. E., Compton, J. S., et al. (2004). Fluoxetine, Comprehensive Cognitive Behavioral Therapy, and placebo in generalized social phobia. *Archives of General Psychiatry, 61,* 1005-1013.

Davidson, P., & Parker, K. (2001). Eye movement desensitization and reprocessing (EMDR): A meta-analysis. *Journal of Consulting & Clinical Psychology*, *69,* 305-316.

Duff, D. C., Levine, T. R., Beatty, M. J., Woolbright, J., & Park, H. S. (2007). Testing public anxiety treatments against a credible placebo control. *Communication Education, 56,* 72-88.

Eifert, G. H., & Heffner, M. (2003). The effects of acceptance versus control contexts on avoidance of panic-related symptoms. *Journal of Behavior Therapy and Experimental Psychiatry, 34*, 293-312.

Emmelkamp, P. M. G., Mersch, P. P., Vissia, E., & van der Helm, M. (1985). Social phobia: A comparative evaluation of cognitive and behavioral interventions. *Behaviour Research and Therapy, 23,* 365-369.

Eng, W., Heimberg, R. G., Coles, M. E., Schneier, F. R., & Liebowitz, M. R. (2000). An empirical approach to subtype identification in individuals with social phobia. *Psychological Medicine, 30,* 1345-1357.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175-191.

Fennig, S., Craig, T. J., Lavelle, J., Kovasznay, B., & Bromet, E. J. (1994). Best-estimate versus structured interview-based diagnosis in first-admission psychosis. *Comprehensive Psychiatry, 35,* 341-8.

Fennig, S., Naisberg-Fennig, S., Craig, T. J., Tanenberg-Karant, M., & Bromet, E. J. (1996). Comparison of clinical and research diagnoses of substance use disorders in a first-admission psychotic sample. *American Journal of Addiction, 5,* 40-48.

Feske, U., & Chambless, D. L. (1995). Cognitive behavioral versus exposure only treatment for social phobia: A meta-analysis. *Behavior Therapy, 26,* 695-720.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1996). *Structured Clinical Interview for DSM-IV Axis I Disorders - Patient Edition (SCID-I/P, Version 2.0).* New York: Biometrics Research Department.

Flavell, J. H. (1976). Metacognitive Aspects of Problem Solving. In L. B. Resnick (Ed.), *The Nature of Intelligence* (pp. 231-235). New Jersey: Lawrence Erlbaum.

Food and Drug Administration (FDA, 2008). Luvox CR [Drug Label]. Retrieved July 13, 2008, from http://www.fda.gov/cder/foi/label/2008/022033lbl.pdf.

Forman, E. M., Chapman, J. E. & Herbert, J. D. (2008, June). Mediational analyses of session-by-session outcomes across two types of CBT. In L. K. McGinn (Chair), *The mediating impact of cognitive processes in anxiety and depression*. Paper presented at the 6th International Congress of Cognitive Psychotherapy of the International Association for Cognitive Psychotherapy, Rome, Italy.

Forman, E. M., Herbert, J. D. & Moitra, E. (2008, November). Defusion: Development of a New Measure and Potential Mediating Role. In S. A. Hayes (Chair) *Processes and Mechanisms of Change in Mindfulness and Acceptance Based Therapies*. Paper presented at the 42nd annual convention of the Association for Behavioral and Cognitive Therapies, Orlando, FL.

Forman, E. M., Hoffman, K. L., McGrath, K. B., Herbert, J. D., Brandsma, L. L., & Lowe, M. R. (2007). A comparison of acceptance- and control-based strategies for coping with food cravings: An analog study. *Behaviour Research and Therapy, 45,* 2372-2386.

Fremouw, W. J., & Breitenstein, J. L. (1990). Speech anxiety. In H. Leitenberg (Ed.), *Handbook of Social and Evaluation Anxiety* (pp. 465-474). New York: Plenum Press.

Frisch, M. B. (1994). Quality of Life Inventory: Manual and treatment guide. Minneapolis, MN: National Computer Systems.

Frisch, M. B., Cornell, J., Villanueva, M., & Retzlaff, P. J. (1992). Clinical validation of the Quality of Life Inventory: A measure of life satisfaction for use in treatment planning and outcome assessment. *Psychological Assessment, 4,* 92-101.

Gelernter, C. S., Uhde, T. W., Cimbolic, P., Arnkoff, D. B., Vittone, B. J., Tancer, M. E., et al. (1991). Cognitive-behavioral and pharmacological treatments of social phobia: A controlled study. *Archives of General Psychiatry, 48,* 938-945.

Gilkinson, H. (1942). Social fears reported by students in college speech classes. *Speech Monographs, 9,* 131–160.

Goisman, R. M., Warshaw, M. G., & Keller, M. B. (1999). Psychosocial treatment prescriptions for generalized anxiety disorder, panic disorder, and social phobia, 1991-1996. *American Journal of Psychiatry, 156,* 1819-1821.

Gould, R. A., Buckminster, S., Pollack, M. H., Otto, M. W., & Yap, L. (1997). Cognitive-behavioral and pharmacological treatment for social phobia: A meta-analysis. *Clinical Psychology: Science and Practice, 4,* 291-306.

Guastella, A. J., Howard, A. L., Dadds, M. R., Mitchell, P., & Carson, D. S. (2009). A randomized controlled trial of intranasal oxytocin as an adjunct to exposure therapy for social anxiety disorder. *Psychoneuroendocrinology, 34,* 917-923.

Guastella, A. J., Richardson, R., Lovibond, P. F., Rapee, R. M., Gaston, J. E., Mitchell, et al. (2008). A randomized controlled trial of D-cycloserine enhancement of exposure therapy for social anxiety disorder. *Biological Psychiatry, 63,* 544-549.

Gutierrez, O., Luciano, C., Rodriguez, M., & Fink, B. C. (2004). Comparison between an acceptance-based and a cognitive-control-based protocol for coping with pain. *Behavior Therapy, 35,* 767-783.

Hartley, L. R., Ungapen, S., Davie, I., & Spencer, D. J. (1983). The effect of beta adrenergic blocking drugs on speakers' performance and memory. *British Journal of Psychiatry, 142,* 512-517.

Haug, T. T., Blomhoff, S., Hellstrom, K., Holme, I., Humble, M., Madsbu, H. P., et al. (2003). Exposure therapy and sertraline in social phobia: 1-year follow-up of a randomised controlled trial. *British Journal of Psychiatry, 182,* 312-318.

Haug, T. T., Hellstrom, K., Blomhoff, S., Humble, M., Madsbu, H. P., & Wold, J. E. (2000). The treatment of social phobia in general practice: Is exposure therapy feasible? *Family Practice, 17,* 114-118.

Hayes, S. C., Bissett, R. T., Korn, Z., Zettle, R. D., Rosenfarb, I. S., Cooper, L. D., et al. (1999). The impact of acceptance versus control rationales on pain tolerance. *The Psychological Record, 49,* 33–47.

Hayes, S. C., & Duckworth, M. P. (2006). Acceptance and Commitment Therapy and traditional cognitive behavior therapy approaches to pain. *Cognitive and Behavioral Practice, 13,* 185-187.

Hayes, S. C., Luoma, J., Bond, F., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes, and outcomes. *Behaviour Research and Therapy, 44,* 1-25.

Hayes, S. C. & Strosahl, K. D. (Eds.). (2004). *A practical guide to Acceptance and Commitment Therapy.* New York: Springer Science+Business Media, Inc.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and Commitment Therapy: An experiential approach to behavior change.* New York: Guilford Press.

Hayes, S. C., Strosahl, K. D., Wilson, K. G., Bissett, R. T., Pistorello, J., Toarmino, D., et al. (2004). Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record, 54,* 553-578.

Hedges, D. W., Brown, B. L., Shwalb, D. A., Godfrey, K., & Larcher, A. M. (2007). The efficacy of selective serotonin reuptake inhibitors in adult social anxiety disorder: a meta-analysis of double-blind, placebo-controlled trials. *Journal of Psychopharmacology, 21,* 102 - 111.

Heimberg, R. G. (1991). *Cognitive-behavioral group therapy for social phobia: A treatment manual.* Unpublished manuscript, The University at Albany, State University of New York.

Heimberg, R. G., & Becker, R. E. (2002). *Cognitive-Behavioral Group Therapy for social phobia: Basic mechanisms and clinical strategies.* New York: Guilford Press.

Heimberg, R. G., Dodge, C. S., Hope, D. A., Kennedy, C. R., Zollo, L. J., & Becker, R. E. (1990). Cognitive behavioral group treatment for social phobia: Comparison to a credible placebo control. *Cognitive Therapy and Research, 14,* 1-23.

Heimberg, R. G., & Holt, C. S. (1989). *The issue of subtypes in the diagnosis of social phobia: A report to the social phobia subworkgroup for DSM-IV.* Unpublished manuscript.

Heimberg, R. G., Hope, D. A., Dodge, C. S., & Becker, R. E. (1990). DSM-III-R subtypes of social phobia: Comparison of generalized social phobics and public speaking phobics. *Journal of Nervous and Mental Disease, 178,* 172-179.

Heimberg, R. G., Liebowitz, M. R., Hope, D. A., Schneier, F. R., Holt, C. S., Welkowitz, L. A., et al. (1998). Cognitive-behavioral group therapy vs. phenelzine therapy for social phobia. *Archives of General Psychiatry, 55,* 1133-1141.

Heimberg, R. G., Salzman, D. G., Holt, C. S., & Blendell, K. A. (1993). Cognitive behavioral group treatment for social phobia: effectiveness at five-year followup. *Cognitive Therapy and Research, 17,* 325-339.

Herbert, J. D., & Cardaciotto, L. (2005). A mindfulness and acceptance-based perspective on social anxiety disorder. In S. Orsillo & L. Roemer (Eds.), *Acceptance and mindfulness-based approaches to anxiety: Conceptualization and treatment* (pp. 189-212). New York: Kluwer Academic/Plenum.

Herbert, J. D., Forman, E. M., & England, E. L. (in press). Psychological acceptance. Chapter to appear in W. O'Donohue & J. E. Fisher (Eds.), *Cognitive behavior therapy: Applying empirically supported treatments in your practice* (2nd ed.). Hoboken, NJ: Wiley.

Herbert, J. D., Gaudiano, B. A., Rheingold, A. A., Myers, V. H., Dalrymple, K., Nolan, E. M. (2005). Social skills training augments the effectiveness of cognitive behavioral group therapy for social anxiety disorder. *Behavior Therapy, 36,* 125-138.

Herbert, J. D., Hope, D. A., & Bellack, A. S. (1992). Validity of the distinction between generalized social phobia and avoidant personality disorder. *Journal of Abnormal Psychology, 101,* 332-339.

Herbert, J. D., Lilienfeld, S. O., Lohr, J. M., Montgomery, R. W., O'Donohue, W. T., Rosen, G. M., et al. (2000). Science and pseudoscience in the development of Eye Movement Desensitization and Reprocessing: Implications for clinical psychology. *Clinical Psychology Review, 20,* 945-971.

Herbert, J. D., Rheingold, A., Gaudiano, B. A., & Myers, V. H. (2004). Standard versus extended cognitive behavior therapy for social anxiety disorder: A randomized-controlled trial. *Behavioural and Cognitive Psychotherapy, 32,* 131-147.

Herbert, J. D., Rheingold, A. A., & Goldstein, S. G. (2002). Brief cognitive behavioral group therapy for social anxiety disorder. *Cognitive and Behavioral Practice, 9,* 1-8.

Hofmann, S. G. (2004). Cognitive mediation of treatment change in social phobia. *Journal of Consulting and Clinical Psychology, 72,* 392-399.

Hofmann, S. G. (2008). Cognitive processes during fear acquisition and extinction in animals and humans: Implications for exposure therapy of anxiety disorders. *Clinical Psychology Review, 28,* 199-210.

Hofmann, S. G., & DiBartolo, P. M. (2000). An instrument to assess self-statements during public speaking: Scale development and preliminary psychometric properties. *Behavior Therapy, 31,* 499-515.

Hofmann, S. G., Meuret, A. E., Smits, J. A. J., Simon, N. M., Pollack, M. H., Eisenmenger, K., et al. (2006). Augmentation of exposure therapy with D-cycloserine for social anxiety disorder. *Archives of General Psychiatry, 63,* 298-304.

Hofmann, S. G., Moscovitch, D. A., Kim, H. –J., & Taylor, A. N. (2004). Changes in self-perception during treatment of social phobia. *Journal of Consulting and Clinical Psychology, 72,* 588-596.

Hofmann, S. G., Newman, M. G., Ehlers, A. & Roth, W. T. (1995). Psychophysiological differences between subgroups of social phobia. *Journal of Abnormal Psychology, 104,* 224-231.

Holt, C. S., & Heimberg, R. G. (1990). The Reaction to Treatment Questionnaire: Measuring treatment credibility and outcome expectancies. *Behavior Assessment Review, 13,* 213-214, 222.

Holt, C. S., Heimberg, R. G., Hope, D. A., & Liebowitz, M. R. (1992). Situational domains of social phobia. *Journal of Anxiety Disorders, 6,* 63-77.

Hook, J. N., Smith, C. A., & Valentiner, D. P. (2008). A short-form of the Personal Report of Confidence as a Speaker. *Personality and Individual Differences, 44,* 1306-1313.

Hook, J. N., & Valentiner, D. P. (2002). Are specific and generalized social phobias qualitatively distinct? *Clinical Psychology: Science and Practice, 9,* 379-395.

Hope, D. A., Heimberg, R. G., & Bruch, M. A. (1995). Dismantling cognitive-behavioral group therapy for social phobia. *Behaviour Research & Therapy, 33,* 637-650.

Hope, D. A., Herbert, J. D., & White, C. (1995). Diagnostic subtype, avoidant personality disorder, and efficacy of cognitive-behavioral group therapy for social phobia. *Cognitive Therapy and Research, 19,* 399-417.

Jacobs, G. M. (2004). A classroom investigation of the growth of metacognitive awareness in kindergarten children through the writing process. *Early Childhood Education Journal, 32*, 17-23.

Jacobson, E. (1938). *Progressive relaxation.* Chicago: University of Chicago Press.

Juster, H. R., Heimberg, R. G. & Mattia, J. I. (1993). Judgment and prediction of response to cognitive-behavioral group therapy for social phobia. Poster presented at the annual meeting of the Association for Advancement of Behavior Therapy, Atlanta, GA.

Keaten, J. A., & Kelly, L. A. (1994). Negative thoughts, conditioned anxiety, and skills deficit: Toward a typology of students in the basic public speaking course. Paper presented at the Annual meeting of the Speech Communication Association, New Orleans, LA, USA.

Keaten, J. A., Kelly, L. A., Begnal, C., Heller, D., & Walker, A. (1993). Development of an instrument to measure reticence. Paper presented at the Annual meeting of the Speech Communication Association, Miami Beach, FL, USA.

Keogh, E., Bond, F. W., Hanmer, R., & Tilston, J. (2005). Comparing acceptance- and control-based coping instructions on the cold-pressor pain experiences of healthy men and women. *European Journal of Pain, 9*, 591-598.

Kessler, R. C., Stein, M. B., & Berglund, P. (1998). Social phobia subtypes in the National Comorbidity Survey. *American Journal of Psychiatry, 155,* 613-619.

Kirsch, I., & Henry, D. (1977). Extinction versus credibility in the desensitization of speech anxiety. *Journal of Consulting and Clinical Psychology, 45,* 1052-1059.

Knijnik, D. Z., Kapczinski, F., Chachamovich, E., Margis, R., & Eizirik, C. L. (2004). Psychodynamic group treatment for generalized socialphobia. *Revista Brasileira de Psiquiatria, 26,* 77-81.

Kranzler, H. R., Kadden, R. M., Babor, T. F., Tennen, H., & Rounsaville, B. J. (1996). Validity of the SCID in substance abuse patients. *Addiction, 91,* 859-868.

Kranzler, H. R., Kadden, R. M., Burleson, J. A., Babor, T. F., Apter, A., & Rounsaville, B. J. (1995). Validity of psychiatric diagnoses in patients with substance use disorders - is the interview more important than the interviewer? *Comprehensive Psychiatry, 36,* 278-288.

Lader, M. H., & Mathews, A. M. (1968). A physiological model of phobic anxiety and desensitization. *Behaviour Research and Therapy, 6,* 411–421.

Leichsenring, F., Beutel, M., & Leibing, E. (2007). Psychodynamic psychotherapy for social phobia: A treatment manual based on supportive-expressive therapy. *Bulletin of the Menninger Clinic, 71,* 56-83.

Lent, R. W., Russell, R. K., & Zamostny, K. P. (1981). Comparison of cue-controlled desensitization, rational restructuring, and a credible placebo in the treatment of speech anxiety. *Journal of Consulting and Clinical Psychology, 49,* 608-610.

Levin, R. B., & Gross, A. M. (1985). The role of relaxation in systematic desensitization. *Behaviour Research & Therapy, 23,* 187-196.

Levin, A. P., Saoud, J. B., Strauman, T., Gorman, J. M., Fyer, A. J., Crawford, R., et al. (1993). Responses of "generalized" and "discrete" social phobics during public speaking. *Journal of Anxiety Disorders, 7,* 207-221.

Levine, T. R., & McCroskey, J. C. (1990). Measuring trait communication apprehension: A test of rival measurement models of the PRCA-24. *Communication Monographs, 57,* 62-72.

Liebowitz, M. R. (1987). Social phobia. *Modern Problems in Pharmocopsychiatry, 22,* 141-173.

Liebowitz, M. R., Heimberg, R. G., Schneier, F. R., Hope, D. A., Davies, S., Holt, C. S., et al. (1999). Cognitive-behavioral group therapy versus phenelzine in social phobia: Long-term outcome. *Depression and Anxiety, 10,* 89–98.

Longmore, R. J., & Worrell, M. (2007). Do we need to challenge thoughts in cognitive therapy? *Clinical Psychology Review, 27,* 173-187.

Marks, I., & Tobena, A. (1990). Learning and unlearning fear: A clinical and evolutionary perspective. *Neuroscience and Biobehavioral Reviews, 14,* 365-384.

Masuda, A., Hayes, S. C., Sackett, C. F., & Twohig, M. P. (2004). Cognitive defusion and self-relevant negative thoughts: examining the impact of a ninety year old technique. *Behaviour Research and Therapy, 42,* 477-485.

Mattick, R. P., & Peters, L. (1988). Treatment of severe social phobia: Effects of guided exposure with and without cognitive restructuring. *Journal of Consulting and Clinical Psychology, 56,* 251-260.

McCroskey, J. C. (1970). Measures of communication-bound anxiety. *Speech Monographs, 37*, 269–277.

McCroskey, J. C. (1982). *An introduction to rhetorical communication* (4th ed.). Englewood Cliffs, NJ: Prentice Hall.

McCroskey, J. C, & Beatty, M. J. (1984). Communication apprehension and accumulated communication state anxiety experiences: A research note. *Communication Monographs, 51*, 79-84.

McCroskey, J. C., Beatty, M. J., Kearney, P., & Plax, T. G. (1985). The content validity of the PRCA-24 as a measure of communication apprehension across communication contexts. *Communication Quarterly, 33,* 165–173.

McGlynn, F. D. (1988). Behavioral avoidance test. In M. Hersen & A. S. Bellack (Eds), *Dictionary of behavioral assessment techniques* (pp. 59-60). New York: Pergamon.

McMullen, J., Barnes-Holmes, D., Barnes-Holmes, Y., Stewart, I., Luciano, C., & Cochrane, A. (in press). Acceptance versus distraction: Brief instructions, metaphors and exercises in increasing tolerance for self-delivered electric shocks. *Behaviour Research and Therapy.*

McNeil, D. W., Ries, B. J., & Turk, C. L. (1995). Behavioral assessment: self-report, physiology, and overt behavior. In R. G. Heimberg, M. R. Liebowitz, D. A. Hope, & F. R. Schneier, *Social phobia: Diagnosis, assessment, and treatment* (pp. 202-231). New York: Guilford Press.

Mersch, P. P. A. (1995). The treatment of social phobia: The differential effectiveness of exposure *in vivo* and an integration of exposure *in vivo*, rational emotive therapy and social skills training. *Behaviour Research and Therapy, 33,* 259-269.

Metzger, R. L. (1976). A reliability and validity study of the State-Trait Anxiety Inventory. *Journal of Clinical Psychology, 32,* 276-278.

Mowrer, O. H. (1939). Stimulus response theory of anxiety. *Psychological Review, 46,* 553-565.

Motley, M. T. (1995). *Overcoming your fear of public speaking: A proven method.* New York: McGraw-Hill.

Muller, J. E., Koen, L., Seedat, S., & Stein, D. J. (2005). Social anxiety disorder: Current treatment recommendations. *Therapy in Practice, 19,* 377-391.

National Institute of Mental Health (1985). Clinical Global Impressions Scale. *Psychopharmacology Bulletin, 21*, 839-843.

Newman, M. G., Kachin, K. E., Zuellig, A. R., Constantino, M. J., & Cashman-McGrath, L. (2003). The Social Phobia Diagnostic Questionnaire: Preliminary validation of a new self-report diagnostic measure of social phobia. *Psychological Medicine, 33,* 623-635.

Nolan, E. M. (2005). *Long-term follow-up of cognitive behavior therapy for social anxiety disorder.* Unpublished doctoral dissertation, Drexel University.

O'Brien, G. T., & Borkovec, T. D. (1977). The role of relaxation in systematic desensitization: Revisiting an unresolved issue. *Journal of Behavior Therapy & Experimental Psychiatry, 8,* 359-364.

Olfson, M., Guardino, M., Struening, E., Schneier, F. R., Hellman, F., & Klein, D. F. (2000). Barriers to the treatment of social anxiety. *American Journal of Psychiatry, 157,* 521-527.

Orsillo, S. M., Roemer, L., Block-Lerner, J., LeJeune, C., & Herbert, J. D. (2004). ACT with anxiety disorders. In S. C. Hayes & K. D. Strosahl (Eds.), *A practical guide to Acceptance and Commitment Therapy* (pp. 103-132). New York: Springer Science+Business Media, Inc.

Osberg, J. W. (1981). The effectiveness of applied relaxation in the treatment of speech anxiety. *Behavior Therapy, 12,* 723-729.

Ossman, W. A., Wilson, R. G., Storaasli, R. D., & McNeill, J. W. (2006). A preliminary investigation of the use of Acceptance and Commitment Therapy in group treatment for social phobia. *International Journal of Psychology and Psychological Therapy, 6,* 397-416.

Öst, L.-G. (1989). One-session treatment for specific phobias. *Behaviour Research and Therapy, 27,* 1-7.

Pande, A. C., Davidson, J. R. T., Jefferson, J. W., Janney, C. A., Katzelnick, D. J., Weisler, R. H., et al. (1999). Treatment of social phobia with gabapentin: A placebo-controlled study. *Journal of Clinical Psychopharmacology, 19*, 341-348.

Pande, A. C., Feltner, D. E., Jefferson, J. W., Davidson, J. R. T., Pollack, M., Stein, M. B., et al. (2004). Efficacy of the novel anxiolytic pregabalin in social anxiety disorder: A placebo-controlled, multicenter study. *Journal of Clinical Psychopharmacology, 24*, 141-149.

Paul, G. L. (1966). *Insight vs desensitization in psychotherapy.* Stanford, CA: Stanford University Press.

Pollard, C. A., & Henderson, J. G. (1988). Four types of social phobia in a community sample. *Journal of Nervous and Mental Disease, 176*, 440-445.

Ponniah, K., & Hollon, S. D. (2008). Empirically supported psychological interventions for social phobia in adults: A qualitative review of randomized controlled trials. *Psychological Medicine, 38,* 3-14.

Prasko, J., Kosova, J., Paskova, B., Klaschka, J., Seifertova, D., Sipek, J., et al. (2003). Pharmacotherapy and/or cognitive-behavioral therapy in the treatment of social phobia: Control study with two year follow up. *Ceska a Slovenska Psychiatrie, 99 (Suppl. 2),* 106-108.

Richmond, V. P., & McCroskey, J. C. (1995). *Communication: Apprehension, avoidance, and effectiveness* (4th ed.). Scottsdale, AZ: Gorsuch Scarisbrick.

Ries, B. J., McNeil, D. W., Boone, M. L., Turk, C. L., Carter, L. E., & Heimberg, R. G. (1998). Assessment of contemporary social phobia verbal report instruments. *Behaviour Research and Therapy, 36,* 983-994.

Rowe, M. K., & Craske, M. G. (1998). Effects of an expanding-spaced vs. massed exposure schedule on fear reduction and return of fear. *Behaviour Research and Therapy, 36,* 701-717.

Rubin, R. B., Graham, E. E., & Mignerey, J. T. (1990). A longitudinal study of college students' communication competence. *Communication Education, 39*, 1-14.

Ruscio, A. M., Brown, T. A., Chiu, W. T., Sareen, J., Stein, M. B., & Kessler, R. C. (2008). Social fears and social phobia in the USA: Results from the National Comorbidity Survey Replication. *Psychological Medicine, 38,* 15-28.

Safren, S. A., Heimberg, R. G., Brown, E. J., & Holle, C. (1996/1997). Quality of life in social phobia. *Depression and Anxiety, 4,* 126-133.

Safren, S. A., Heimberg, R. G., & Juster, H. R. (1997). Clients' expectancies and their relationship to pretreatment symptomatology and outcome of cognitive–behavioral group treatment for social phobia. *Journal of Consulting and Clinical Psychology, 65,* 694-698.

Salaberria, K., & Echeburua, E. (1998). Long-term outcome of cognitive therapy's contribution to self-exposure in vivo to the treatment of generalized social phobia. *Behavior Modification, 22,* 262-284.

Salkovskis, P. M., Clark, D. M., Hackmann, A., Wells, A., & Gelder, M. G. (1999). An experimental investigation of the role of safety-seeking behaviours in the maintenance of panic disorder with agoraphobia. *Behaviour Research and Therapy, 37*, 559–574.

Salkovskis, P. M., Hackmann, A., Wells, A., Gelder, M. G., & Clark, D. M. (2007). Belief disconfirmation versus habituation approaches to situational exposure in panic disorder with agoraphobia: A pilot study. *Behaviour Research and Therapy, 45,* 877-885.

Sanderson, W. C., DiNardo, P. A., Rapee, R. M., & Barlow, D. H. (1990). Syndrome comorbidity in patients diagnosed with DSM-III-R generalized anxiety disorder. *Journal of Abnormal Psychology, 99,* 308-312.

Statistical Package for the Social Sciences (2000). SamplePower (Version 2.0) [Computer software]. Chicago: SPSS Inc.

Schneier, F. R., Liebowitz, M. R., Beidel, D. C., Garfinkel, R., Heimberg, R. G., Juster, H., et al. (1998). MacArthur data reanalysis for DSM-IV: Social phobia. In T. A. Widiger, A. H. Frances, H. A. Pincus, M. J. First, R. Ross, & W. Davis (Eds.), *DSM-IV source book* (Vol. 4, pp. 307-328). Washington, DC: American Psychiatric Press.

Scholing, A., & Emmelkamp, P. M. G. (1990). Social phobia: Nature and treatment. In H. Leitenberg (Ed.), *Handbook of Social and Evaluation Anxiety* (pp. 269-324). New York: Plenum Press.

Scholing, A., & Emmelkamp, P. M. G. (1996). Treatment of generalized social phobia: Results at long-term follow-up. *Behaviour Research and Therapy, 34,* 447-452.

Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse.* New York: Guilford Press.

Sherrington, C. S. (1906). *The integrative action of the nervous system.* New Haven: Yale University Press.

Southworth, S., & Kirsch, I. (1988). The role of expectancy in exposure-generated fear reduction in agoraphobia. *Behaviour Research and Therapy, 26,* 113-120.

Spielberger, C. D. (1983). *Manual for the State-Trait Anxiety Inventory (Form Y)*. Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C. D. (1989). *State–Trait Anxiety Inventory: A comprehensive bibliography*. Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970).*Manual for the State-Trait Anxiety Inventory.* Palo Alto, CA: Consulting Psychologists Press.

Stein, D. J., Bandelow, B., Dolberg, O. T., Andersen, H. F., & Baldwin, D. S. (2009). Anxiety symptom severity and functional recovery or relapse. *Annals of Clinical Psychiatry, 21,* 81-88.

Stein, D. J., Versiani, M., Hair, T., & Kumar, R. (2002). Efficacy of paroxetine for relapse prevention in social anxiety disorder. *Archives of General Psychiatry, 59,* 1111-1118.

Stein, M. B., & Chavira, D. A. (1998). Subtypes of social phobia and comorbidity with depression and other anxiety disorders. *Journal of Affective Disorders, 50,* S11 S16.

Stein, M. B., Walker, J. R., & Forde, D. R. (1996). Public speaking fears in a community sample: Prevalence, impact on functioning, and diagnostic classification. *Archives of General Psychiatry, 53,* 169-174.

Task Force on DSM-IV, American Psychiatric Association (1991). *DSM-IV options book: Work in progress 9/1/91.* Washington, DC: Author.

Taylor, S. (1996). Meta-analysis of cognitive-behavioral treatments for social phobia. *Journal of Behavior Therapy and Experimental Psychiatry, 27,* 1-9.

Teasdale, J. D., Moore, R. G., Hayhurst, H., Pope, M., Williams, S., & Segal, Z. V. (2002). Metacognitive awareness and prevention of relapse in depression: empirical evidence. *Journal of Consulting and Clinical Psychology, 70*, 275-287.

Teasdale, J. D., Segal, Z. V., & Williams, J. M. G. (1995). How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help? *Behaviour Research and Therapy, 33,* 25-39.

Titov, N., Andrews, G., Johnston, L., Schwencke, G., & Choi, I. (2009). Shyness programme: Longer term benefits, cost-effectiveness, and acceptability. *Australian and New Zealand Journal of Psychiatry, 43,* 36-44.

Titov, N., Gibson, M., Andrews, G., & McEvoy, P. (2009). Internet treatment for social phobia reduces comorbidity. *Australian and New Zealand Journal of Psychiatry, 43,* 754-759.

Tsao, J. C. I., & Craske, M. G. (2000). Timing of treatment and return of fear: Effects of massed, uniform-, and expanding-spaced exposure schedules. *Behavior Therapy, 31,* 479-497.

Turk, C. L., Heimberg, R. G., & Hope, D. A. (2001). Social anxiety disorder. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders* (3rd ed.).New York: Guilford Press.

Turner, S. M., Beidel, D. C., & Townsley, R. M. (1992). Social phobia: a comparison of specific and generalized subtypes and avoidant personality disorder. *Journal of Abnormal Psychology, 101,* 326-331.

Vandergrift, L. (2005). Relationships among motivation orientations, metacognitive awareness, and proficiency in L2 listening. *Applied Linguistics, 26,* 70-89.

Vriends, N., Becker, E. S., Meyer, A., Michael, T., Margraf, J. (2007). Subtypes of social phobia: Are they of any use? *Journal of Anxiety Disorders, 21,* 59-75.

Walker, J. R., Van Ameringen, M. A., Swinson, R., Bowen, R. C., Chokka, P. R., Goldner, E., et al. (2000). Prevention of relapse in generalized social phobia: Results of a 24-week study in responders to 20 weeks of sertraline treatment. *Journal of Clinical Psychopharmacology, 20,* 636-644.

Williams, J. B. W., Gibbon, M., First, M. B., Spitzer, R. L., Davis, M., Borus, J., et al. (1992). The Structured Clinical Interview for DSM-III-R (SCID) II: Multi-site test-retest reliability. *Archives of General Psychiatry, 49,* 630-636.

Wittchen, H.-U., & Fehm, L. (2003). Epidemiology and natural course of social fears and social phobia. *Acta Psychiatrica Scandinavica, 108 (Suppl. 417),* 4-18.

Wolitzky-Taylor, K. B., Horowitz, J. D., Powers, M. B., & Telch, M. J. (2008). Psychological approaches in the treatment of specific phobias: A meta-analysis. *Clinical Psychology Review, 28,* 1021-1037.

Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition.* Stanford, CA: Stanford University Press.

Wolpe, J. (1973). *The practice of behavior therapy* (2nd ed.). New York: Pergamon.

Wolpe, J., & Lazarus, A. A. (1966). Behavior therapy techniques. New York: Pergamon.

Zaider, T. I., Heimberg, R. G., Fresco, D. M., Schneier, F. R., & Liebowitz, M. R. (2003). Evaluation of the Clinical Global Impression Scale among individuals with social anxiety disorder. *Psychological Medicine, 33,* 611-622.

Zanarini, M. C., & Frankenburg, F. R. (2001). Attainment and maintenance of reliability of Axis I and Axis II disorders over the course of a longitudinal study. *Comprehensive Psychiatry, 42,* 369-374.

Zerbe, K. J. (1994). Uncharted waters: Psychodynamic considerations in the diagnosis and treatment of socialphobia. *Bulletin of the Menninger Clinic, 58(2, Suppl A),* A3-A20.

Zlomke, K., & Davis III, T. E. (2008). One-session treatment of specific phobias: A detailed description and review of treatment efficacy. *Behavior Therapy, 39,* 207-223.

Table 2. *Descriptive Statistics for Outcome Measures at Pre-Treatment*

Measure	*ACT*			*Habituation*		
	N	**Mean**	**SD**	*N*	**Mean**	*SD*
Clinician-Rated						
CGI	21	4.29	.46	24	4.29	.46
Self-Report						
PRCA	21	27.57	2.79	24	26.21	2.43
PRCS	21	2.33	1.65	24	2.58	1.38
SSPS-Positive	21	14.71	4.10	23	15.22	4.44
SSPS-Negative	21	17.81	5.02	23	18.48	5.33
STAI	19	33.47	10.01	24	32.79	10.20
QOLI (Mean	21	2.06	1.53	24	1.86	1.19
Behavioral						
Duration (sec)	21	152.19	152.55	24	147.50	129.85
Baseline SUDS	21	33.33	14.94	24	26.00	12.13
Pre-SUDS	21	30.95	13.75	24	31.58	12.33
Post-SUDS	21	50.24	22.67	24	57.08	19.16
Highest SUDS	21	64.67	16.01	24	68.58	15.25
Verbal SS	21	2.67	.91	24	2.50	1.18
Nonverbal SS	21	2.10	.70	24	2.00	1.18
Paralinguistic SS	21	2.24	.83	24	2.21	1.02

Table 3. *Descriptive Statistics for Outcome Measures at Mid-Treatment (Self-report only)*
  — Intent-to-Treat

Measure	*N*	*ACT* Mean	SD	*N*	*Habituation* Mean	*SD*
		ACT			*Habituation*	
PRCA	21	24.57	3.70	24	24.13	3.68
PRCS	21	3.24	2.26	24	4.25	2.72
SSPS-Positive	21	17.14	3.80	24	16.58	4.19
SSPS-Negative	21	16.29	4.98	24	16.25	5.26
STAI	20	35.20	10.78	24	35.00	12.01
QOLI (Mean)	21	2.22	1.13	24	2.06	1.22

Table 4. *Descriptive Statistics for Outcome Measures at Post-Treatment (Intent-to-Treat)*

		ACT			Habituation	
Measure	*N*	**Mean**	**SD**	*N*	**Mean**	*SD*
Clinician-Rated						
CGI	21	2.52	1.12	24	2.54	1.10
Self-Report						
PRCA	21	21.00	3.55	24	22.21	3.51
PRCS	21	5.48	3.46	23	6.43	3.54
SSPS-Positive	21	19.81	4.60	24	19.75	4.22
SSPS-Negative	21	13.19	4.81	24	13.58	5.35
STAI	20	32.85	9.38	24	35.13	13.02
QOLI (Mean)	21	2.19	1.27	24	2.18	1.08
Behavioral						
BAT duration (sec)	21	135.33	117.56	24	196.63	158.43
Baseline SUDS	21	28.57	11.85	24	21.71	8.61
Pre-SUDS	21	28.33	12.08	24	23.21	8.59
Post-SUDS	21	35.10	23.09	24	30.75	19.43
Highest SUDS	21	48.24	20.81	24	45.33	19.01
Verbal SS	21	3.14	.85	24	3.33	1.20
Nonverbal SS	21	2.62	.74	24	2.79	1.06
Paralinguistic SS	21	2.71	.78	24	2.75	.90

Table 5. *Descriptive Statistics for Outcome Measures at 6-Week Follow-Up (Intent-to-Treat)*

		ACT			*Habituation*	
Measure	*N*	**Mean**	**SD**	*N*	**Mean**	*SD*
Clinician-Rated						
CGI	21	2.19	1.25	24	2.37	1.25
Self-Report						
PRCA	21	21.05	3.79	24	21.17	4.10
PRCS	21	6.10	3.43	24	6.25	3.60
SSPS-Positive	21	20.67	4.81	24	18.67	4.28
SSPS-Negative	21	12.43	4.34	24	13.75	5.10
STAI	20	32.30	8.90	24	37.29	12.50
QOLI (Mean)	21	2.37	1.32	24	2.00	1.07

Table 6. *Descriptive Statistics for Process Measures at Pre-Treatment*

	ACT			*Habituation*		
Measure	*N*	**Mean**	**SD**	*N*	**Mean**	*SD*
AAQ-II	21	51.95	10.54	23	49.35	9.24
DDS	20	32.85	7.10	24	33.00	7.55
PHLMS-Awareness	20	34.70	6.67	24	33.29	5.54
PHLMS-Acceptance	20	33.75	5.61	22	31.64	6.43

Table 7. *Descriptive Statistics for Process Measures at Mid-Treatment (Intent-to-Treat)*

Measure	*ACT*			*Habituation*		
	N	Mean	SD	*N*	Mean	*SD*
AAQ-II	21	50.67	8.77	23	52.04	8.80
DDS	17	34.47	8.29	21	35.05	6.67
PHLMS-Awareness	21	35.67	5.56	23	34.17	4.86
PHLMS-Acceptance	20	31.40	6.02	22	31.45	5.80

Table 8. *Descriptive Statistics for Process Measures at Post-Treatment (Intent-to-Treat)*

	ACT			*Habituation*		
Measure	*N*	**Mean**	**SD**	*N*	**Mean**	*SD*
AAQ-II	20	53.40	7.81	24	50.54	10.60
DDS	16	39.06	7.40	24	36.38	6.70
PHLMS-Awareness	20	35.60	5.25	23	34.83	5.28
PHLMS-Acceptance	19	32.84	5.71	24	32.79	7.16

Table 9. *Descriptive Statistics for Process Measures at 6-Week Follow-Up (Intent-to-Treat)*

	ACT			Habituation		
Measure	*N*	**Mean**	**SD**	*N*	**Mean**	*SD*
AAQ-II	20	54.10	8.93	23	51.96	9.92
DDS	18	40.56	8.11	23	36.91	6.44
PHLMS-Awareness	19	36.32	5.04	22	34.77	5.44
PHLMS-Acceptance	20	33.95	5.60	20	32.70	7.16

Table 10. *Effects of Time and Treatment Condition on Outcome (Intent-to-Treat)*

Measure	Within-Ss Effects (Time)				Between-Ss Effects (Condition)				Interaction (Time x Condition)			
	F	df	p	η^2_p	F	df	p	η^2_p	F	df	p	η^2_p
Clinician-Rated												
SCID	76.45	(2, 86)	.001	.64	.69	(1, 43)	.41	.02	.33	(2, 86)	.72	.01
CGI-S	101.59	(2, 86)	.001	.70	.08	(1, 43)	.78	.002	.21	(2, 86)	.81	.01
Self-Report												
PRCA	53.32	(3, 126)	.001	.56	.09	(1, 42)	.76	.002	1.97	(3, 126)	.12	.05
PRCS	29.90	(3, 120)	.001	.43	1.24	(1, 40)	.27	.03	.66	(3, 126)	.58	.02
SSPS-Pos	33.41	(3, 108)	.001	.48	2.06	(1, 36)	.16	.05	1.70	(3, 108)	.17	.05
SSPS-Neg	27.85	(3, 111)	.001	.43	.24	(1, 37)	.63	.01	.70	(3, 111)	.55	.02
STAI	1.08	(3, 105)	.36	.03	.21	(1, 35)	.65	.01	.65	(3, 105)	.58	.02
QOLI	1.57	(3, 120)	.20	.04	1.23	(1, 40)	.27	.03	.80	(3, 120)	.49	.02
Behavioral												
Duration (sec)	.91	(1, 43)	.35	.02	.54	(1, 43)	.47	.01	3.81	(1, 43)	.06	.08
Baseline SUDS	3.65	(1, 43)	.06	.08	6.97	(1, 43)	.01	.14	.01	(1, 43)	.92	.001
Pre-SUDS	6.65	(1, 43)	.01	.13	.65	(1, 43)	.43	.02	1.82	(1, 43)	.18	.04
Post-SUDS	38.04	(1, 43)	.001	.47	.06	(1, 43)	.82	.001	2.77	(1, 43)	.10	.06
Highest SUDS	35.36	(1, 43)	.001	.45	.02	(1, 43)	.90	.001	1.05	(1, 43)	.31	.02
Verbal SS	15.13	(1, 43)	.001	.26	.002	(1, 43)	.97	.001	1.13	(1, 43)	.30	.03
Nonverbal SS	16.28	(1, 43)	.001	.28	.03	(1, 43)	.87	.001	.68	(1, 43)	.42	.02
Paraling. SS	11.04	(1, 43)	.002	.20	.001	(1, 43)	.99	.001	.05	(1, 43)	.83	.001
Overall SS	13.06	(1, 43)	.001	.23	.03	(1, 43)	.87	.001	.03	(1, 43)	.87	.001

Table 11. *Effects of Time and Treatment Condition on Process Measures (Intent-to-Treat)*

Measure	Within-Ss Effects (Time)				Between-Ss Effects (Condition)				Interaction (Time x Condition)			
	F	df	p	η^2_p	F	df	p	η^2_p	F	df	p	η^2_p
AAQ-II	1.42	(3, 117)	.24	.04	1.18	(1, 39)	.28	.03	1.85	(3, 117)	.14	.05
DDS	12.03	(3, 99)	.001	.27	2.40	(1, 33)	.13	.07	1.38	(3, 99)	.25	.04
PHLMS-Awareness	1.99	(3, 111)	.12	.05	.40	(1, 37)	.53	.01	.01	(3, 111)	.99	.001
PHLMS-Acceptance	2.54	(3, 96)	.06	.07	.03	(1, 32)	.86	.001	1.23	(3, 96)	.30	.04

Table 12. *Correlations Between Residualized Pre-to-Mid-Treatment Change in Predictor Variables and Residualized Mid-to-Post-Treatment Change in Outcome Variables —Intent-to-Treat (Significant Correlations Only)*

Process Variable (Pre-to-Mid Change)	Outcome Variable (Mid-to-Post Change)	*r*	*p*
Overall Sample			
DDS	SSPS-Negative	-.45	.01
PHLMS-Acceptance	PRCA	-.31	.04
ACT			
DDS	SSPS-Negative	-.48	.03
	SSPS-Positive	.42	.04
PHLMS-Acceptance	QOLI	-.45	.05
	PRCA	-.52	.02
PHLMS-Awareness	PRCA	.47	.04
Habituation			
DDS	SSPS-Negative	-.49	.02
	SSPS-Positive	.42	.04
PHLMS-Awareness	PRCA	-.49	.02

Table 13. *Correlations Between Residualized Pre-to-Mid-Treatment Change in Predictor Variables and Residualized Mid-to-Follow-Up Change in Outcome Variables — Intent-to-Treat (Significant Correlations Only)*

Process Variable (Pre-to-Mid Change)	Outcome Variable (Mid-to-Follow-Up Change)	*r*	*p*
Overall Sample			
DDS	SSPS-Negative	-.40	.01
PHLMS-Acceptance	PRCA	-.31	.05
AAQ-II	PRCS	.34	.03
ACT			
PHLMS-Acceptance	PRCA	-.47	.04
Habituation			
DDS	SSPS-Negative	-.59	.01
	SSPS-Positive	.59	.01
AAQ	PRCS	.44	.04

Table 14. *Correlations Between Residualized Pre-to-Post-Treatment Change in Predictor
Variables and Residualized Mid-to-Follow-Up Change in Outcome Variables
— Intent-to-Treat (Significant Correlations Only)*

Process Variable (Pre-to-Post Change)	Outcome Variable (Mid-to-Follow-Up Change)	*r*	*p*
Overall Sample			
DDS	SSPS-Negative	-.48	.001
	SSPS-Positive	.44	.01
	STAI	-.30	.05
	PRCA	-.44	.01
	PRCS	.47	.001
PHLMS-Acceptance	PRCA	-.57	.001
	PRCS	.37	.02
PHLMS-Awareness	SSPS-Negative	-.31	.04
AAQ-II	SSPS-Negative	-.37	.01
	STAI	-.36	.02
ACT			
DDS	PRCS	.46	.04
PHLMS-Acceptance	PRCA	-.68	.001
Habituation			
DDS	SSPS-Negative	-.56	.01
	SSPS-Positive	.71	.001
	PRCA	-.62	.001
	PRCS	.49	.01
PHLMS-Acceptance	PRCA	-.52	.01
PHLMS-Awareness	PRCS	.46	.03
AAQ-II	STAI	-.55	.01

Table 15. *Correlations Between Residualized Pre-to-Post-Treatment Change in Predictor Variables and Residualized Post-to-Follow-Up Change in Outcome Variables — Intent-to-Treat (Significant Correlations Only)*

Process Variable (Pre-to-Post Change)	Outcome Variable (Post-to-Follow-Up Change)	*r*	*p*
Overall Sample			
DDS	SSPS-Positive	.30	.05
PHLMS-Acceptance	PRCA	-.39	.01
PHLMS-Awareness	QOLI	-.32	.04
	SSPS-Negative	-.31	.04
	STAI	.31	.04
ACT			
PHLMS-Acceptance	QOLI	.45	.05
Habituation			
DDS	SSPS- Positive	.61	.001
	PRCA	-.52	.01
PHLMS-Awareness	SSPS-Negative	-.59	.01
	STAI	.53	.01
	PRCS	.50	.02

Table 16. *Correlation Matrix of Baseline Measures*

Measure	PRCS	SSPS-P	SSPS-N	STAI	QOLI	PHLMS-Accept	PHLMS-Aware	AAQ-II	DDS	Overall SS
PRCA	**-.71**[***]	**-.43**[**]	**.31**[*]	-.06	-.03	.12	-.15	.09	-.07	-.23
PRCS		.09	-.28	.03	.18	-.003	.01	.02	-.09	.24
SSPS-P			**-.38**[*]	-.01	.08	.04	.09	.07	.07	-.15
SSPS-N				**.38**[*]	-.23	**-.32**[*]	-.21	**-.45**[**]	**-.45**[**]	-.01
STAI					**-.46**[**]	**-.45**[**]	-.05	**-.49**[***]	-.15	.04
QOLI						**.47**[**]	.001	**.58**[***]	.22	.13
PHLMS-Acceptance							-.22	**.57**[***]	.17	.06
PHLMS-Awareness								-.02	.24	.07
AAQ-II									**.50**[***]	.19
DDS										.10

*** $p \leq 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 17. *Correlations Between Baseline Predictor Variables and Residualized Change Scores on Outcome Variables — Intent-to-Treat (Significant Correlations Only)*

Process Variable (Baseline)	Outcome Variable (Residualized Change Score)	*r*	*p*
Overall Sample			
AAQ-II	STAI (mid-to-post change)	-.39	.01
PHLMS-Acceptance	STAI (mid-to-post change)	-.32	.04
PHLMS-Awareness	SSPS-Negative (mid-to-post change)	-.30	.05
	SSPS-Positive (mid-to-post change)	.32	.03
	SSPS-Positive (mid-to-follow-up change)	.43	.01
	SSPS-Positive (pre-to-post change)	.43	.01
	SSPS-Positive (pre-to-follow-up change)	.52	.001
ACT			
AAQ-II	QOLI (mid-to-post change)	.44	.05
DDS	STAI (pre-to-post change)	-.52	.03
	STAI (pre-to-follow-up change)	-.61	.001
PHLMS-Acceptance	PRCS (mid-to-post change)	.45	.05
PHLMS-Awareness	SSPS-Positive (pre-to-follow-up change)	.47	.04
Habituation			
AAQ-II	QOLI (pre-to-follow-up change)	-.43	.04
PHLMS-Acceptance	SSPS-Positive (mid-to-post change)	-.43	.05
PHLMS-Awareness	SSPS-Negative (pre-to-post change)	-.44	.04
	SSPS-Positive (mid-to-follow-up change)	.43	.04
	SSPS-Positive (pre-to-post change)	.48	.02
	SSPS-Positive (pre-to-follow-up change)	.55	.01
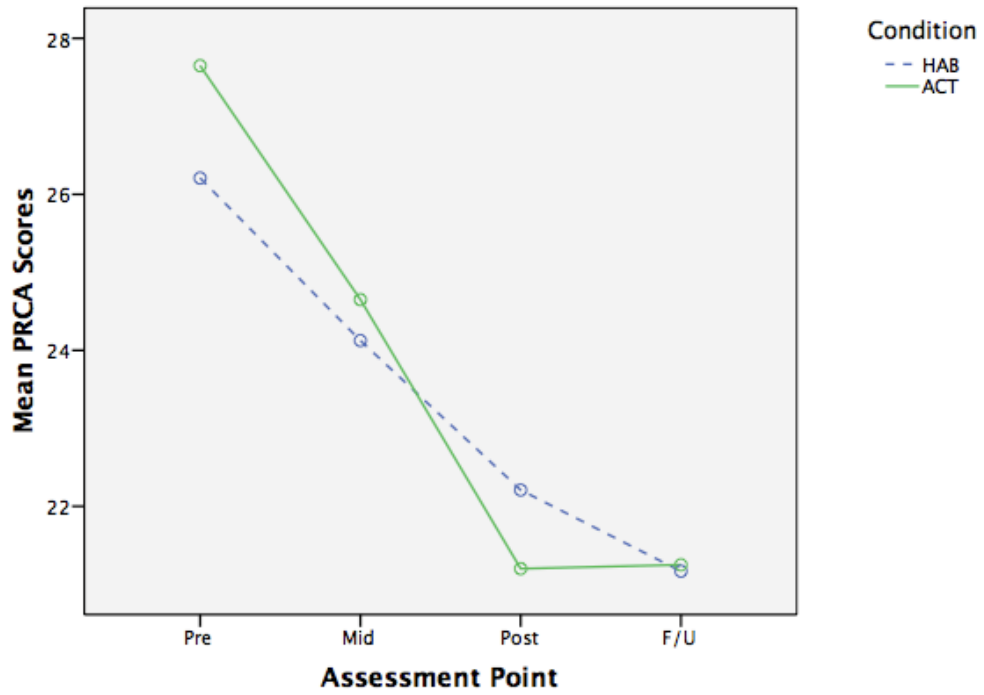
Figure 1. Mean Scores on the Personal Report of Communication Apprehension (PRCA) by Assessment Point and Treatment Condition.
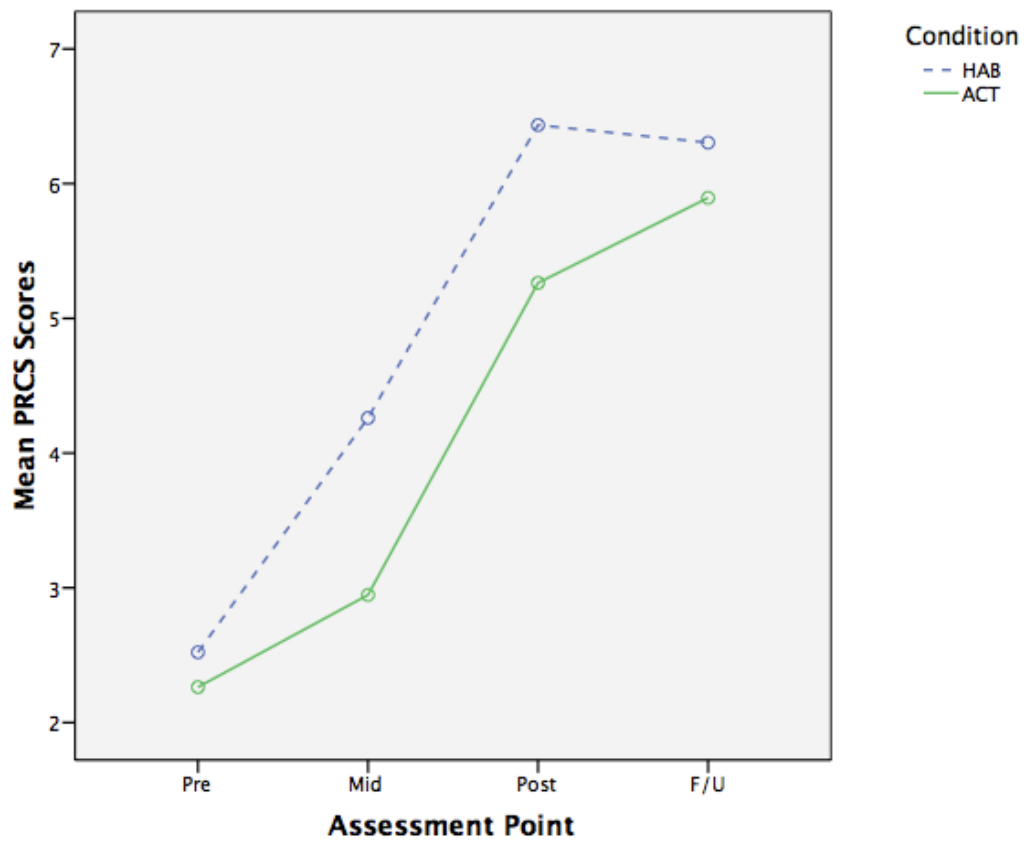
Figure 2. Mean Scores on the Personal Report of Confidence as a Speaker (PRCS) by Assessment Point and Treatment Condition.
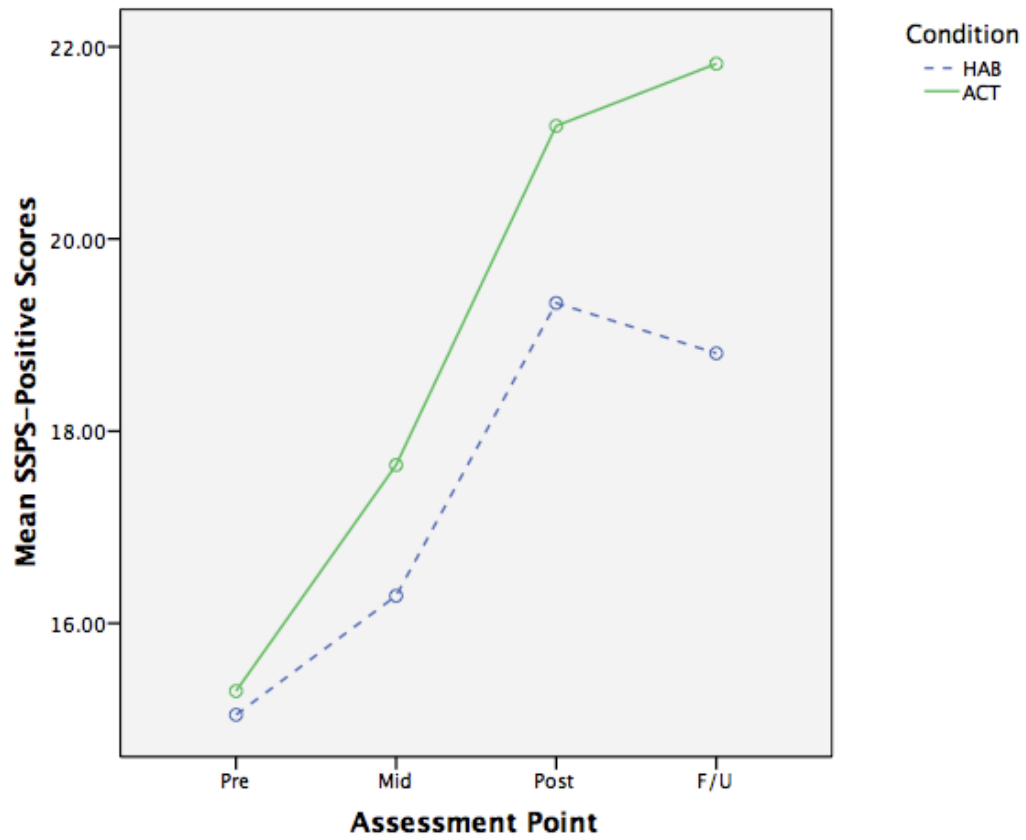
Figure 3. Mean Scores on the Self-Statements During Public Speaking – Positive
   Subscale (SSPS-Positive) by Assessment Point and Treatment Condition.
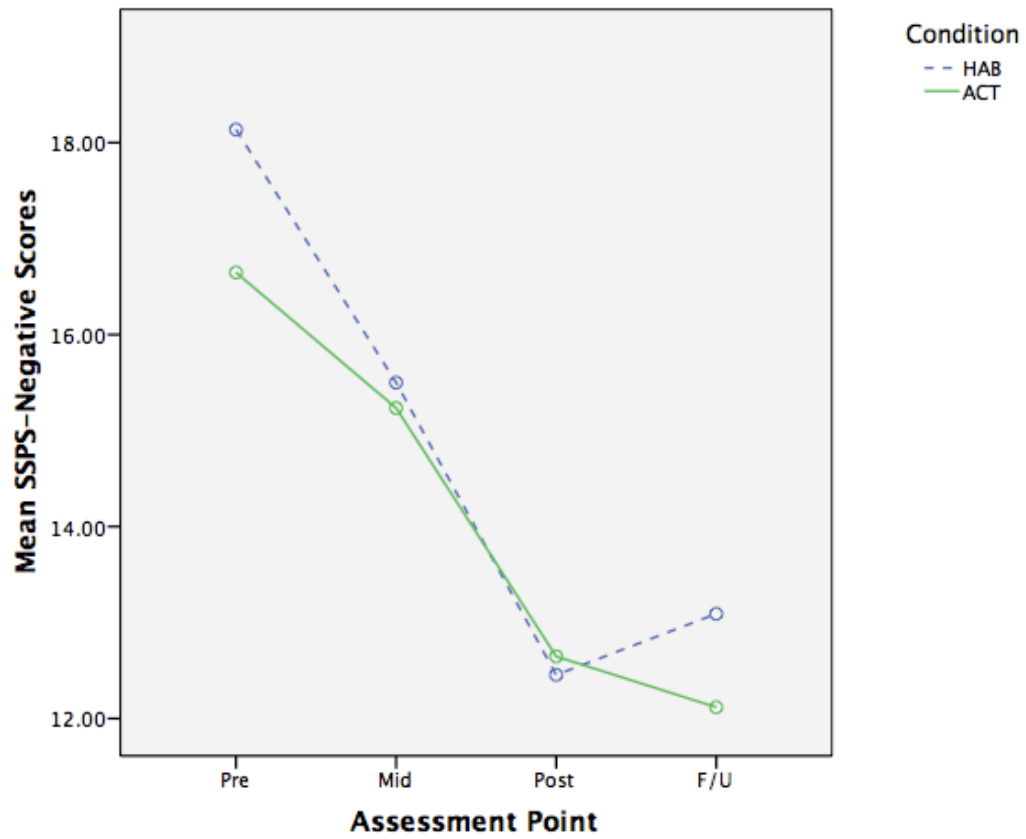
Figure 4. Mean Scores on the Self-Statements During Public Speaking – Negative
Subscale (SSPS-Negative) by Assessment Point and Treatment Condition.
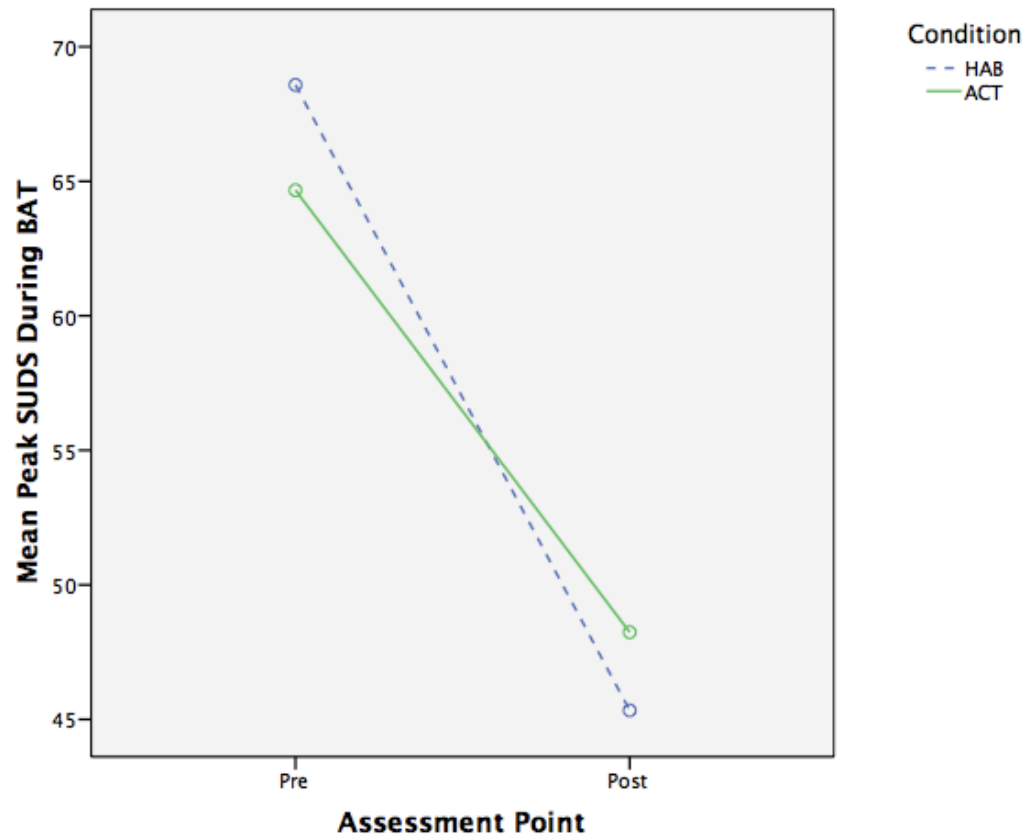
Figure 5. Mean Peak Self-Reported Anxiety (Subjective Units of Discomfort; SUDS) During BAT Speech by Assessment Point and Treatment Condition.
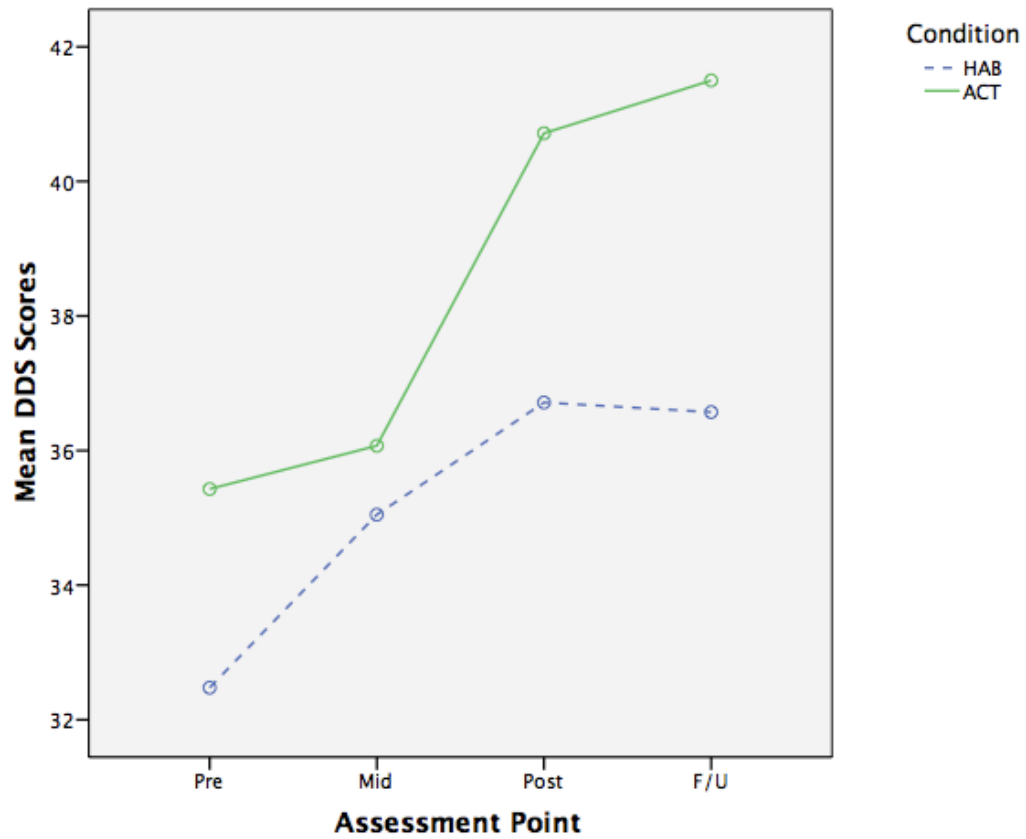
Figure 6. Mean Scores on the Drexel Defusion Scale (DDS) by Assessment Point and Treatment Condition.

APPENDIX A: Treatment Protocols

<u>**ACT Condition**</u>

<u>*Session 1*</u>

I.   Complete **BSQ** (5 minutes)—as people come in.
II.   **Brief introduction/overview** (10 minutes)
   a.   Thank you all for coming! Shows dedication, motivation, etc. and we appreciate the time commitment
   b.   Intro/rapport building; quick overview of what will be done in today's session: we will introduce ourselves, and explain the treatment model that will guide our sessions.
   c.   Experiential practice will begin in session 2. We will be talking a lot during this first session because there is a lot to cover, but we want to involve you as much as possible. Please jump in with questions or comments at any time. There will be a lot more experiential participation starting in the next session.
   d.   **Treatment guidelines/procedures**
      i.   **Attendance**—it's very important to attend all of the sessions if at all possible, but we understand that things come up and you might need to miss a session. If you miss a session, one of us will need to meet with you to "make up" the session (or touch base by phone if necessary)
      ii. **Promptness** –need to start on time so we can end on time—a lot to do in each session
      iii. **Take-home exercises:**
         1.   Much of therapy takes place outside of sessions
         2.   Importance of not using alcohol/drugs or PRN anxiety meds during HW exposures (and sessions)
         3.   We won't ask you to do anything you can't do, and we will practice everything in session to whatever extent possible before we ask you to do it on your own
      iv. **Confidentiality**—everything is confidential; the only time we would break confidentiality is if there was any risk of harm to yourself or others, or if required by law (i.e., court subpoena)
         1.   All of your information will be identified only by a subject number. Your name will be removed from all materials before the data are examined.
         2.   We ask that anything personal discussed here, stays in this room. We want people to feel as comfortable as possible sharing information and practicing speaking situations.
      v.   **Importance of completing measures**: Thank you so much for completing the online questionnaire. (This is the reason we are able to offer the free treatment, and this is how we know if our treatment is working and if we should continue to offer it to others). We will ask you to complete it again after the 3rd session and after the final session, and 6 weeks later (we will remind them).

        vi. **Medication changes**—We ask that, if possible, you not modify the dosage of any psychiatric medications for the duration of the study. If there are any changes to your medication, please let us know.

       vii. **Availability of therapist between sessions**—give phone number/email address

III. **Icebreakers** (10 minutes)—Before we get started, it's important for us to start getting to know each other, since we will be meeting together for 6 weeks.

    a. Two Truths and a Lie—we're going to ask each person to introduce themselves and make 3 statements about themselves—2 truths and 1 lie. Then the group will guess which statement is the lie. I know this may be difficult; after all, you're coming here for help with public speaking, and we're asking you to speak up in front of a group! But, it's important, because we'll be practicing some anxiety-provoking situations here, and we will need to establish a level of comfort with each other.

        i. Group leaders begin, then go around the room. After each person, have the group guess which statement is a lie.

IV. **Psychoeducation** re: public speaking anxiety (5 min)

    a. Anxiety is a **"fight or flight"** response. This makes sense in the context of real, physical danger. Our ancestors survived because they were able to get anxious when confronted with danger (e.g., a tiger), which motivated them to fight or to get out of the situation.

    b. If you were to walk across the street and a bus was coming at you, you would experience strong anxiety that would motivate you to get out of the situation, and this would be seen as completely normal.

    c. In public speaking situations, even though we don't necessarily need to fight or flee, the same response gets activated—the physiological arousal (increased heart rate, faster breathing, sweating, etc.). This is because it is a basic, primitive part of the brain that is responding to perceived threat. So, we understand that this is a real problem.

V. **Case examples** (5 min)—although some people might consider public speaking anxiety to be a minor problem, we have been treating social anxiety/public speaking anxiety for a long time, and we have seen how severe it can be.

    a. In one of our cases, a woman we treated was working at a job where she was offered a promotion, and the new position would require her to provide supervision to 4-5 other employees, as well as run meetings. Although she had no problem providing supervision, she almost refused the promotion because she was afraid to lead meetings.

    b. Another woman we treated had recently moved to the area from out of state, and wanted to meet new people. She became involved with a social meet-up group that she discovered online, and was ok one-on-one, but she avoided becoming involved as an event planner for the group because she was anxious about introducing herself to the whole group at once. Eventually, over the course of therapy, she improved to the point where she not only led social events, but voluntarily gave toasts regularly to the whole group, often 20-30 people or more.

c. So, we understand how much of a problem this can be. At the same time, we want to instill some hope in you that your anxiety in public speaking situations can be treated effectively.

d. (If time—have each group member describe a recent public speaking situation in which they felt anxious)

VI. **Rationale for treatment**: exposure in the context of acceptance/defusion (1 hour 5 min total)

    a. "**Creative hopelessness**" (15 minutes) (write on board)

        i. Discuss how public speaking anxiety has limited or affected life

        ii. Discuss each person's goals (what do you want to change in your life, regarding public speaking?), highlighting those involving anxiety reduction/ elimination, those involving enhanced functioning, and the relationship between these two categories (get at least one example from each person)

        iii. Elicit strategies for achieving goals, including how they have tried to cope with anxiety in public speaking situations (Get at least one example from each person)

        iv. Evaluate the usefulness of each strategy—how well has it worked?

            1. Most likely, not very well (otherwise they would not be in treatment)

    b. "**Control as the problem**" (5 minutes)

        i. When we feel anxious, what do we often do? (ask participants). Usually, we try to avoid the anxious feelings because they're uncomfortable. A lot of the strategies that you have used (reference strategies written on the board—for example, avoiding the situation altogether, drinking alcohol, rushing through, trying to distract yourself.)

        ii. We've all seen how these strategies are generally ineffective in the long run (otherwise you would not be here). Maybe the problem is trying to control anxiety—not for lack of effort. Maybe these strategies CANNOT work

        iii. **Chocolate cake** metaphor: Whatever you do, don't think about chocolate cake. Don't think about the moist gooeyness of it, the smell of it baking in the oven. Don't think about how warm it is and how good it tastes when you bite into it.

            1. What did you think about? (Chocolate cake)

            2. Did anyone not think about chocolate cake? (If so—how do you know you weren't thinking about it? Because you thought about it) The more you try not to think about something, the more you think about it

        iv. **Polygraph metaphor (shark tank):** impossible to control anxious feelings, especially when stakes are high

    c. **Alternative: Just noticing thoughts/feelings**; acceptance/defusion (25 minutes)

   i. If controlling anxiety is not the answer, what might a possible alternative strategy look like? (Encourage participants to brainstorm ideas)

  ii. Introduce the idea of just *noticing* one's thoughts and feelings, without trying to change them

   iii. **Tug of War with Monster** metaphor

     1. The struggle between you and your anxiety in public speaking situations is like being in a tug-of-war with a monster. Imagine that you are standing on one side of a cliff, and across from you is a monster—a big, hairy, scary monster that represents all of your anxiety. In between you and the monster is a bottomless ravine. You and the monster each hold one end of the rope and are pulling back and forth, each trying to pull the other into the ravine, but you never can quite pull the monster in (i.e., you can't get rid of the anxiety).

     2. What is the alternative? The alternative to controlling anxiety is to "drop the rope" and allow the monster (anxiety) to exist, which frees you up to live according to your values and goals. Elicit pros/cons of this from participants (write on board)

     3. Price paid is that monster (anxiety) may never completely go away, and in fact is likely to show up from time-to-time. However, as long as the rope is dropped it cannot affect you one way or the other.

     4. Dropping the rope is not a single act, but rather a process that must be repeated on an ongoing basis.

   iv. **Introduce Defusion**: The process of defusion is the process of identifying thoughts and feelings as what they are rather than what they say they are. It's the idea of stepping back from thoughts/feelings, seeing them as separate from the self—not necessarily the truth.

     1. Using a couple of little verbal conventions will help to undermine the tendency for words/thoughts to pull us into a struggle.

     2. Name the type of language being used by saying "I'm having the (thought/feeling/evaluation/bodily sensation) that…." If you name the process, it's easier to see what it really is, rather than what it just says it is. It's also an important step in starting to be AWARE of your thoughts and feelings, and just notice them.

     3. Give an example of a thought related to public speaking and how to reformulate it. Example: "I'm going to mess up. Everyone can tell that I am sweating and shaking. I am so terrible at speaking to a group."

          a. Reformulate: "I'm having the thought that I will mess up. My body is experiencing sweating and trembling sensations, and I have the belief that others are aware of this. I am evaluating my public speaking skills as terrible."

          b. Ask participants to give examples of thoughts they have had regarding public speaking, and to reformulate them (as a group).

4. **Can't Pick Up the Pen**: each group member will hold a pen in the palm of his or her hand, and will repeat the words "I can't pick up the pen" several times while lifting the pen with the opposite hand, thus demonstrating that thoughts are not always true.

          a. Ask group members: How does this apply to thoughts about public speaking? (It's the same with thoughts regarding public speaking—just because you think you'll mess up, doesn't mean you will.)

v. **Willingness:** Discuss *willingness* to experience anxiety, and the act of being *aware of* and *accepting* one's experiences in the service of achieving valued goals (tie-in to enhanced functioning goals from earlier)

1. The idea of dropping the rope in the tug-of-war with the anxiety monster means that you are accepting that your anxiety will be there as a natural response. When you drop the rope, it means that you are WILLING to have anxiety.

2. Apartment-Warming Party. Imagine that you just moved into a terrific new apartment and you decide to have an apartment-warming party. You decide to invite everyone, and you put out an open invitation. You even put a sign on the door saying "Everyone Welcome." On the day of the party, everything is going perfectly. Then there is a knock on the door and you see that it is Joe, your neighbor, who you find very annoying: he doesn't dress well, he smells a little, and he makes very awkward conversation. You are embarrassed to have him around. So what can you do? You can let him in but try to keep him trapped in the kitchen where no one will see him. You can tell him to go away, but you know he will keep coming back, so you will have to stand by the door guarding it (right under the "Everyone Welcome" sign. Or you can welcome him to the party, let him in. Can you see how you can fully accept his presence even if you don't like him or the way he behaves. …. So, how could this be a metaphor for being *willing* to let in feelings and thoughts and *anxiety* that you don't like, in public speaking situations?

d. **Introduce concept of exposure** (20 minutes)

      i. Exposure = confronting situations that you fear (in this case, public speaking situations)

      ii. **Reasons exposure is important**? (elicit from participants)

          1. Opportunity to practice behavior while noticing thoughts/feelings (chance to practice willingness/acceptance)

          2. Promotes defusion from anxiety

          3. Allows us to practice valued behavior (public speaking) in a safe environment

          4. Allows us to work on **social skills** (write on board, give social skills handout)

              a. Everyone can improve social skills

              b. Introduce areas of social skills

                    i. Verbal (similar to transcript of TV show)

                    ii. Nonverbal (watching a TV show with sound turned off)

                    iii. Paralinguistic (watching TV show in a foreign language)

      iii. We've talked about what exposure is, and why it is important. But it is equally important to talk about what exposure is *NOT*. **Exposure is NOT designed to reduce or eliminate anxiety**. In reality, anxiety reduction may (and often does, in fact) occur. But, there are problems with anxiety reduction becoming the focus

          1. This paradox of experiential control ("if you're not willing to have it, you've got it"—remember "chocolate cake")

          2. Even if symptoms go away, they will almost certainly recur from time-to-time. If you master the idea of accepting your experiences, this is not a problem, but if you focus on controlling your anxiety, this will be a big problem

          3. Not focusing on symptom control maximizes the ability to focus on what really matters in the long-term, i.e., behavior change

      iv. Concept of stepping outside of "comfort zone;" seeking out anxiety

VII. **Review key concepts** (acceptance, defusion, willingness) (5 min) (write on board)

    a. As a way to help you remember what we just talked about, we have come up with a memory aid. Use the word **DAWN**. D-A-W-N, like the dawn of a new day or way of thinking about public speaking anxiety, using these strategies we've just taught you!

    b. **D: Defusion/Distancing**. Step back from your thoughts and feelings about public speaking. See them from a distance. "I see myself having a feeling of anxiety right now."

    c. **A: Acceptance**. Whatever thoughts or feelings your mind creates are okay.

    d. **W: Willingness**. Be willing to have what your mind gives you. No matter how high your anxiety level is, you can let it be. You don't have to make it go away.

e. **N: Noticing**. Become aware of what it is you are thinking and feeling in any given moment during a public speaking situation, without trying to push the thoughts and feelings away.

f. The purpose of all of these strategies is to facilitate **exposure**—to help you to be willing to put yourself in public speaking situations even though you feel anxious

VIII. **Assign homework**: (5 minutes) (hand out Take Home Points sheet, Sample Fear Hierarchy, Exposure Ideas, and First Session Monitoring Form)

    a. Give take-home message sheet

    b. Fear Hierarchy (give example sheet)

        i. You can use as many of these examples as you'd like, and also add your own that are personally relevant for you

        ii. List as many situations as you can, with the most difficult situations at the top, and the easiest at the bottom.

    c. Monitoring form:

        i. For any public speaking situations that come up: Note what strategies are used to cope with anxiety in public speaking situations

            1. Remember that public speaking doesn't only include formal presentations—smaller-scale situations like talking in meetings/classes or addressing a group of friends or family are also examples of public speaking.

        ii. Note use of control strategies (including avoidance) and acceptance/defusion strategies

    d. Begin looking for ways to step outside of comfort zone – seeking out public speaking opportunities. We won't assign any exposure exercises just yet, but start to look for ways to increase your public speaking opportunities.

IX. Complete Reaction to Treatment Questionnaire (10 minutes)

Session 2

    I. Complete BSQ (5 minutes)—as they come in

    II. Make copy of fear hierarchy (make sure name is on it) and give each person back their own—as they come in

    III. Briefly review homework (10 minutes)—ask people to volunteer examples

        a. Any situations that came up during the week--note use of both control and acceptance strategies.

        b. Review fear hierarchies briefly—ask each person to share a few situations from the top of their hierarchies

    IV. Review concepts from previous session (acceptance, willingness, defusion) (10 minutes)

        a. Ask participants how they feel about the ideas we discussed last time

        b. Use additional metaphors as needed (e.g., Two Scales (see Hayes et. al, 1999))

    V. Exposure exercises (1 hour 30 minutes total)

        a. As we mentioned last time, the exposure practice will begin in session 2, today. So, that's what we'll be focusing on today—each person will get a chance to practice a public speaking situation.

     b. Briefly review rationale for exposure (ask participants to recall/summarize from previous session)

          i. Chance to practice willingness/acceptance/defusion

          ii. Opportunity to engage in valued behavior in a safe environment

          iii. Chance to work on social skills

          iv. Goal is NOT to reduce anxiety symptoms, but to behave consistently with one's values

     c. For each participant--conduct exposure exercise (10 minutes per person).

          i. Introduce situation – come up with something in advance that you think would not be too difficult, then check with the participant to see if they are willing to do this exercise, or if they can think of something more relevant. Watch out for avoidance. Look at fear hierarchy --try to do something from the middle-low range of the fear hierarchy.

          ii. Establish behavioral goal for exposure exercise (e.g., remain in situation for 10 minutes; make at least 3 valid arguments in speech; solicit and answer 5 questions from audience)

          iii. Identify a social skill to be practiced during exposure exercise (e.g., eye contact, voice volume, posture, use of humor as appropriate); model as necessary.

          iv. Send the participant out of the room for approximately 30 seconds to 3 minutes while preparing the other group members to be confederates. Co-therapist can also be confederate, while primary therapist should remain in the therapist role.

          v. Bring participant back into the room. Reintroduce the situation and reiterate goal and social skill.

          vi. Encourage participants to do their best to notice their internal experience (i.e., thoughts/feelings/sensations) without judging, categorizing, or attempting to control it. It is often helpful to frame willingness in terms of one of the metaphors/exercises that resonated with the participant, e.g., "remember to drop the rope…"

          vii. Intersperse metaphors/techniques throughout the exposures

     d. Discussion of how the exposure went (after each participant's exposure)

          i. **Make sure to provide positive feedback for engaging in the exposure**

          ii. Did participant meet goal?

          iii. How well was the participant able to engage in willingness?

          iv. Feedback on the social skill(s)

VI. Brief mindfulness meditation exercise: Leaves on a Stream (10 minutes)

     a. Now, with your permission, I would like to lead you through a brief mindfulness meditation exercise. The idea of mindfulness is to help you become aware of your thoughts and feelings without trying to change them or get rid of them. The goal of this exercise is not necessarily to relax, although that might happen. The point is just to notice your thoughts and feelings nonjudgmentally, and to get some practice allowing your thoughts just to be there. It's a way to help you drop the rope.

First, I'd like to ask you to get in a comfortable position in your chair. Sit upright with your feet flat on the floor, your arms and legs uncrossed, and your hands resting in your lap, palms up or down, whichever is more comfortable. Allow your eyes to close gently [pause 10 seconds].

Take a few moments to get in touch with the physical sensations in your body, especially the sensations of touch or pressure where your body makes contact with the chair or floor [pause 10 seconds]. Take a moment to notice your breathing...notice the air flowing in through your nose, into your lungs....and back out again.

It is okay for your mind to wander away to thoughts, worries, images, bodily sensations, or feelings. Notice these thoughts and feelings and acknowledge their presence. Just observe passively the flow of your thoughts, one after another, without trying to figure out their meaning or their relationship to one another. As best you can, bring an attitude of allowing and gentle acceptance to your experience. There is nothing to be fixed or changed. Simply allow your experience to be your experience [pause 15 seconds].

Now, please imagine sitting next to a stream [pause 10 seconds]. As you gaze at the stream, you notice a number of leaves on the surface of the water. Keep looking at the leaves and watch them slowly drift downstream [pause 15 seconds]. Every few moments, another leaf drifts down from the trees and lands in the water, then moves along down the stream.

Now, when thoughts come along into your mind, put each one on a leaf, and observe as each leaf comes closer to you. Then watch it slowly moving away from you, eventually drifting out of sight. Return to gazing at the stream, waiting for the next leaf to float by with a new thought [pause 10 seconds]. If one comes along, again, watch it come closer to you and then let it drift out of sight. Think whatever thoughts you think and allow them to flow freely on each leaf, one by one. Imagine your thoughts floating by like leaves down a stream [pause 15 seconds].

You can also allow yourself to take the perspective of the stream. Being the stream, you hold each of the leaves and notice the thought that each leaf carries as it sails by. You need not interfere with them—just let them flow [pause 15 seconds].

Then, when you are ready, gradually widen your attention to take in the sounds around you in this room [pause 10 seconds]. Slowly return your attention to your breathing. [pause 10 seconds]. Take a moment to bring this sense of gentle allowing and self-acceptance into the present moment ... and when you are ready, slowly open your eyes.

    b. Discuss group members' experience with this exercise: Is anyone willing to share their experience with this exercise? … Were you able to just notice your thoughts, or did you try to change them?

VII.   Assign homework (5 minutes)
  a. Write homework assignment on Behavioral Rx form and make copies before they leave (You may wish to do this ahead of time, particularly with a larger group)
  b. Exposure exercises, recorded on Monitoring Form (including amount of time spent engaging in exposure exercises) –make sure to use monitoring form that includes "time spent" column
     i. At least 3 exposure exercises per week—variations on theme practiced in session. Encourage them to do more if they can.
  c. Assign daily brief meditation practice (at least 1-2 minutes per day)—record on Monitoring Form
  d. Distribute Mindfulness Meditation handout

Session 3

I.   Complete BSQ (5 minutes)—as they come in
II.   Briefly review homework (10 minutes)—ask people to volunteer examples
  a. Did they practice their assigned exposure(s)? Any other exposures?
  b. Strategies used to handle the anxiety? (acceptance or control/avoidance?)
  c. Any barriers to completing the exposures?
  d. Collect homework
III. Continue to review concepts from previous sessions (10 minutes)
  a. Use additional metaphors as needed
  b. The goal of willingness, acceptance, and defusion is not to "enjoy" the anxiety, or to "tolerate" it, but to help you move toward your valued goals—those action goals we talked about in the first session. Decrease avoidance
  c. Briefly review Mindfulness—ask how mindfulness practice went, and remind people that mindfulness does not necessarily need to be done in a formal, meditation context—one can mindfully wash the dishes, take a walk, etc.—The point is to notice your experiences nonjudgmentally and to be fully present in the moment
IV.   Exposure exercises (1 hour 30 minutes total)
  a. For each participant--conduct exposure exercise (10 minutes per person).
     i. Introduce situation – come up with something in advance from fear hierarchy, slightly more challenging than the previous week's exposure, then check with the participant to see if they are willing to do this exercise, or if they can think of something more relevant. Watch out for avoidance.
     ii. Write situation, behavioral goal, and social skill on the board
     iii. Send the participant out of the room for approximately 30 seconds to 3 minutes while preparing the other group members to be confederates.
     iv. Bring participant back into the room. Reintroduce the situation and reiterate goal and social skill.
     v. Encourage participants to do their best to notice their internal experience (i.e., thoughts/feelings/sensations) without judging,

categorizing, or attempting to control it. It is often helpful to frame willingness in terms of one of the metaphors/exercises that resonated with the participant, e.g., "remember to drop the rope…"

      vi. Intersperse metaphors/techniques throughout the exposures

  b. Discussion of how the exposure went (after each participant's exposure)

      i. **Make sure to provide positive feedback for engaging in the exposure**

      ii. Did participant meet goal?

      iii. How well was the participant able to engage in willingness?

      iv. Feedback on the social skill(s)

V. Assign homework (5 minutes)

  a. Assign exposures using Behavioral Rx form; make copies before they leave (again, you may wish to do this before the session)

  b. Exposure exercises and mindfulness practice recorded on Monitoring Form

  c. Remind them that they will be asked to complete the online questionnaire again before next session (send them the link after the session)

Session 4

VI. Complete BSQ (5 minutes)

VII. Briefly review homework (10 minutes)

VIII. Review concepts from previous sessions and introduce additional metaphors as needed (5-10 minutes)

IX. Exposure exercises (1 hour 30 minutes total) – see Session 3

X. Acceptance/defusion exercises and mindfulness meditation, chosen at discretion of therapists.

  a. Examples (see Hayes, Strosahl, & Wilson, 1999, for complete descriptions):

      i. Leaves on a Stream (mindfulness meditation)

      ii. Describe anxiety as an external object (defusion)

      iii. Dropping the rope (from Tug of War with Monster exercise)

      iv. Bubble in the Road (acceptance)

      v. Take Your Keys With You (acceptance)

      vi. FEAR/ACT acronyms (also see Eifert & Forsyth, 2005)

      vii. Content on Cards exercise

      viii. Other exercises as appropriate

XI. Assign homework (5 minutes)

  a. Assign exposures using Behavioral Rx form—at this point you may wish to have participants generate their own homework assignments

  b. Exposure exercises and mindfulness practice recorded on Monitoring Form

  c. Ask them to prepare a brief presentation (approximately 10 minutes; adjust up or down based on group size) for the next session on a topic of their choice. This may include PowerPoint, handouts, or any other

materials of their choosing, though this is not required. Explain that the idea is to allow them to practice something they have prepared, since up until now they have been doing impromptu speaking. Send email to clarify/remind prior to the next session.

Session 5

I.   Complete BSQ (5 minutes)—as they come in
II.   Briefly review homework (10 minutes)
III.   Review concepts from previous sessions as needed (5 minutes)
IV.   Exposure exercises (1 hour 30 minutes total): Prepared presentations, followed by questions from the audience
    a.   Discuss participant's experience after each presentation, but do not interrupt during the presentation
V.   Assign homework (5 minutes)
    a.   Assign exposures using Behavioral Rx form—at this point you may wish to have participants generate their own homework assignments
    b.   Exposure exercises and mindfulness practice recorded on Monitoring Form
    a.   Assign participants to construct a post-treatment plan (give sample). This does not need to be elaborate, nor will it be collected—it will simply be reviewed at the next session

Session 6

I.   Complete BSQ (5 minutes)—as they come in
II.   Briefly review homework (10 minutes)
III.   Review progress, emphasizing positive gains
    a.   Get an example from each person
IV.   Review concepts learned as needed—address questions, etc.
V.   Briefly review post-treatment plans-- ask people to volunteer examples, including things they still want to achieve
VI.   Psychoeducation re: lapse vs. relapse
    a.   Explain that lapse is to be expected and is temporary, whereas complete relapse is rare
    b.   Path up the Mountain Metaphor (Hayes et al., 1999): If you are hiking up a mountain, you may occasionally travel down "switchbacks" which take you back down the mountain a little, but overall you are making progress toward the top
VII.   Exposure exercises
    a.   Allow participants to practice any additional situations they would like
    b.   Karaoke (this can be done individually or in pairs/groups or with the therapists; although not required, participants should be strongly encouraged to sing as a chance to practice their skills and end treatment feeling successful)

VIII.   Review post-treatment procedures:
    a. Remind them that they will be contacted by a research assistant within a couple of days to complete 15-minute phone assessment
    b. Reiterate importance of completing online questionnaire (email the link after session)
    c. Remind about 6-week follow-up assessment (phone assessment and online questionnaire)

IX.   Conduct post-treatment speech assessments with research assistants

Habituation Condition

Session 1

I.   Complete **BSQ** (5 minutes)—as people come in.
II.   **Brief introduction/overview** (10 minutes)
     a. Thank you all for coming! Shows dedication, motivation etc. and we appreciate the time commitment
     b. Intro/rapport building; quick overview of what will be done in today's session; we will introduce ourselves, and explain the treatment model that will guide our sessions.
     c. Experiential practice will begin in session 2. We will be talking a lot during this first session because there is a lot to cover, but we want to involve you as much as possible. Please jump in with questions or comments at any time. There will be a lot more experiential participation starting in the next session.
     d. Treatment guidelines/procedures
          i. **Attendance**—it's very important to attend all of the sessions if at all possible, but we understand that things come up and you might need to miss a session. If you miss a session, one of us will need to meet with you to "make up" the session (or touch base by phone if necessary)
          ii. **Promptness** –need to start on time so we can end on time—a lot to do in each session
         iii. Take-home exercises:
             1. Much of therapy takes place outside of sessions
             2. Importance of not using alcohol/drugs or PRN anxiety meds during HW exposures (and sessions)
             3. We won't ask you to do anything you can't do, and we will practice everything in session to whatever extent possible before we ask you to do it on your own
          iv. **Confidentiality**—everything is confidential; the only time we would break confidentiality is if there was any risk of harm to yourself or others, or if required by law (i.e., court subpoena)
             1. All of your information will be identified only by a subject number. Your name will be removed from all materials before the data are examined.
             2. We ask that anything personal discussed here, stays in this room. We want people to feel as comfortable as possible sharing information and practicing speaking situations.
          v. **Importance of completing measures**: Thank you so much for completing the online questionnaire. (This is the reason we are able to offer the free treatment, and this is how we know if our treatment is working and if we should continue to offer it to others). We will ask you to complete it again after the 3rd session and after the final session, and 6 weeks later (we will remind them)

       vi. **Medication changes**—We ask that, if possible, you not modify the dosage of any psychiatric medications for the duration of the study. If there are any changes to your medication, please let us know.

      vii. **Availability of therapist between sessions**—give phone number/email address

III. **Icebreakers** (10 minutes)—Before we get started, it's important for us to start getting to know each other, since we will be meeting together for 6 weeks.

   a. Two Truths and a Lie—we're going to ask each person to introduce themselves and make 3 statements about themselves—2 truths and 1 lie. Then the group will guess which statement is the lie. I know this may be difficult; after all, you're coming here for help with public speaking, and we're asking you to speak up in front of a group! But, it's important, because we'll be practicing some anxiety-provoking situations here, and we will need to establish a level of comfort with each other.

      i. Group leaders begin, then go around the room. After each person, have the group guess which statement is a lie.

IV. **Psychoeducation** re: public speaking anxiety (5 min)

   a. Anxiety is a **"fight or flight"** response. This makes sense in the context of real, physical danger. Our ancestors survived because they were able to get anxious when confronted with danger (e.g., a tiger), which motivated them to fight or to get out of the situation.

   b. If you were to walk across the street and a bus was coming at you, you would experience strong anxiety that would motivate you to get out of the situation, and this would be seen as completely normal.

   c. In public speaking situations, even though we don't necessarily need to fight or flee, the same response gets activated—the physiological arousal (increased heart rate, faster breathing, sweating, etc.). This is because it is a basic, primitive part of the brain that is responding to perceived threat. So, we understand that this is a real problem.

V. **Case examples** (5 min)—although some people might consider public speaking anxiety to be a minor problem, we have been treating social anxiety/public speaking anxiety for a long time, and we have seen how severe it can be.

   a. In one of our cases, a woman we treated was working at a job where she was offered a promotion, and the new position would require her to provide supervision to 4-5 other employees, as well as run meetings. Although she had no problem providing supervision, she almost refused the promotion because she was afraid to lead meetings.

   b. Another woman we treated had recently moved to the area from out of state, and wanted to meet new people. She became involved with a social meet-up group that she discovered online, and was ok one-on-one, but she avoided becoming involved as an event planner for the group because she was anxious about introducing herself to the whole group at once. Eventually, over the course of therapy, she improved to the point where she not only led social events, but voluntarily gave toasts regularly to the whole group, often 20-30 people or more.

      c. So, we understand how much of a problem this can be. At the same time, we want to instill some hope in you that your anxiety in public speaking situations can be treated effectively.

      d. Would anyone be willing to share a public speaking situation in which they felt anxious?

VI.   **Rationale for treatment**: exposure in the context of habituation
(1 hour 5 minutes total)

      a. Maintaining factors of anxiety (30 minutes) – illustrate these concepts on whiteboard while explaining

            i. **Classical conditioning**: Development of fear

                  1. Basic concept: Unconditioned Stimulus (US) leads to Unconditioned Response (UR). Pairing a neutral stimulus (NS) with the US leads to UR; thus, neutral stimulus becomes Conditioned Stimulus (CS) and the response to this is a Conditioned Response (CR)

                        a. Draw: US $\rightarrow$ UR
                                      US + NS $\rightarrow$ UR
                                      NS becomes CS (through pairing with US)
                                      CS $\rightarrow$ CR

                  2. **Application to public speaking**: Once you start to experience anxiety symptoms (US) in public speaking situations (CS), you learn to associate all public speaking situations with anxiety. Also, if you have ever had a bad experience with public speaking, such as people laughing at you or telling you that you did a bad job, or if you saw someone else have a bad experience, this also becomes associated with public speaking situations. This can lead to the conditioned responses of fear and avoidance.

                        a. Draw: US (Physical symptoms of anxiety) $\rightarrow$ UR (Fear and avoidance)
                                      US + NS (Public speaking) $\rightarrow$ UR
                                      NS (Public Speaking) becomes CS
                                      CS (Public speaking) $\rightarrow$ CR (Fear and avoidance)

                  3. Ask group members to volunteer examples of early public speaking experiences where anxiety occurred

           ii. **Operant conditioning**: Maintenance of avoidance behavior

                  1. Basic concept: negative reinforcement. When something unpleasant happens, and you find a way to decrease the unpleasant feelings, you tend to do that behavior more in the future—thus, it is reinforced.

                  2. **Application to public speaking**: If you have anxiety in public speaking situations, what do you often do? You probably try to get out of the situation or avoid it altogether. What happens next? Your anxiety decreases,

which makes you more likely to avoid or escape these situations in the future.

       3. Ask group members for examples of what happens in public speaking situations (e.g., anxiety symptoms) and what happens to their anxiety when they leave or avoid a public speaking situation

   iii. **Instruction on charting anxiety** (including diagrams)

       1. Reintroduce concept of Subjective Units of Discomfort (SUDS) scale (participants should already be familiar with this from the pre-treatment assessment). *Give SUDS scale handout to all group members.*

       2. Illustrate what happens to anxiety in a public speaking situation (peak) and after leaving the situation (decrease). If possible, ask a group member to give a recent example (or return to an example someone gave) of a public speaking situation and chart that person's actual SUDS levels.

b. **Discuss process of Habituation** (15 minutes)

   i. Introduce concept: Habituation occurs when you expose yourself to a feeling (such as anxiety) for an extended period of time until the feeling decreases. It means that you are becoming desensitized to the feeling, so that it no longer affects you to the same degree.

   ii. By remaining in public speaking situation for an extended period of time (instead of avoiding or escaping), anxiety will eventually decrease, because you become used to it (or *habituated* to the feeling). The goal of this treatment is to help you become habituated to the feelings of anxiety in public speaking situations, so that these feelings will decrease in intensity.

   iii. Add additional chart next to previous one: What would happen to anxiety if you remained in the situation? (It would decrease). Return to previous participant example if possible.

   iv. Reasons that you have not habituated to anxiety in the past? You may not have stayed in the situation long enough, or done it often enough. Also, you might have used strategies to block the anxiety, such as medication, or trying to distract yourself from the anxiety instead of allowing yourself to fully experience it.

c. **Introduce concept of exposure** (20 minutes)

   i. Exposure = confronting situations that you fear (in this case, public speaking situations)

   ii. **Reasons exposure is important**? (elicit from participants)

       1. Opportunity to practice maintaining behavior until anxiety decreases (habituation)

       2. Allows us to practice valued behavior (public speaking) in a safe environment→improve skills, becomes easier

       3. Build success→less likely to feel anxious and therefore less likely to avoid in the future (breaking the cycle of negative

reinforcement, and breaking the classically conditioned association between public speaking and feeling anxious)

    4. Allows us to work on **social skills** (write on board, give social skills handout)

        a. Everyone can improve social skills

        b. Introduce areas of social skills

            i. Verbal (similar to transcript of TV show)

            ii. Nonverbal (watching a TV show with sound turned off)

           iii. Paralinguistic (watching TV show in a foreign language)

VII.   **Review key concepts** (classical conditioning, operant conditioning, habituation) (write on board)

    a. As a way to help you remember what we just talked about, we have come up with a memory aid. Use the word **SPEACH (misspelled on purpose)**. S-P-E-A-C-H, like what you hope to be able to do, using the ideas we've been talking about!

    b. **S: Social Skills.** Remember to focus on the 3 areas of social skills: Verbal, Nonverbal, and Paralinguistic.

    c. **P: Practice.** The key to improving your skills in public speaking situations is to practice as much as possible!

    d. **E: Exposure.** Put yourself in public speaking situations and allow yourself to experience the anxiety.

    e. **A: Anxiety.** The goal of exposure is to remain in the feared situation until your anxiety decreases.

    f. **C: Conditioning.** Your anxiety and avoidance of public speaking situations is being maintained through the processes of conditioning, so it's important to experience anxiety in these situations to undo the conditioning.

    g. **H: Habituation.** By continually exposing yourself to anxiety in public speaking situations, you will eventually become used to the feeling so that it will not affect you to the same extent, if at all.

VIII.   **Assign homework**: (5 minutes) (hand out Take Home Points sheet, Sample Fear Hierarchy, Exposure Ideas, and First Session Monitoring Form)

    a. Give take-home message sheet

    b. Fear Hierarchy (give example sheet)

        i. You can use as many of these examples as you'd like, and also add your own that are personally relevant for you

        ii. List as many situations as you can, with the most difficult situations at the top, and the easiest at the bottom.

    c. Monitoring form:

        i. For any public speaking situations that come up: Monitor anxiety levels (SUDS ratings—before, after, highest)

            1. Remember that public speaking doesn't only include formal presentations—smaller-scale situations like talking

in meetings/classes or addressing a group of friends or family are also examples of public speaking.

    d. Begin looking for ways to step outside of comfort zone – seeking out public speaking opportunities. We won't assign any exposure exercises just yet, but start to look for ways to increase your public speaking opportunities.

IX. Complete Reaction to Treatment Questionnaire (10 minutes)—hand out and ask them to complete before leaving.

Session 2

I. Complete BSQ (5 minutes)—as they come in

II. Make copy of fear hierarchy (make sure name is on it) and give each person back their own—as they come in

III. Briefly review homework (10 minutes)—ask people to volunteer examples
    a. Any situations that came up during the week--note changes in anxiety and operant/classical conditioning principles.
    b. Also note any use of safety behaviors that may have prohibited the participant from habituating to anxiety—avoiding/escaping situations, using medication, alcohol, etc.
    c. Review fear hierarchies briefly—ask each person to share a few situations from the top of their hierarchies

IV. Review concepts from previous session (habituation, classical/operant conditioning, SUDS) (10 minutes)
    a. Ask participants how they feel about the ideas we discussed last time
    b. Review and draw diagrams as needed

V. Exposure exercises (1 hour 30 minutes total)
    a. As we mentioned last time, the exposure practice will begin in session 2, today. So, that's what we'll be focusing on today—each person will get a chance to practice a public speaking situation.
    b. Briefly review rationale for exposure (ask participants to recall/summarize from previous session)
        i. Chance to break negative reinforcement cycle (decreasing anxiety by avoiding/escaping public speaking situations)
        ii. Opportunity to build skills in a safe environment
        iii. Chance to work on social skills
        iv. Goal is to REDUCE anxiety by remaining in the feared situation until you become habituated to the feelings of anxiety
    c. For each participant--conduct exposure exercise (10 minutes per person).
        i. Introduce situation – come up with something in advance that you think would not be too difficult, then check with the participant to see if they are willing to do this exercise, or if they can think of something more relevant. Watch out for avoidance. Look at fear hierarchy --try to do something from the middle-low range of the fear hierarchy.

      ii. Establish behavioral goal for exposure exercise (e.g., remain in situation for 10 minutes; make at least 3 valid arguments in speech; solicit and answer 5 questions from audience)

      iii. Identify a social skill to be practiced during exposure exercise (e.g., eye contact, voice volume, posture, use of humor as appropriate); model as necessary.

      iv. Send the participant out of the room for approximately 30 seconds to 3 minutes while preparing the other group members to be confederates. Co-therapist can also be confederate, while primary therapist should remain in the therapist role.

      v. Bring participant back into the room. Reintroduce the situation and reiterate goal and social skill.

      vi. Encourage participants to remain in the situation until their anxiety begins to decrease

      vii. Get initial SUDS rating and chart it on the board

      viii. Stop the participant every minute or so to get a SUDS rating

  d. Discussion of how the exposure went (after each participant's exposure)

      i. **Make sure to provide positive feedback for engaging in the exposure**

      ii. What is your SUDS rating now? What was the highest it got to? (Chart on board, pointing out the pattern that it may increase initially, then decrease)

      iii. Did participant meet goal?

      iv. Did anxiety decrease?

      v. Feedback on the social skill(s)

VI. Assign homework (5 minutes)

  a. Write homework assignment on Behavioral Rx form and make copies before they leave (in a larger group, you may want to do this before the session)

  b. Exposure exercises, recorded on Monitoring Form (including amount of time spent engaging in exposure exercises) – use the monitoring form with graphs attached; explain graphing

      i. At least 3 exposure exercises per week—variations on theme practiced in session. Encourage them to do more if they can.

  c. Chart SUDS ratings for each exposure exercise (before, after, highest point)

Session 3

II. Complete BSQ (5 minutes)—as they come in

III. Briefly review homework (10 minutes)—ask people to volunteer examples

  a. Did they practice their assigned exposure(s)? Any other exposures?

  b. Discuss what happened with their SUDS levels

  c. Any barriers to completing the exposures?

  d. Collect homework—make sure names are on them

IV. Review concepts from previous sessions as needed (habituation, classical/operant conditioning, SUDS) (5 minutes)

V.   Exposure exercises (1 hour 30 minutes total)
- a. For each participant--conduct exposure exercise (10 minutes per person).
    - i. Introduce situation – come up with something in advance from fear hierarchy, slightly more challenging than the previous week's exposure, then check with the participant to see if they are willing to do this exercise, or if they can think of something more relevant. Watch out for avoidance.
    - ii. Write situation, behavioral goal, and social skill on the board
    - iii. Send the participant out of the room for approximately 30 seconds to 3 minutes while preparing the other group members to be confederates.
    - iv. Bring participant back into the room. Reintroduce the situation and reiterate goal and social skill.
    - v. Encourage participants to remain in the situation until their anxiety begins to decrease
    - vi. Get initial SUDS rating and chart it on the board
    - vii. Have them give a signal (e.g., raise hand) when anxiety starts to decrease (the idea is to fade the prompting for SUDS ratings over subsequent sessions)
- b. Discussion of how the exposure went (after each participant's exposure)
    - i. **Make sure to provide positive feedback for engaging in the exposure**
    - ii. What is your SUDS rating now? What was the highest it got to? (Chart on board, pointing out the pattern that it may increase initially, then decrease)
    - iii. Did participant meet goal?
    - iv. Did anxiety decrease?
    - v. Feedback on the social skill(s)

VI.   Assign homework (5 minutes)
- a. Assign exposures using Behavioral Rx form, make copies before they leave (again, you may wish to do this prior to the session)
- b. Exposure exercises and SUDS levels recorded on Monitoring Form
- c. Remind them that they will be asked to complete the online questionnaire again before next session (send them the link after the session)

Session 4

VI.   Complete BSQ (5 minutes)—as they come in
VII.   Briefly review homework (10 minutes). Thank everyone for completing the mid-treatment questionnaire.
VIII.   Review concepts from previous sessions as needed (5 minutes)
IX.   Exposure exercises (1 hour 30 minutes total) (see session 3)
X.   Assign homework (5 minutes)
- a. Assign exposures using Behavioral Rx form—at this point you may wish to have participants generate their own homework assignments
- b. Exposure exercises and SUDS levels recorded on Monitoring Form

c. Ask them to prepare a brief presentation (approximately 10 minutes; adjust up or down based on group size) for the next session on a topic of their choice. This may include PowerPoint, handouts, or any other materials of their choosing, though this is not required. Explain that the idea is to allow them to practice something they have prepared, since up until now they have been doing impromptu speaking. Send email to clarify/remind prior to the next session.

Session 5

XI.   Complete BSQ (5 minutes)—as they come in
XII.   Briefly review homework (10 minutes)
XIII.   Review concepts from previous sessions as needed (5 minutes)
XIV.   Exposure exercises (1 hour 30 minutes total): Prepared presentations, followed by questions from the audience
    a. Discuss SUDS levels after each presentation, but do not interrupt during the presentation to ask for ratings
XV.   Assign homework (5 minutes)
    a. Assign exposures using Behavioral Rx form—at this point you may wish to have participants generate their own homework assignments
    b. Exposure exercises and SUDS levels recorded on Monitoring Form
    d. Assign participants to construct a post-treatment plan (give sample). This does not need to be elaborate, nor will it be collected—it will simply be reviewed at the next session

Session 6

VIII.   Complete BSQ (5 minutes)—as they come in
IX.   Briefly review homework (10 minutes)
X.   Review progress, emphasizing positive gains
    a. Get an example from each person
XI.   Review concepts learned as needed—address questions, etc.
XII.   Briefly review post-treatment plans-- ask people to volunteer examples, including things they still want to achieve
XIII.   Psychoeducation re: lapse vs. relapse
    a. Explain that lapse is to be expected and is temporary, whereas complete relapse is rare
XIV.   Exposure exercises
    a. Allow participants to practice any additional situations they would like
    b. Karaoke (this can be done individually or in pairs/groups or with the therapists; although not required, participants should be strongly encouraged to sing as a chance to practice their skills and end treatment feeling successful)
XV.   Review post-treatment procedures:
    a. Remind them that they will be contacted by a research assistant within a couple of days to complete 15-minute phone assessment

      b. Reiterate importance of completing online questionnaire (email the link after session)

      c. Remind about 6-week follow-up assessment (phone assessment and online questionnaire)

XVI. Conduct post-treatment speech assessments with research assistants

APPENDIX B: Personal Report of Communication Apprehension (PRCA-24)
Public Speaking Subscale

DIRECTIONS: This instrument is composed of 6 statements concerning your feelings about public speaking. Please indicate the degree to which each statement applies to you by marking whether you (1) strongly agree, (2) agree, (3) are undecided, (4) disagree, or (5) strongly disagree. Work quickly; record your first impression.

_____ 1. I have no fear of giving a speech.

_____ 2. Certain parts of my body feel very tense and rigid while I am giving a speech.

_____ 3. I feel relaxed while giving a speech.

_____ 4. My thoughts become confused and jumbled when I am giving a speech.

_____ 5. I face the prospect of giving a speech with confidence.

_____ 6. When giving a speech, I get so nervous I forget facts I really know.

APPENDIX C: Personal Report of Confidence as a Speaker – Short Form

Instructions: This instrument is composed of 12 items regarding your feelings of confidence as a speaker. Decide whether "true" or "false" <u>most</u> represents your feelings associated with public speaking. Work quickly and don't spend too much time on any one question; we want your first impression.

1. My hands tremble when I try to handle objects on the platform

2. I am in constant fear of forgetting my speech

3. While preparing a speech I am in a constant state of anxiety

4. My thoughts become confused and jumbled when I speak before an audience

5. Although I talk fluently with friends I am at a loss for words on the platform

6. The faces of my audience are blurred when I look at them

7. I feel disgusted with myself after trying to address a group of people

8. I perspire and tremble just before getting up to speak

9. My posture feels strained and unnatural

10. I am fearful and tense all the while I am speaking before a group of people

11. It is difficult for me to search my mind calmly for the right words to express my thoughts

12. I am terrified at the thought of speaking before a group of people

APPENDIX D: Self-Statements During Public Speaking (SSPS)

Please imagine what you have typically felt and thought to yourself during any kind of public speaking situations. Imagining these situations, how much do you agree with the statements given below. Please rate the degree of your agreement on a scale between 0 (if you do not agree at all) to 5 (if you agree extremely with the statement).

1. What do I have to lose; it's worth a try

2. I'm a loser

3. This is an awkward situation but I can handle it

4. A failure in this situation would be more proof of my incapacity

5. Even if things don't go well, it's no catastrophe

6. I can handle everything

7. What I say will probably sound stupid

8. I'll probably "bomb out" anyway

9. Instead of worrying I could concentrate on what I want to say

10. I feel awkward and dumb; they're bound to notice

APPENDIX E: State-Trait Anxiety Inventory (STAI): A-State

Read each statement and select the appropriate response to indicate how you feel **right now**, that is, **at this very moment**. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

Response Categories

1. Not at all
2. A little
3. Somewhat
4. Very Much So

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

APPENDIX F: Philadelphia Mindfulness Scale (PHLMS)

Instructions: Please indicate how often you experienced each of the following statements within the past week.

| 1 | 2 | 3 | 4 | 5 |

Never Rarely Sometimes Often Very Often

1. I am aware of what thoughts are passing through my mind.

2. I try to distract myself when I feel unpleasant emotions.

3. When talking with other people, I am aware of their facial and body expressions.

4. There are aspects of myself I don't want to think about.

5. When I shower, I am aware of how the water is running over my body.

6. I try to stay busy to keep thoughts or feelings from coming to mind.

7. When I am startled, I notice what is going on inside my body.

8. I wish I could control my emotions more easily.

9. When I walk outside, I am aware of smells or how the air feels against my face.

10. I tell myself that I shouldn't have certain thoughts.

11. When someone asks how I am feeling, I can identify my emotions easily.

12. There are things I try not to think about.

13. I am aware of thoughts I'm having when my mood changes.

14. I tell myself that I shouldn't feel sad.

15. I notice changes inside my body, like my heart beating faster or my muscles getting tense.

16. If there is something I don't want to think about, I'll try many things to get it out of my mind.

17. Whenever my emotions change, I am conscious of them immediately.

18. I try to put my problems out of mind.

19. When talking with other people, I am aware of the emotions I am experiencing.

20. When I have a bad memory, I try to distract myself to make it go away.

APPENDIX G: Drexel Defusion Scale

DDS

Defusion is a term used by psychologists to describe a state of achieving distance from internal experiences such as thoughts and feelings. Suppose you put your hands over your face and someone asks you, "What do hands look like?" You might answer, "They are all dark." If you held your hands out a few inches away, you might add, "they have fingers and lines in them." In a similar way, getting some distance from your thoughts allows you to see them for what they are. The point is to notice the process of thinking as it happens rather than only noticing the results of that process, in other words, your thoughts. When you think a thought, it "colors" your world. When you see a thought from a distance, you can still see how it "colors" your world (you understand what it means), but you also see that you are doing the "coloring." It would be as if you always wore yellow sunglasses and forgot you were wearing them. Defusion is like taking off your glasses and holding them several inches away from your face; then you can see how they make the world appear to be yellow instead of only seeing the yellow world.

Similarly, when you are defused from an emotion you can see yourself having the emotion, rather than simply being in it. When you are defused from a craving or a sensation of pain, you don't just experience the craving or pain, you see yourself having them. Defusion allows you to see thoughts, feelings, cravings, and pain as simply processes taking place in your brain. The more defused you are from thoughts or feelings, the less automatically you act on them.

For example, you may do something embarrassing and have the thought "I'm such an idiot." If you are able to defuse from this thought, you will be able to see it as just a thought. In other words you can see that the thought is something in your mind that may or may not be true. If you are not able to defuse, you would take the thought as literally true, and your feelings and actions would automatically be impacted by the thought.

		(0) Not at all	(1) A little	(2) Somewhat	(3) Moderately	(4) Quite a lot	(5) Very much
	Based on the definition of *defusion* above, please rate each scenario according to the extent to which you would normally be in a state of *defusion* in the specified situation. You may want to read through all the examples before beginning to respond to the questions. (Important: you are not being asked about the degree to which you would think certain thoughts or feel a certain way, but the degree to which you would *defuse* if you did.)						
1	**Feelings of Anger.** You become angry when someone takes your place in a long line. To what extent would you normally be able to *defuse* from feelings of anger?	☐	☐	☐	☐	☐	☐
2	**Cravings for Food.** You see your favorite food and have the urge to eat it. To what extent would you normally be able to *defuse* from cravings for food?	☐	☐	☐	☐	☐	☐
3	**Physical Pain.** Imagine that you bang your knee on a table leg. To what extent would you normally be able to *defuse* from physical pain?	☐	☐	☐	☐	☐	☐
4	**Anxious Thoughts.** Things have not been going well at school or at your job, and work just keeps piling up. To what extent would you normally be able to *defuse* from anxious thoughts like "I'll never get this done."?	☐	☐	☐	☐	☐	☐
5	**Thoughts of self.** Imagine you are having a thought such as "no one likes me." To what extent would you normally be able to *defuse* from negative thoughts about yourself?	☐	☐	☐	☐	☐	☐
6	**Thoughts of Hopelessness.** You are feeling sad and stuck in a difficult situation that has no obvious end in sight. You experience thoughts such as "Things will never get any better." To what extent would you normally be able to *defuse* from thoughts of hopelessness?	☐	☐	☐	☐	☐	☐
7	**Thoughts about motivation or ability.** Imagine you are having a thought such as "I can't do this" or "I just can't get started." To what extent would you normally be able to *defuse* from thoughts about motivation or ability?	☐	☐	☐	☐	☐	☐
8	**Thoughts about Your Future.** Imagine you are having thoughts like, "I'll never make it" or "I have no future." To what extent would you normally be able to *defuse* from thoughts about your future?	☐	☐	☐	☐	☐	☐
9	**Sensations of Fear.** You are about to give a presentation to a large group. As you sit waiting your turn, you start to notice your heart racing, butterflies in your stomach, and your hands trembling. To what extent would you normally be able to *defuse* from sensations of fear?	☐	☐	☐	☐	☐	☐
10	**Feelings of Sadness.** Imagine that you lose out on something you really wanted. You have feelings of sadness. To what extent would you normally be able to *defuse* from feelings of sadness?	☐	☐	☐	☐	☐	☐

APPENDIX H: Acceptance and Action Questionnaire – II

AAQ-2

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

1. Its OK if I remember something unpleasant.	1	2	3	4	5	6	7
2. My painful experiences and memories make it difficult for me to live a life that I would value.	1	2	3	4	5	6	7
3. I'm afraid of my feelings.	1	2	3	4	5	6	7
4. I worry about not being able to control my worries and feelings.	1	2	3	4	5	6	7
5. My painful memories prevent me from having a fulfilling life.	1	2	3	4	5	6	7
6. I am in control of my life.	1	2	3	4	5	6	7
7. Emotions cause problems in my life.	1	2	3	4	5	6	7
8. It seems like most people are handling their lives better than I am.	1	2	3	4	5	6	7
9. Worries get in the way of my success.	1	2	3	4	5	6	7
10. My thoughts and feelings do not get in the way of how I want to live my life.	1	2	3	4	5	6	7

APPENDIX I: Quality of Life Inventory (QOLI)

Instructions: Below you will see sixteen areas that relate to your life in the left column. For each area, on the scale from 0 to 2, rate how important (Column 2) that area is to your life, and then in Column 3, choose **one** of the six numbers, to rate how satisfied (or happy) you are with each of these areas.

Life Domain	How Important is this to You?	How Satisfied are you with this area of you life?
	0- Not Important 1- Important 2- Very Important	-3 – Very Unsatisfied -2- Somewhat Unsatisfied -1- A little Unsatisfied +1- A Little Satisfied +2- Somewhat Satisfied +3- Very Satisfied
1. Health		
2. Self-Esteem		
3. Goals and Values		
4. Money		
5. Work (/School)		
6. Play		
7. Learning		
8. Creativity		
9. Helping		
10. Love		
11. Friends		
12. Children		
13. Relatives		
14. Home		
15. Neighborhood		
16. Community		

APPENDIX J: Before-Session Questionnaire (BSQ)

Your Name: _____   Today's Date: _____

The following questions ask about how things have been going for you over the past week. Please read each statement carefully, and then make a rating on the scale provided as to how much the statement applies to you *over the past week*.

#	Statement	Scale						
1	Overall, I would rate my ***general sense of well-being*** over the past week as...	1 Very good	2	3	4 Okay	5	6	7 Very poor
2	When I consider my ***psychological and emotional state***, I would say I am...	1 Doing exceptionally well	2	3	4 Doing okay	5	6	7 Doing very poorly
3	In terms of my ***overall satisfaction with my life***, I am...	1 Perfectly satisfied	2	3	4 Somewhat satisfied	5	6	7 Not at all satisfied
4	In terms of my overall satisfaction with my ***school/work life***, I am...	1 Perfectly satisfied	2	3	4 Somewhat satisfied	5	6	7 Not at all satisfied
5	In terms of my overall satisfaction with my ***romantic life***, I am...	1 Perfectly satisfied	2	3	4 Somewhat satisfied	5	6	7 Not at all satisfied
6	The ***frequency and intensity of my specific symptoms or problems*** over the past week has been...	1 Very low	2	3	4 Average	5	6	7 Very high
7	The ***amount of distress*** I have experienced from my symptoms or problems over the past week has been...	1 Very low	2	3	4 Medium	5	6	7 Very high
8	In terms of ***overall level of depression***, this week I have felt...	1 Not very depressed	2	3	4 Somewhat depressed	5	6	7 Extremely depressed
9	In terms of ***overall level of anxiety***, this week I have felt...	1 Not very anxious	2	3	4 Somewhat anxious	5	6	7 Extremely anxious
10	In considering my most important goals, I would rate my ***progress toward my goals*** over the past week as...	1 A lot of progress	2	3	4 Some progress	5	6	7 Little progress
11	Whenever I had ***bothersome thoughts*** over the past week, I tended to...	1 Just notice them without trying to change them	2	3	4	5	6	7 Try to change or get rid of them
12	Whenever I had ***bothersome feelings*** over the past week, I tended to...	1 Just notice them without trying to change them	2	3	4	5	6	7 Try to change or get rid of them
13	My ***thoughts*** tend to be...	1 Unrealistically positive	2	3	4 Fairly accurate	5	6	7 Unrealistically negative
14	When I have ***thoughts that I "know" are unrealistically negative***...	1 I'm able to see them as just thoughts and not as the truth	2	3	4	5	6	7 I can't help but take them as the truth
15	In terms of the ***effect of my emotions on my behavior***, my anxiety, depression and other distress...	1 Does <u>not</u> prevent me from doing anything of importance	2	3	4 Keeps me from doing some important things	5	6	7 Prevents me from doing many important things

APPENDIX K: Reaction to Treatment Questionnaire

On a scale of 1 (low) to 10 (high), please rate your reaction to your experience of treatment so far. Indicate your rating by circling the appropriate number.

1. How logical does this type of treatment seem to you?

1	2	3	4	5	6	7	8	9	10

   Not
   Logical   Very
                                                  Logical

2. How confident are you that this treatment will be successful in eliminating your fear of public speaking?

1	2	3	4	5	6	7	8	9	10

   Not at all   Very
   Confident   Confident

3. How confident would you be in recommending this treatment to a friend who was extremely anxious about public speaking?

1	2	3	4	5	6	7	8	9	10

   Not at all   Very
   confident   confident

4. How successful do you feel this treatment would be in decreasing different fears?

1	2	3	4	5	6	7	8	9	10

   Not at all   Very
   successful   successful

5. How confident are you that this treatment could eliminate fear of giving a speech?

1	2	3	4	5	6	7	8	9	10

   Not at all   Very
   confident   confident

6. How severe is your fear of public speaking now?

1	2	3	4	5	6	7	8	9	10

   Not at all   Very
   severe   severe

7. How severe do you expect your fear of public speaking to be immediately following treatment?

1	2	3	4	5	6	7	8	9	10
Not at all severe									Very severe

8. How severe do you expect your fear of public speaking to be:

    a. One year after treatment?

1	2	3	4	5	6	7	8	9	10
Not at all severe									Very severe

    b. Five years after treatment?

1	2	3	4	5	6	7	8	9	10
Not at all severe									Very severe

APPENDIX L: Demographics Questionnaire

Age: _____   Year of Birth: _____

Gender (circle one): **Male**   or   **Female**

Employment status:

(0) ☐ full-time   (1) ☐ part-time   (2) ☐ occasional/per diem

(3) ☐ disability/SSI   (4) ☐ no income

Occupation:_____

Student status (if applicable):

(0) ☐ full-time   (1) ☐ part-time

Student type (if applicable):

(0) ☐ undergraduate   (1) ☐ graduate

Marital/relationship status:

(0) ☐ single (no current romantic partner)

(1) ☐ married

(2) ☐ living with partner (not married)

(3) ☐ not living with current partner

(4) ☐ divorced

(5) ☐ widowed

Ethnicity (*check all that apply*):

(0) ☐ African American / Black

(1) ☐ Caribbean / Haitian

(2) ☐ African

(3) ☐ Asian American

(4) ☐ Asian / Pacific-Islander

(5) ☐ White / European American / Caucasian

(6) ☐ European

(7) ☐ Latino/Latina / Hispanic American / Hispanic

(8) ☐ Native American / American Indian

(9) ☐ Multiracial

(10) ☐ Other:

Is English your first language?

(0) ☐ Yes

(1) ☐ No; I learned starting at age: _____

Have you been in counseling/therapy before? If so, please indicate date(s) and a brief description of treatment (including reason for treatment). Also indicate any medications you have taken (including dates) for mental health reasons.

_____

_____

_____

_____

_____

_____

_____

_____

APPENDIX M: Treatment Handouts/Worksheets

Drexel Public Speaking Anxiety Study

Behavioral Rx

Name: _____

Date: _____

Assignment:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Social Skills Types

1. **Verbal** – the content of what you are saying (like the transcript of a TV show)

    a. Your prepared speech

    b. Asking a question

    c. Giving your opinion

    d. Addressing your audience

2. **Nonverbal** – what you do; body language (like watching a TV show with no sound)

    a. Eye contact

    b. Posture

    c. Gestures/hand movements

3. **Paralinguistic** – qualities of speech other than content (like watching a TV show in a foreign language)

    a. Voice volume

    b. Rate/speed of speech

    c. Tone/pitch

    d. Articulation

Public Speaking Exposure Exercises
(adapted from Monarth & Kase, 2007)

Exposure Exercises Involving Speaking Up In Meetings/Classes:
1. Offer to present weekly statistics or reports to the group.
2. Introduce a new member, guest, or client.
3. Ask 2-3 questions per meeting.
4. Answer 2-3 questions per meeting.
5. Offer to be the meeting facilitator.
6. In a small class, make 3-5 comments. In a larger class, make 1-2 comments.
7. Volunteer to present a summary of your current work or projects.
8. Make 2-3 follow-up comments on a point one of your colleagues/classmates has made.
9. Offer a new or original viewpoint.
10. Say something to present the opposite side of a situation. Respectfully disagree with a colleague or classmate. For a greater challenge, practice disagreeing with a person whom you find intimidating.
11. Direct questions toward the people who make you nervous during meetings.

Exposure Exercises Involving Giving Presentations/Workshops:

1. Create a 10-minute interactive presentation on any topic and present it to some of your friends or family members.
2. Develop a short workshop or training on a topic of interest to your colleagues/classmates. Then tell your supervisor/professor that you would like to present it to your colleagues/classmates.
3. Take a class that involves opportunities to speak and give presentations.
4. If you know you have a presentation coming up, practice presenting it to a group of friends/family.
5. Practice teaching things you know to others in a group. Have them ask you questions, then answer them.
6. Give a topic to a group of friends or family members and ask them to grill you on it for five minutes (or more), asking as many questions as possible.

Exposure Exercises Involving Being Called Upon/Put On The Spot:

1. Get together a group of questions, such as from a game like Trivial Pursuit. Ask a group of friends or family members to pick one of the questions and talk about it for 3 minutes (without telling you the question). After 3 minutes, have them ask you the question. This will make you follow a brief discussion and answer a question that you may not know the answer to.
2. For a modification of the above exercise, have the group members take turns asking each other the questions. This way, you won't know when you will be called on.
3. Raise your hand in classes/meetings. Volunteer to answer questions as much as possible.

4. Tell people to call on you. Let your colleagues and supervisors/professors know that you're trying to perfect your skills at thinking on your feet, so you'd like them to call on you whenever possible. Practice making eye contact during every discussion, knowing that at any moment you could be called on.

Exposure Exercises Involving Answering Questions Following a Speech:

1. Every time you talk, ask people if they have any questions.
2. Offer to mediate a conflict at work.
3. Raise a controversial topic with friends/family, or in a meeting or class.
4. Ask questions yourself and observe how the speakers respond. Use their good ways of responding as a role model for how you would like to appear.

Exposure Exercises Involving Speaking Up in Group Situations:

1. Give a toast at a gathering of family or friends.
2. Host a dinner or cocktail party and make announcements or a toast to the whole group.
3. Go out to lunch or other informal social gatherings with colleagues, including those who make you nervous or intimated, and join in the group conversation.
4. Go to a Toastmasters meeting. Visit www.toastmasters.org to find a group near you.
5. Join a book club or other activity group where each member has an opportunity to speak.

Exposure Exercises Involving Awkward Situations:

1. In a group setting, make a minor blunder—for example, spill something on your shirt, intentionally mispronounce a word or "forget" someone's name, drop something, or trip.
2. Admit when you don't know the answer to a question.
3. Pick some times when you don't have something specific to say and choose to ask some questions. Ask someone to clarify a point, or ask your audience for an idea or comment.

Exposure Exercises Involving Performance Situations:

1. Get together with friends and sing karaoke songs at someone's home.
2. Go to a bar or restaurant that offers karaoke and sing a song – without alcohol!
   a. To make this harder—try to mess up the song on purpose!
3. Go to an open mic night at a comedy club and take a turn on stage.
4. If you sing or play an instrument, practice doing so in front of a group of friends or family.
5. Play Charades or a similar game with friends.
6. Go to a park or other public place and sing a song or make up a speech.

Public Speaking Anxiety: First Session Take-Home Points [ACT]

❖ Remember that no matter how hard one tries, there is no way to control thoughts—you have seen how this does not work. Therefore, the alternative is to learn how to focus on your public speaking task while still feeling anxiety.

❖ Be **aware** of when you are losing focus on the public speaking situation and becoming entangled with your anxiety.

❖ **DAWN**: **D**efusion, **A**cceptance, **W**illingness, **N**oticing

❖ **Defuse,** or recognize that your thoughts are just thoughts. This involves recognizing that we can feel anxious, yet we can control our body to continue focusing on the public speaking task at hand.
   o Defusion examples:
      ▪ Thank your mind for having a thought, and continue with whatever you were doing.
      ▪ Welcome your thought as a familiar, though irritating, friend (like "Joe" the annoying neighbor).
      ▪ Add the stem "I'm having the thought/feeling that" in front of your thoughts/feelings.
      ▪ Realizing that having a thought does not make it true.
      ▪ Turn your "but" statements into "and" statements—instead of saying "I want to do well on my presentation, but I'm really nervous," try saying "I want to do well on my presentation, AND I'm really nervous." This makes both things possible at the same time.

❖ Practice adopting an **accepting** attitude towards feelings/thoughts; experience them non-judgmentally, without trying to make them change or go away.
      ▪ "No matter how strong my anxiety gets, I'm just going to let it be in my head. I don't need to make it go away."
      ▪ "I can have the anxiety and still give a presentation."
      ▪ "I can have the anxiety and still speak during my meeting."
      ▪ "I can have the anxiety and still give a toast."

❖ Try to be **willing** to feel anxiety during public speaking situations rather than struggling with it, which will only divert your attention from the task at hand. *Drop the rope!*

❖ Whenever you notice that you have lost focus on the current public speaking task, take a moment to **notice** any thoughts and feelings you have, and gently refocus your attention on what you were saying.

❖ These techniques are designed to promote **exposure:** the idea of putting yourself in feared public speaking situations. Exposure can help you to notice and accept your thoughts and feelings without trying to change them. Simultaneously, exposure allows you to practice important social skills while working toward your valued public speaking goals.

Public Speaking Anxiety: First Session Take-Home Points [Habituation]

❖ **SPEACH:** Social Skills, Practice, Exposure, Conditioning, Habituation

   o **S: Social Skills.** Remember to focus on the 3 areas of social skills: Verbal, Nonverbal, and Paralinguistic.

   o **P: Practice.** The key to improving your skills in public speaking situations is to practice as much as possible!

   o **E: Exposure.** Put yourself in public speaking situations and allow yourself to experience the anxiety.

   o **A: Anxiety.** The goal of exposure is to remain in the feared situation until your anxiety decreases.

   o **C: Conditioning.** Your anxiety and avoidance of public speaking situations is being maintained through the processes of conditioning, so it's important to experience anxiety in these situations to undo the conditioning.

   o **H: Habituation.** By continually exposing yourself to anxiety in public speaking situations, you will eventually become used to the feeling so that it will not affect you to the same extent, if at all.

❖ When you avoid or escape from a public speaking situation, your anxiety decreases, which reinforces the avoidance behavior. That is why it's important to remain in the situation until your anxiety level decreases, instead of allowing yourself to escape from the situation.

❖ Exposure to feared public speaking situations can help you to habituate to the feelings of anxiety, which will in turn help you to feel less anxious in these situations in the future. Simultaneously, exposure allows you to practice important social skills while working toward your valued public speaking goals.

Post-Treatment Plan Instructions [ACT]

- Even though you have completed the treatment, it is important that you keep thinking about the goals discussed during treatment and what you still want to accomplish with regard to public speaking.

- The best way to keep doing this is to list specific goals and how you will meet them using the skills learned in the treatment group.

- It is important to break down bigger goals (long-term goals) into the specific steps or subgoals (short-term goals) needed to complete them.

Sample Post-Treatment Plan

Example Long-Term Goal:

- Accept a promotion that involves public speaking

Example Short-Term Goals and Strategies:

- Give an effective presentation

    1. Offer to give a presentation in a class or meeting once per month/semester/quarter.

    2. Give practice speeches to friends/family once per week.

- Take part in group discussions

    1. Speak up at least once per meeting/class (ask/answer questions, make comments).

    2. Offer a contrasting opinion in a class/meeting at least once per week.

    3. Respectfully disagree with a colleague or classmate once per week.

- Facilitate a meeting

    1. Offer to present weekly reports in a meeting/class.

    2. Raise an issue for discussion twice per week. Encourage others to state their opinions.

    3. Offer to run a meeting for work, school, or another activity group once per month.

Other Strategies Used to Meet Goals:

- Use mindfulness meditation or other strategies (e.g., dropping the rope) to notice thoughts or feelings without trying to change them.
- Pick 1 social skill to practice while engaging in each public speaking situation.

Post-Treatment Plan Instructions [Habituation]

- Even though you have completed the treatment, it is important that you keep thinking about the goals discussed during treatment and what you still want to accomplish with regard to public speaking.

- The best way to keep doing this is to list specific goals and how you will meet them using the skills learned in the treatment group.

- It is important to break down bigger goals (long-term goals) into the specific steps or subgoals (short-term goals) needed to complete them.

Sample Post-Treatment Plan

Example Long-Term Goal:

- Accept a promotion that involves public speaking

Example Short-Term Goals and Strategies:

- Give an effective presentation

    3. Offer to give a presentation in a class or meeting once per month/semester/quarter.

    4. Give practice speeches to friends/family once per week.

- Take part in group discussions

    4. Speak up at least once per meeting/class (ask/answer questions, make comments).

    5. Offer a contrasting opinion in a class/meeting at least once per week.

    6. Respectfully disagree with a colleague or classmate once per week.

- Facilitate a meeting

    4. Offer to present weekly reports in a meeting/class.

    5. Raise an issue for discussion twice per week. Encourage others to state their opinions.

    6. Offer to run a meeting for work, school, or another activity group once per month.

Other Strategies Used to Meet Goals:

- Engage in public speaking as often as possible, and remain in the situation as long as possible, to allow yourself to habituate to the anxiety. Try to stay in the situation until your anxiety begins to decrease (or at least until it levels off).
- Pick 1 social skill to practice while engaging in each public speaking situation.

SUDS: Subjective Units of Discomfort Scale [Habituation]

0 – no anxiety, calm

25 – mild anxiety, able to cope

50 – moderate anxiety, some trouble focusing

75 – severe anxiety, thoughts of leaving situation

100 – very severe anxiety, worst ever experienced

How is Mindfulness Meditation Beneficial? [ACT]
(adapted from:
http://members.iinet.net.au/~gmt/How_is_Meditation_Helpful_Blackledge.pdf)

1. It teaches you how to directly experience the present moment.

We spend virtually all of our time caught up in our heads, often upset about the past or worrying about the future. When we're this caught up in our heads, it's as if the bad things that have happened or that might happen are happening right now. Mindfulness exercises like meditation remind us that what's really happening right now and what our minds say is happening are two very different things. It gives you a chance to experience unpleasant emotions and thoughts in a safe setting. We are all brought up to believe that unpleasant thoughts and feelings are things that need to be gotten rid of, things that indicate there is something wrong with us that needs to be fixed. Activities like meditation give us a chance to see what happens when we don't struggle to get rid of these unpleasant thoughts and feelings. While our minds usually tell us that this is a bad or a dangerous idea, the experiences of those who try it wholeheartedly say that it's not as bad as you'd expect, and that it takes less effort and comes at a much lower cost than struggling.

2. It teaches you when and how you avoid.

We've become such experts at pushing away unpleasant experiences that we often take steps to avoid them even before we are consciously aware they are there! Avoidance is fine when it doesn't cause problems for you, but when it keeps you from moving in a valued direction it is counterproductive. Mindfulness activities like meditation give you much better insights into what kinds of feelings you try to avoid, how you try to avoid them, and even some of the costs of these avoidance attempts. As mentioned above, it also teaches you that you don't have to avoid in the first place!

3. It teaches you that no thought or feeling is permanent.

When we feel bad, we often automatically assume that we're going to feel that way forever (or at least for longer than we can bear). Actually, all thoughts and feelings (whether pleasant or unpleasant) ebb and flow like waves on the ocean. Ironically, when we struggle against unpleasant feelings or otherwise try to avoid them, they usually stick around even longer and become even stronger!

4. It gives you an opportunity to commit to a course of action and stick to it, regardless of how you think or feel.

Once we decide what we value in life and what work we need to do in order to work toward those values, we very quickly find that we don't always feel like doing that work, or that we think we're not capable of doing the work. Meditation can give you a very solid example of how you can do such work even when you don't feel like it or don't

think you can. Simply commit to meditating for a set period of time, every day. Do it even when you don't feel like it, don't think you are doing it right, or don't think you are getting anything out of it. Treat these thoughts and feelings like you would any others while meditating-accept them, don't fight them, and focus back on the mindfulness exercise. In return for a few minutes of your time, you get a daily lesson that you can do something even if your mind says no.

5. It can provide an experience of calm and peacefulness.

It doesn't always (especially if that's what you're trying to make happen!), but hey, it's nice when it does.

6. It can make you feel more connected to the world and people around you.

Much of the unpleasantness we experience comes from feeling separate from the experiences that surround us. Meditation shows you, bit by bit, how connected we actually are. You can think of feeling connected to the people and things around you in the moment as being a lamp connected to an electrical outlet. Vitality, like electricity, flows from connectedness. The lamp still exists when it's not plugged in, but it doesn't have the life that was intended for it. Such connectedness is also at the core of spirituality and religion.

7. It can teach you to be less judgmental of yourself and others.

Bit by bit, meditation teaches you that all the negative evaluations and judgments we make about ourselves and others have little, if any, basis in fact. Since efforts to "earn" evaluations such as "better than", "good enough", "loveable", "happy enough", etc. are very often at the core of our suffering (especially when we believe we've fallen short of these evaluative states), learning to believe them less and less is a very productive process. Those who frequently make negative evaluations of others (especially when they believe these evaluations) also tend to make more negative evaluations of themselves. Making and believing negative evaluations also disconnects us more and more from our surroundings and from the present moment, destroying the vitality that comes from such experiences.

8. It teaches you that your mind isn't very good at describing your experience.

Direct experiences are much more complex than words can convey. Try to describe a time where you were almost ecstatically aware of your surroundings (for example, walking in the woods, in a flower garden, or at the beach and noticing how brilliantly colorful, beautiful, and peaceful your surroundings are), or simply try to describe to someone a trip you took to a place he or she has never been (that is, what it was like to actually be there). How close does you verbal description come to the actual experience? It seems pretty safe to say, "Not very close at all." Direct experience is simply a lot bigger, and a lot different, than words. More to the point, unpleasant experiences (even the really, really, really unpleasant ones) are often very different from what our minds tell

us they are. In short, they are typically (and, in the minds of many who have experience with such a perspective, always) more bearable, less destructive, and more vitalizing than the "struggle against unpleasant experiences" option that our minds insistently offers us instead.

9. It teaches you that words are just words, and that reality is something quite different.

Try saying the word "milk" over and over again, out loud, for a minute or two. When you first start saying it, you can almost actually see and feel the physical qualities of milk.   You can taste it, feel it going down your throat, feel how cold and creamy it is, etc. After you've repeated the word for a minute or so, you only hear the actual sound that speaking the word makes. Where'd the milk go? It's just a word, but words have the ability to carry the features of the things they designate unless you take special steps to experience the words as they actually are. Milk is a benign example, but what if the words were "I'm bad" or "I can't take this", and these words occurred along with intense feelings of self-loathing and desperation?   Your mind may be very convincing about the truth of these statements, but does your direct experience communicate the same message? Like the milk, the brute force of these words tend to fade when you focus in on the experience that actually lies under the words and allow it to be there as it is, not as your mind says it is. The feelings don't disappear, and often neither do the words, but the experience is always different from what your mind says it is. If it isn't, it's usually a good sign that you're still struggling and not fully settling into the experience.

Meditation gives you a continuing lesson in the difference between direct experience and talk, and an eventually convincing lesson that direct experience simply feels much more real than words.

Sample Fear Hierarchy of Public Speaking Situations

Please come up with your own list of feared public speaking situations. You may use as many of the examples listed here as you would like, and also add your own. Please make them as personally relevant and specific as possible.

Examples:

1. Giving a formal presentation on an unfamiliar topic in front of a large group (more than 20 people)
2. Giving a formal presentation on a familiar topic in front of a large group (more than 20 people)
3. Giving a formal presentation on an unfamiliar topic in front of a small group (less than 10 people)
4. Giving a formal presentation on a familiar topic in front of a small group (less than 10 people)
5. Answering questions in a group (e.g., audience questions about your presentation)
6. Giving a toast at a wedding
7. Giving a toast at a small dinner party
8. Making an impromptu speech (e.g., someone asks you to talk about something "off-the-cuff")
9. Singing karaoke in a crowded bar
10. Leading/facilitating a meeting
11. Speaking up in a meeting or a class (giving an opinion, making an argument/suggestion)
12. Answering a question in a meeting or class
13. Debating/arguing your opinion in front of a group
14. Leading a conference call
15. Taking part in a conference call but not as the leader
16. Presenting a case or report at a meeting
17. Other performance situations (e.g., dancing, playing instruments, stand-up comedy)

MONITORING FORM [ACT—Session 1]

Please record each of the public speaking situations that you encounter during the week, your thoughts/feelings while doing so, and what you did to handle these thoughts/feelings.

Date/Time	Describe the public speaking situation you encountered.	What were your feelings/thoughts/bodily sensations while it was happening?	What did you do to handle your feelings, thoughts, or bodily sensations?	Anxiety Rating (0-10)	Willingness Rating (0-10)

EXPOSURE EXERCISE LOG/MONITORING FORM [ACT—Subsequent Sessions]

Please record each of the public speaking situations that you practiced, your thoughts/feelings while doing so, what you did to handle these thoughts/feelings, and the amount of time (in minutes) spent in each situation.

Date/Time	Describe the public speaking situation you practiced.	Length of time (in minutes) spent in this situation.	What were your feelings/thoughts/bodily sensations while it was happening?	What did you do to handle your feelings, thoughts, or bodily sensations?	Anxiety Rating (0-10)	Willingness Rating (0-10)

MONITORING FORM [Habituation—Session 1]

Please record each of the public speaking situations that you encounter during the week. Also record your SUDS (Subjective Units of Discomfort) ratings before and after the public speaking situation, as well as the highest level your SUDS reached during the situation.

Date/Time	Describe the public speaking situation you encountered.	SUDS Before? (0-100)	SUDS After? (0-100)	Highest SUDS? (0-100)

EXPOSURE EXERCISE LOG/MONITORING FORM [Habituation—Subsequent Sessions]

Please record each of the public speaking situations that you practiced and the amount of time (in minutes) spent in each situation. Also record your SUDS (Subjective Units of Discomfort) ratings before and after the public speaking situation, as well as the highest level your SUDS reached during the situation.

Date/Time	Describe the public speaking situation you practiced.	Length of time (in minutes) spent in this situation.	SUDS Before? (0-100)	SUDS After? (0-100)	Highest SUDS? (0-100)

VITA

Erica L. England

EDUCATION

Drexel University, Ph.D., Clinical Psychology   2010
       Internship: Togus V.A. Medical Center

Drexel University, M.S., Clinical Psychology   2008

Amherst College, B.A., Psychology   2002

PUBLICATIONS

Timko, C. A., **England, E. L.,** Herbert, J. D., & Forman, E. M. (in press). The Implicit Relational Assessment Procedure as a measure of self-esteem. *The Psychological Record.*

Herbert J. D., Forman, E. M., & **England, E. L.** (2009). Psychological acceptance. In W. O'Donohue & J. E. Fisher (Eds.), *Cognitive behavior therapy: Applying empirically supported treatments in your practice*, 2nd ed. Hoboken, NJ: Wiley.

SELECTED PRESENTATIONS

England, E. L., Herbert, J. D., & Forman, E. M. (2009, November). Exposure with acceptance-based versus habituation-based rationale for public speaking anxiety. In V. Follette (Chair), *New Applications of Acceptance-Based Interventions*. Symposium conducted at the 43rd annual convention of the Association for Behavioral and Cognitive Therapies, New York, NY.

England, E. L., Herbert, J. D., Forman, E. M., & Timko, C. A. (2008, November). *Use of the Implicit Relational Assessment Procedure to assess cognitive defusion, mindfulness, and psychological functioning*. Poster presented at the 42nd annual convention of the Association for Behavioral and Cognitive Therapies, Orlando, FL.

England, E. L., Tuscan, L., & Herbert, J. D. (2007, November). *Molar versus molecular ratings of social skills in patients with social anxiety disorder*. Poster presented at the 41st annual convention of the Association for Behavioral and Cognitive Therapies, Philadelphia, PA.

TEACHING EXPERIENCE

Fall 2005: Teaching Assistant, Introductory Psychology, Drexel University
Winter 2006: Teaching Assistant, Cognitive Psychology, Drexel University
Spring 2006: Teaching Assistant, Computer-Assisted Data Analysis, Drexel University
October 2005: Guest Lecturer, Science and Pseudoscience, Drexel University