

# A Preliminary Investigation of the Use of Acceptance and Commitment Therapy in Group Treatment for Social Phobia

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## ABSTRACT

The present study examined the impact of a group treatment protocol based on Acceptance and Commitment Therapy (ACT) that was tailored toward the avoidant behaviors and life problems typical for socially anxious persons. Twenty-two participants enrolled in the group treatment, which consisted of 10 sessions. Twelve participants completed treatment. Post-treatment and follow-up data revealed significant decreases on the social phobia and experiential avoidance measures (follow-up effect sizes: 0.83 and 1.71, respectively). Completers' ratings of effectiveness in living, specifically pertaining to social relationships, significantly increased at follow-up. Symptoms decreased despite their not being a treatment target. This results suggests that symptom improvement may result from an increased willingness to both experience aversive emotions and engage in social behaviors that are consistent with what the participants valued, but previously avoided. Despite its exploratory nature and limitations, the study provides a basis for further application of ACT in this population.

*Keywords:* Social Phobia, Acceptance and Commitment Therapy, Experiential Avoidance, Group Therapy, Values

## RESUMEN

El estudio examina el impacto de un protocolo de tratamiento en grupo basado en la Terapia de Aceptación y Compromiso (ACT) dirigido a las conductas de evitación y problemas de la vida típicos de personas con ansiedad social. Veintidos participantes formaron el grupo de tratamiento desarrollado a lo largo de 10 sesiones, en el que doce completaron el tratamiento. Los datos del postratamiento y seguimiento muestran un descenso significativo en las medidas de fobia social y evitación experiencial (tamaño del efecto en seguimiento: 0,83 y 1,71, respectivamente). Las puntuaciones de los participantes que completaron el tratamiento sobre la efectividad en resolver los problemas típicos en la vida, especialmente relaciones sociales, aumentaron significativamente en el seguimiento. Los síntomas descendieron aun no siendo objetivo del tratamiento, lo que sugiere que su descenso pudo resultar de una mayor disposición a experimentar emociones aversivas y a implicarse en conductas sociales consistentes con los valores de los participantes, y que previamente evitaban. A pesar de su naturaleza exploratoria y sus limitaciones, el estudio proporciona una base para la aplicación de ACT a este tipo de población.

*Palabras clave:* fobia social, Terapia de Aceptación y Compromiso, evitación experiencial, terapia de grupo, valores.

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Social phobia is classified by DSM-IV-TR (2000) as a marked and persistent fear of anticipated or actual social situations where one's presence or behavior may engender scrutiny from others. Given the choice to escape or avoid a social situation versus the familiar experiences of humiliation, intense fear, physiological discomfort, and emotional distress, the majority of socially phobic persons choose the former. From a behavioral stance, the general pattern of behavioral responding underlying social phobia is repertoire narrowing. The psychological distress associated with social phobia results in markedly diminished involvement in normal activities of daily living and reduced behavioral flexibility across contexts (e.g., occupational, academic, interpersonal). The consequences of this pattern of responding are deficiencies in social and intimate relationships, education, employment, and a general sense of dissatisfaction with life (Quilty, Ameringen, Mancini, Oakman & Farvolden, 2003; Lochner, Mogotsi, du Toit, Kaminer, Niehaus, & Stein, 2003; Wittchen, Fuetsch, Sonntag, Muller, & Liebowitz, 2000; Stein & Kean, 2000).

The National Comorbidity Study (Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman *et al.*, 1994) found social phobia to be the third most common psychiatric disorder with a lifetime prevalence of 13.3%. Social phobia tends to begin in childhood or early adolescence and has an average duration of 20 years (Davidson, Hughes, DeGeorge & Blazer, 1993). Because of its prevalence and chronic course, social phobia remains a principal target of national research efforts aimed at developing effective treatment protocols for its elimination or control.

### *Psychological Barriers to Treatment*

Despite its detrimental impact, individuals with social phobia tend not to pursue treatment (Magee, Easton, Wittchen, McGonagle, & Kessler, 1996), or seek treatment many years after its onset. Olfson, Guardino, Struening, Schneier, Hellman, and Klein (2000) observed that individuals with social phobia often do not seek treatment because of fear of what others might think or say. Specifically, Olfson *et al.* (2000) found that the socially phobic frequently feel fearful, ashamed, or embarrassed about personally disclosing their psychological distress to friends, family members, or health care providers. Thus, it appears that in an attempt to conceal the unwanted private experiences that accompany social phobia, individuals often fail to pursue psychological treatment on their own behalf.

### *Cognitive-Behavioral Treatment*

The theoretical foundation of cognitive-behavioral interventions draws from both traditional first-generation theories of conditioning (Mowrer, 1947) and second-generation cognitive models of emotional processing (Bandura, 1986; Foa & Kozak, 1986). Most, though not all, cognitive theories of psychological phenomena are driven by content-based conceptual models. Traditionally, cognitive theoretical models are predicated on a linear mechanistic formulation, which depicts behavior as an expression, indication, or manifestation of underlying hypostatized mentalistic entities. In the cognitive account,

causal agency is accorded to hypothetical mentalistic content (e.g., meaning structures, efficacy beliefs, attributions, representational schema); these entities serve as the mechanisms causing and promoting the development and maintenance of behavioral events. In other words, cognitive frameworks typically regard human activities as appendages of the mentalistic content or structures giving rise to them (Chiesa, 1992; Persons, 2005). The accuracy of entity-postulating cognitive models remains difficult to empirically evaluate because such formulations are “loosely fitted to their assumptions and conditions” (Hayes, 2004c, p. 36), and they, moreover, routinely fail to include into their explanatory accounts the situational and contextual contingencies that ideographically generate the meaning and function of behavior events. Accordingly, in the cognitive account, form and content dominate the theoretical account, while function and context are generally ignored in the analysis (Hayes & Brownstein, 1986; Hayes & Hayes, 1992). However, despite these shortcomings, cognitive and cognitive-behavioral interventions continue to excite and attract the attention of researchers and clinical practitioners alike.

Cognitive-behavior therapy (CBT) is the most widely disseminated and extensively researched treatment approach for social phobia (Herbert et al., 2005). CBT has shown to be successfully implemented using individual and group formats (for meta-analytic reviews, see Fedoroff & Taylor, 2000; Feske & Chambless, 1995; Gould, Buckminster, Pollack, Otto, & Yap, 1997). CBT intervention packages generally include the following therapeutic strategies, either in isolation, or in some combined format: (a) direct or imaginal therapeutic exposure, which is designed to expose patients to social fear-relevant situations while helping them to remain aware of the psychologically activating private events experienced therein; (b) cognitive restructuring, which is designed to help patients alter the topography of cognitive content (namely, to identify negative thoughts, evaluate their empirical accuracy, derive rational alternative thoughts, and challenge irrational beliefs; (c) relaxation training, which is initiated to help patients discriminate and thereby control aversive physiologic arousal during, or in anticipation of, feared social events; and (d) social skills training, which is implemented as a means for shaping more skillful social responding and personal efficacy in social-interpersonal contexts.

Cognitive behavioral group therapy (CBGT; Heimberg & Becker, 2002) is one of the most widely studied and empirically supported psychosocial treatments for social phobia (Otto, Pollack, Gould, Worthington, McArdle, Rosenbaum *et al.*, 2000; Heimberg, Liebowitz, Hope, Schneier, Holt, Welkowitz *et al.*, 1998; Heimberg, Juster, Hope, & Mattia, 1995). CBGT combines cognitive restructuring techniques, within-session therapeutic exposure, and instructions to patients to practice their newly acquired skills within the context of everyday social affairs. Fresco and Heimberg (2001) provided an in depth review of CBT treatment interventions for social phobia, while Heimberg (2002) offered an analysis of the current status and future direction of CBT interventions in the area of social phobia research and practice. Meta-analytic studies (Fedoroff & Taylor 2000; Feske & Chambless, 1995; Gould, Buckminster, Pollack, Otto, & Yap, 1997) provide a summary of the empirical studies examining individual and group-based social phobia therapy regimens in terms of a statistical effect size associated with

behavior change/outcomes across time. Fedoroff and Taylor used Cohen's  $d$  (1988) to calculate effect sizes of the treatment-outcome trials. The authors observed mean effect sizes of 1.079 for exposure treatment (EXP); 0.723 for cognitive restructuring (CR); 0.837 for EXP and CR combined; 0.644 for social skills training; and 0.513 for applied relaxation. Heimberg *et al.* (1998) reported an effect size of 0.44 on the Liebowitz Social Anxiety Scale (LSAS; Liebowitz, 1987) after acute treatment using CGBT. Otto *et al.* (2000) reported an average effect size for measures specific to social phobia of 0.92 for their CBGT group.

The core premise guiding the CBT approach to psychological intervention asserts that individuals can overcome, or at least effectively manage, their anxiety symptoms by altering the form and content of cognitive and accompanying somatovisceral and behavioral events. Generally speaking, from the CBT perspective, symptom reduction (first-order behavior change focusing on form and content, see Hayes, 2004a,b) is normally taken as the key indicator of therapeutic success.

More recently however, some CBT researchers have begun to look beyond symptom reduction as the most important marker of improvement. They have investigated process-based measures of quality of life, used to assess behavioral functioning in a broader contextual sense. For instance, Safren, Heimberg, Brown, and Holle (1997) measured differences in patients' subjective quality of life before and after CBGT for social phobia using The Quality of Life Inventory (QOLI; Frisch, 1994). Findings indicated that participants' subjective ratings improved significantly following treatment. In a follow-up to the Safren *et al.* study, Eng, Coles, Heimberg, and Safren (2001) observed that while the significant improvements on the QOLI were found, the participants' scores remained considerably lower than the scores of nonanxious persons. These investigators also found that although participants maintained their post-treatment gains at six-month follow-up, they failed to demonstrate further generalized improvement in quality of life indicators. The authors noted the general acceptance of measuring quality of life indicators in CBT research protocols examining social phobia. In addition, the authors indicated that the assessment of life satisfaction domains (e.g., interpersonal relationships) may more readily highlight the therapeutic benefits of CBT for social phobia.

Similarly, data gleaned from clinical trials for generalized anxiety disorder (GAD) have shown an increase in effect size with the incorporation of mindfulness and life-values therapeutic strategies into standard CBT intervention packages (Borkovec & Sharpless, 2004). Given this finding, there is reason to wonder whether the inclusion of mindfulness and values clarification components within existing CBT protocols for social phobia would similarly enhance effect sizes.

It should be noted that although cognitive and cognitive-behavioral protocols have been empirically supported in many instances (Persons, 2005), this finding does not necessarily support the validity of the underlying cognitive mechanisms of change, since other more parsimonious explanations concerning effectiveness may be due to factors entirely independent of the hypothesized cognitive entities proposed (Bouton, Mineka, & Barlow, 2001; Coyne, 1989; Hayes, 1995).

*Acceptance Based Interventions*

Acceptance-based behavior analytic models of psychopathology mark the third generation in the behavior therapy tradition (Hayes, 2004a) signifying a kind of paradigm shift. The focus of theoretico-empirical analysis and intervention practices extends beyond narrowly defined first-order change, aimed at directly transforming the form and content of psychological events, to broader based second-order change targeting psychological context and function. The model is conceptually grounded in a process philosophy termed functional contextualism (Hayes, 2004a, b). Contextualistic therapeutic approaches generated within the context of third-generation behavior therapy differ from traditional CBT models because they do not seek to alter, modify, or eliminate the form or content of undesired private experiences. Specifically, acceptance-based therapies regard the struggle to control or change psychological form and content as problematic in itself, and thus do not consider the presence of undesired private experience to be definitive targets of the behavior change process (Block & Wulfert, 2000; Hayes, 2004a,b; Hayes, Follette, & Linehan, 2004; Hayes & Gifford, 1997; Hayes, Jacobson, Follette, & Dougher, 1994; Hayes & Strosahl, 2004; Hayes & Wilson, 1994; Hayes, Wilson, Gifford, Follette & Strosahl, 1996; Martell, Addis, & Jacobson, 2001).

As Hayes (2004a,b) notes, Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 1999) is one among several third-generation behavior therapy approaches [notable others include: Dialectical Behavior Therapy (DBT: Linehan, 1993), Functional Analytic Psychotherapy (FAP: Kohlenberg & Tsai, 1991), Integrated Behavioral Couples Therapy (IBCT: Jacobson & Christensen, 1996), Mindfulness Based Cognitive Therapy (MBCT: Segal, Teasdale, & Williams, 2004). ACT is unique because it is driven by an empirical research program at the basic level of experimental analysis. Central to the ACT paradigm is the development of relational frame theory (RFT), a comprehensive empirical analysis of human language and cognition that recognizes and overviews the pivotal role of verbal relational processes in basic and applied areas of psychology, and specifically as it relates to verbal processes underlying the pervasive nature of psychological suffering in humans (see Hayes, Barnes-Holmes, & Roche, 2001; Hayes, Follette, & Linehan, 2004; Hayes et al., 1999; Hayes & Strosahl, 2004, for book length reviews).

The primary therapeutic focus of ACT emphasizes the development of psychological flexibility for increasing effective action in affairs of daily living. As a functional behavior class, psychological flexibility refers a kind of skillful means subsuming six core processes, including psychological acceptance, cognitive defusion, mindful contact with ongoing experience, non-positional self construal (self-as-context), clarified values / life directions, and committed action (Hayes, 2004a,b; Hayes, Strosahl, & Wilson, 1999). Conversely, psychological suffering is viewed to arise in the dialectical imbalance involving one or more of these six key processes, and is characterized by experiential avoidance, cognitive fusion, empirical disconnection with ongoing experience, excessive conceptual self-attachment, weak life direction, and an unwillingness to confront psychological barriers that stifle behavioral persistence toward valued ends. Fundamental to the ACT perspective on psychopathology is the notion that verbal language

functions come to dominate over direct experience (Hayes, 2004a,b; Hayes, Strosahl, Bunting, Twohig, & Wilson, 2004; Hayes, Strosahl, Luoma, Smith, & Wilson, 2004), and thus draw the person into verbally generated realities and understandings of events that often depart significantly from the actual contingencies and events present in the moment.

When applied to social phobia, the ACT approach shifts treatment away from attempts to alter the form and content for fearful psychological events to the contexts and functions of responding that sustain the cycle of psychological suffering. Specifically, a key behavioral feature of social anxiety and many other forms of psychological suffering concerns the nature of experiential avoidance; meaning situated action intended to alter the form, content, frequency, or duration of unwelcome private events (Hayes & Gifford, 1997; Hayes & Wilson, 1994; Hayes, Strosahl, & Wilson, 1999; Hayes, Strosahl, Bunting *et al.*, 2004). Experiential avoidance defines a behavioral process in which the person is unwilling to remain in contact with certain undesired experiences such as fear-relevant sensations, feelings, thoughts, memories, and action oriented tendencies, and subsequently acts to escape and avoid these psychological events and the situations giving rise to them. Experiential avoidance is expressed in two primary ways, through behavioral suppression of aversive experience, or behavioral distancing from particular circumstances/events that covary with the onset of aversive private experience. Thus, if given the opportunity to avoid contact with social-evaluative contexts, nearly all socially anxious individuals will forcefully strive to escape and avoid exposure to aversive private events and the antecedent cues which predict their occurrence. While escape and avoidance have obvious adaptive functions in the short-term, pervasive experiential avoidance ultimately generates inherent social, health, and psychological risks over the longer-term (Hayes, 2004a; Hayes *et al.*, 1996; also see *Behavior Therapy*, Vol. 35 for a special series on acceptance and commitment therapy). It seems that the harder the social phobic works to escape and avoid unwanted private events, the more he/she seeds the context of experiential avoidance, and thereby intensifies and prolongs psychological suffering.

Research indicates that attempts to suppress or control private events leads to an increase in the very feelings that avoidant-coping individuals are hoping to regulate (Barlow, Allen, & Chote, 2004), thereby inadvertently generating more avoidance in the process. Craske, Miller, Rotunda, and Barlow (1990) found that among those with panic disorder, extensive avoiders tended subsequently to develop additional anxiety disorders more than minimal avoiders. Therefore, a specific focus of the ACT approach with socially avoidant individuals is to encourage therapeutic exposure and the activation of fear-relevant private events within the context of behavior change efforts aimed at increasing participants' commitment to living in more socially fulfilled and meaningful ways.

Empirical evidence for the effectiveness of ACT and related therapies is growing (for a review, see Hayes, Masuda, Bissett, Luoma, & Guerrero, 2004). Randomized controlled studies using these therapies have been conducted in the areas of depression (Zettle & Raines, 1989), psychosis (Bach & Hayes, 2002), substance abuse and dependence (Gifford *et al.*, 2004; Hayes, Wilson *et al.*, 2004), workplace stress (Bond & Bunce,

2000; 2003), chronic pain and stress (Dahl, Wilson, & Nillson, 2004; Gutiérrez, Luciano, Rodríguez, & Fink, 2004), mathematics anxiety (Zettle, 2003), and specific social phobia (Block & Wulfert, 2000). In addition, several case studies highlight the effectiveness of ACT with specific patient presentations (e.g., Luciano & Cabello, 2001; Luciano & Gutiérrez, 2001).

The present study served as a preliminary small-scale investigation of the effectiveness of ACT in treating individuals with social phobia. Specifically, this study explored (1) the effectiveness of ACT in decreasing participants' levels of experiential avoidance, which directly impacts their willingness to engage in social behaviors, (2) the impact of ACT treatment on social phobia symptoms traditionally targeted in CBT interventions, and (3) changes in participants' effectiveness in the value domain of friendships and social relationships, an aspect of life that is often lacking for those with social phobia. The concept of effectiveness in this value domain may have similarities to the concept of satisfaction or quality of life discussed earlier. However, it extends beyond satisfaction with interpersonal relationships, because effectiveness entails behaviors that are consistent with the domain, and is therefore a more tangible measure.

We hypothesized that the ACT treatment would defuse the process of experiential avoidance and enhance psychological willingness, relative to previously avoided social behaviors, thereby increasing participants' psychological flexibility and social effectiveness in accord with established values. We did not hypothesize any specific change in participants' experienced level of social anxiety; though we did not discount that a reduction could be achieved, simply as a function of repeated exposure to previously avoided situations.

## METHOD

### *Participants and Design*

Participants included 22 individuals (11 men, 11 women) seeking group therapy for the treatment of social anxiety. The mean age of the participants was 42.4 years and the mean length of time that individuals reported having social anxiety was 38.7 years (range 10 to 48). The participants were recruited over a 14-month period by voluntarily responding to newspaper advertisements, mailings to, and signage posted at the offices of mental health professionals and agencies. Individuals who inquired about the group were contacted via phone by one of the group therapists. During the phone call, the therapist administered a brief screener that assessed diagnostic criteria for social phobia taken from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 1994). If the individual met criteria for social phobia, he or she was invited to meet with one of the group therapists at the university based clinic.

During this initial appointment, the therapist provided a disclosure/consent form that explained the purpose of the study, described possible risk factors related to participation in the study, and provided notification that the group sessions would be videotaped for the purpose of supervision. The therapist also provided additional

information and answered specific client questions that pertained to the study or the nature of social phobia.

Those individuals who agreed to participate in the study were asked to complete three instruments for the purpose of establishing baseline pre-treatment data of each participant's social phobia symptoms. A participant was offered the group treatment if his/her symptom pattern met DSM-IV criteria for either general or specific social phobia, and if his/her score on the Social Phobia and Anxiety Inventory indicated at least possible mild social phobia as noted by a Difference score  $>33$  (refer to measures section for an explanation of the Difference score). Participants were not excluded for any comorbid conditions other than active substance dependence, nor were they excluded for undergoing past treatment for social phobia or another disorder. Participants taking psychotropic medications continued appointments with their providers as scheduled since medication utilization was not a focus of the study. The participants were not compensated for their participation in the study but were offered the treatment at no cost.

This study was a pre-experimental, within group design utilizing pre-treatment, post-treatment, and follow-up measures.

### *Therapists*

We utilized two therapists to provide the ACT intervention, both of whom were students at the University of Denver, Graduate School of Professional Psychology and had formal training in delivering ACT. While one therapist would be sufficient to administer the treatment protocol, two were used because of the requirements of the setting. The therapists met with an ACT clinical supervisor weekly to discuss the upcoming week's treatment agenda and to review portions of the previous week's videotape. Clinical supervision remained available for consultation outside of formal supervision throughout the term of the study.

### *Measures*

The study incorporated the use four dependent measures, one main outcome measure and three process measures. The outcome measure and two process measures were administered during the participants' initial appointment with one of the group therapists. These initial data were used as pre-treatment measures.

Outcome measure: The Social Phobia and Anxiety Inventory (SPAI; Turner, Beidel, & Dancu, 1996; Turner, Beidel, Dancu, & Stanley, 1989) is an empirically derived self-report inventory specifically developed for social phobia. It is a 45-item scale that is composed of a 32-item Social Phobia (SP) subscale and a 13-item Agoraphobia (Ag) subscale. The SPAI items ask individuals to rate the frequency of anxiety-related feelings and thoughts using a 7-point scale (0= never, 6= always). The SPAI assesses the somatic, cognitive, and behavioral aspects of social phobia across a wide range of social situations and settings (Turner et al. 1996). The SPAI manual reports a test-retest reliability of 0.86 and high validity ratings across multiple methods of assessment. The



Difference (Diff) score is the equivalent of the AG subscale score subtracted from the SP subscale score. By separating out agoraphobic symptoms from the diagnostic symptoms of social phobia, the Diff score of the SPAI is thought to yield a purer measure of social phobia (Turner et al. 1996). Higher scores on the SP and Diff subscales indicate increased symptoms of social phobia, while higher scores on the Ag subscale indicate increased symptoms of Agoraphobia.

Process measures: The Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, Wilson et al., 2004) is a measure of experiential avoidance. The AAQ should be considered as a measure under continuing development,  $\text{Alpha} = .70$ . However, it has been shown to predict outcomes in several studies (see Hayes, Strosahl, Wilson, Bissett et al. for a review). The AAQ asks participants to rate the truth of each of 9 statements, using a 7-point scale (1= never true, 7= always true). The AAQ seeks to gauge an individual's willingness to experience unwanted thoughts and feelings and his/her capacity to engage in action despite the presence of such thoughts and feelings. Scores range from 7 to 63. Higher scores on the AAQ indicate higher levels of experiential avoidance.

The Multidimensional Locus of Control Scale (MLC; Levenson, 1981) is a 24-item scale that measures participants' perceived level of personal control in relation to others or life events. The measure consists of three, 8-item subscales: Internal (I), Powerful Others (P), and Chance (C). Each item is rated on a 6-point scale (-3= strongly disagree, +3= strongly agree), with possible scores ranging from -24 to 24 on each of the three subscales. The instrument has been widely used and considerable research has been conducted to document the psychometric characteristics of subscale scores. Example items include, "Whether or not I get into a car accident depends mostly on how good a driver I am" and "My life is determined by my own actions."

In session three, participants were administered a slightly modified version of the Valued Living Questionnaire (VLQ; Wilson, 2002; Wilson & Murrell, 2004), which asked each participant to identify life domains that he or she regarded as most important. The VLQ consists of ten life domains (e.g., family relations, employment, spirituality) and participants are asked to individually rate the importance of each domain using a 10-point scale (1= not important, 10= most important). In week four, and in each subsequent week of treatment, a similar instrument was administered that asked each participant to rate his or her current level of effectiveness in each domain on a 10-point scale (1= not at all effective, 10= completely effective).

Each of the preceding four measures was also administered to participants at the conclusion of treatment and again at three months following treatment. The three-month follow-up measures were administered either in-person or via mail.

Another process measure called the Daily Willingness Diary (DWD) was issued to each participant beginning in session two. The participants were asked to complete the diary on a daily basis, between sessions. The DWD assesses emotions and thoughts that participants experienced during the day. Participants were asked to rate three dimensions on a 10-point scale, including: (a) how upsetting the emotion or thought was to them (1= not upsetting at all, 10= extremely upsetting); (b) the amount of effort they put into reducing the emotion or thought (1= no effort, 10= extreme effort); and (c) the "workability" (i.e., feasibility) of their response to the emotion or thought in

relation to living a satisfying life (1= not at all workable, to 10= extremely workable).

In addition to these measures, each participant completed a personal fear and avoidance inventory consisting of potentially distressing social situations (e.g., attending parties, approaching people in authority). Each participant rated the items on two, 11-point scales ranging from 0 to 10: level of fear (0= no fear, 10= extremely high fear) and avoidance level (0= never avoid, 10= always avoid). This information was used to plan for individual exposure scenarios during treatment.

### *Procedure*

The therapy sessions were conducted at a university-based outpatient clinic providing psychological services. The treatment was conducted on three separate small groups, all of whom received the same intervention, conducted by the same therapists. Each small group was led by two co-leaders, and consisted of 10, two-hour sessions. A licensed psychologist and ACT specialist, who is a faculty member of the University of Denver, Graduate School of Professional Psychology, served as the clinical supervisor.

Content for the 10-session protocol was developed by the principal investigator in collaboration with Kelly G. Wilson, one of the originators of ACT. It was adopted from several acceptance based behavior analytic sources (e.g., Hayes et al., 1999; Hayes, McCurry, Afari, & Wilson, 1991) and organized around the central therapeutic elements defining ACT treatment, including creative hopelessness, the problem of control, acceptance, defusion, values, and commitment. A more detailed protocol is available from the principal investigator. These core elements were integrated into treatment sessions using metaphors and experiential group exercises, which are deemed more effective than didactic methods of exchange. The concept of values was introduced in week three, which is why the VLQ was not administered until that time.

Mindfulness techniques were utilized to help the participants increase their awareness of their thoughts and feelings without attempting to change these experiences. Such practice often helps people to stay focused on their external behavior without being overwhelmed by their internal experiences. Latter group sessions employed systematic exposure exercises tailored to each participant's unique set of commonly avoided overt and private behaviors. Such techniques are an inherent component in ACT treatment and are used for the purpose of helping participants learn to respond with flexibility to aversive content, in accordance with personal values. This objective is different from the traditional intent of exposure techniques, the main purpose of which is extinction.

Each small group followed the same protocol outline but content varied somewhat among groups due to the specific circumstances of the participants involved. When experiential treatment is used, treatment components must be uniquely designed and applied to the select environment-behavior relations presented by each participant. Weekly videotapes were viewed by the supervisor to confirm that the material was ACT consistent. Because of budgetary limitations, it was not possible to record and code sessions in order to independently assess whether treatment was delivered competently and as

specified. Future studies should provide the means to assess therapist adherence and competence.

## RESULTS

### *Data Analysis Plan*

Separate statistical analyses were conducted for measures obtained at pre-treatment (SPAI, AAQ, LOC). The first analyses were for patients who completed treatment, while the second included dropouts in an intent-to-treat analysis (ITT). Participants undergoing treatment were classified as dropouts if they missed more than three sessions. In the ITT analyses, the participant's last available score was carried forward. Scores from the SPAI, AAQ, and LOC measures of the completer group and the intent to treat group were each submitted to repeated measures analyses of variance (ANOVA) and post-hoc Bonferroni pairwise comparison tests. Significance levels were set at  $p < .05$ . Effect sizes were calculated using the same Cohen's  $d$  statistic used in the aforementioned meta-analysis by Fedoroff and Taylor (2000), but substituted the follow-up measures for the post-treatment measures.

Of the initial 22 participants who completed the pre-treatment interview, 1 declined treatment and 9 dropped out at varying points in treatment, leaving 12 completers (6 male and 6 female). The mean age of the completers was approximately 44 years (range 31 to 56 years) and the mean number of years that they reported experiencing social anxiety was 31 (range 15 to 48). No significant differences in the pre-treatment measures were found among the three small groups. The number of completers in each small group were as follows: group 1= five, group 2= four, group 3= three.

### *Outcome Measures*

Analyses were conducted for both the SP and the Diff measures of the SPAI. The Diff measure attempts to remove the effects of agoraphobia on social phobia symptoms to generate a purer measure. A significant main effect for treatment was found for both SP ( $F_{2,10} = 6.048$ ,  $p = .019$ ); and Diff ( $F_{2,10} = 8.122$ ,  $p = .008$ ). Effect sizes for the completer group were SP= 0.83 and Diff= 0.86. Post-hoc Bonferroni tests that compared the mean differences among the pre-treatment, post-treatment, and follow-up measures for completers (Table 1), all showed significant differences. In each case, the ITT analyses also yielded a significant main effect for treatment for the SP measure ( $F_{2,20} = 4.766$ ,  $p = .02$ ) and the Diff measure ( $F_{2,20} = 8.122$ ,  $p = .008$ ). Effect sizes for the ITT group were SP= .56 and Diff= .66. The ITT data are presented in Table 2.

### *Process Measures*

The repeated measures ANOVA of the AAQ measure for completers yielded a significant main effect for treatment ( $F_{2,10} = 12.314$ ,  $p = .002$ ). The analyses generated a large effect size of 1.71. Post-hoc tests that compared the mean differences among the

pre-treatment, post-treatment, and follow-up measures for completers (Table 1), all showed significant differences. The ITT analyses (Table 2) also yielded a significant main effect for treatment for the AAQ measure ( $F_{2,20} = 9.304$ ,  $p = .001$ ), the effect size for the ITT group was 0.97.

The analyses of the LOC measures for completers yielded a significant main effect (decrease) for treatment on the Powerful Others subscale (PLOC;  $F_{2,10} = 5.77$ ,  $p = .022$ ). Bonferroni pairwise comparison indicated that the means were only significantly different for pre-treatment and 3-month follow-up. The ITT analyses also generated a significant finding for the Powerful Others subscale ( $F_{2,20} = 4.00$ ,  $p = .035$ ) and subsequent pairwise analyses only supported a difference between pre-treatment and 3-month follow-up. The ITT analysis of the Chance Subscale (CLOC;  $F_{2,10} = 3.737$ ,  $p = .042$ ) was significant, but pairwise tests did not support this finding.

Statistical analysis of the VLQ was conducted only for the completers (due to a lack of collected data for non-completers) and focused solely on the Friendships and Social Relationships domain. This domain was chosen because it was important for all participants (i.e., all participants rated Friendships and Social Relationships at least an 8 out of 10 in importance) and because of its relevance to social phobia. The participants rated their effectiveness level each week, beginning in week four, and data were collected for each of the subsequent weeks and at 3-month follow-up. Data analysis for the VLQ generated the following statistics. The overall mean for the Friendships and Social Relationships domain of the VLQ at week four of treatment was 4.91 and this value was used to replace one participant's missed rating. Substitutions for other missing data were done in the same fashion, however there were no missing data for week 9, post-treatment, or 3-month follow-up. At week 10 (post-treatment) the overall mean was 5.08. At 3-month follow-up, the overall mean rose to 6.75 (see figure 1). The repeated

*Table 1.* Repeated Measures ANOVA and Bonferroni pairwise comparisons for completer group means: pre-treatment, post-treatment, and 3-month follow-up.

Measure	Pre-tx Mean	Post-tx Mean	3-month Mean	$F_{2,10}$ /p-value	Bonferroni p $\epsilon$ /post correction	Bonferroni post/3-month correction
SP	138.25	118.00	113.00	6.05/.019	$p = .030$	$p = .012$
Diff	111.83	94.83	90.50	8.12/.008	$p = .021$	$p = .004$
AAQ	46.58	37.58	35.83	12.31/.002	$p = .002$	$p = .001$
PLOC	21.67	16.08	11.67	5.77/.022	$p = .109$	$p = .021$
CLOC	17.92	14.08	14.08	2.32/.149	$p = .189$	$p = .255$
ILOC	28.92	32.75	33.92	1.54/.261	$p = .453$	$p = .306$

Table 2. Repeated Measures ANOVA and Bonferroni pairwise comparisons for ITT group means: pre-treatment, post-treatment, and 3-month follow-up.

Measure	Pre-tx Mean	Post-tx Mean	3-month Mean	$F_{2,20}$ /p-value	Bonferroni p <sub>pre/post</sub> correction	Bonferroni post/3-month correction
SP	139.82	124.77	123.09	4.77 / .020	p=.019	p=.019
Diff	105.00	92.59	88.14	6.16 / .008	p=.014	p=.011
AAQ	46.41	40.82	39.14	9.30 / .001	p=.003	p=.001
PLOC	13.36	9.91	7.14	4.00 / .035	p=.100	p=.026
CLOC	10.14	7.55	6.91	3.74 / .042	p=.084	p=.066
ILOC	18.68	20.77	20.91	1.06 / .364	p=.505	p=.663

\* Significant differences between pre-treatment and follow-up.

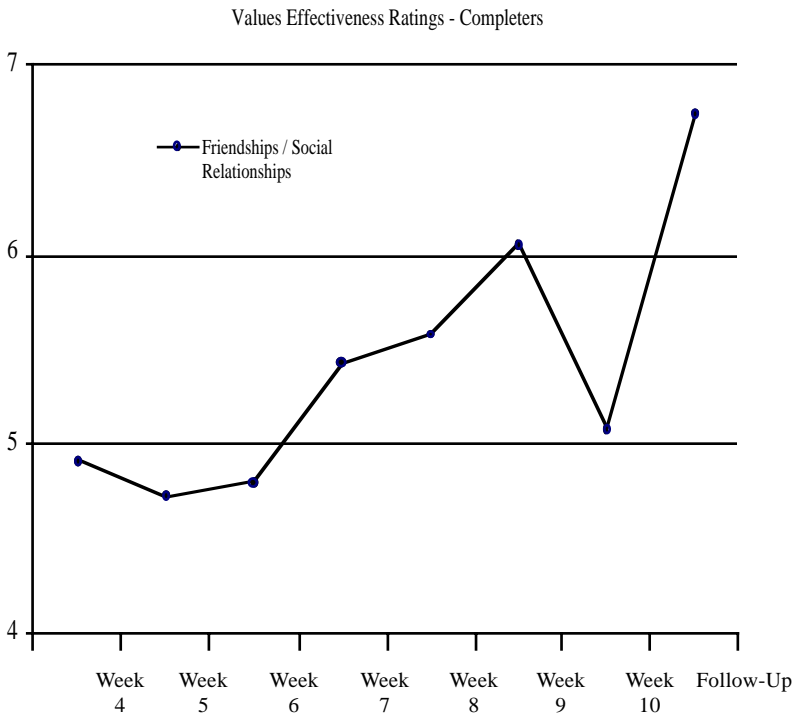


Figure 1. Completer VLQ scores for the Friendship and Social relationships domain, weeks 4 through 10 (post-treatment), and 3-month follow-up.

measures ANOVA including all 8 data points for the VLQ data was not statistically significant. However, the ANOVA comparing only the week-four mean VLQ rating (4.91) and the 3-month follow-up rating (6.75) was significant ( $p = .028$ ; effect size = .80).

The data yielded a significant correlation between completers' AAQ and SP scores at pre-treatment ( $r = .658$ ;  $p < .02$ ; two-tailed) and a strong correlation between the AAQ and SP scores at follow-up ( $r = .494$ ,  $p = .02$ ). These correlations suggest that the participants' levels of experiential avoidance are related to their symptoms of social anxiety. A moderate negative correlation existed between participants' AAQ scores and their VLQ score at follow-up ( $r = -.376$ ). This relationship suggests that as participants' experiential avoidance decreased, their effectiveness rating relative to the value of Friendships and Social Relationships increased.

### *Other data analysis*

We performed separate one-way ANOVAs of pre-treatment data for completers, dropouts, and treatment decliners in an attempt to distinguish factors that differentiated these groups. The analysis yielded a significant difference for the Ag variable (agoraphobia) between dropouts and completers ( $F_{2,20} = 12.677$ ,  $p = .002$ ). These results strongly suggest that the participants' severity of agoraphobic responding moderated their tendency to stay in or drop out of treatment. Significant differences were also found between dropouts and completers on the ILOC ( $F_{2,20} = 52.81$ ,  $p < .001$ ), the PLOC subscale ( $F_{2,20} = 11.907$ ,  $p = .003$ ), and the CLOC subscale ( $F_{2,20} = 17.124$ ,  $p = .001$ ). However, in all three cases, completers' ratings were significantly higher than dropouts, which may be expected for the ILOC measure, but not for the other two. While somewhat contradictory, these data may prove of interest for future studies addressing the nature of participant dropout.

A repeated measures ANOVA was performed on non-completers ( $n = 5$ ) for whom data were collected at post-treatment and/or 3-month follow-up. No significant differences for any dependent measures were found for that group, thereby providing added support for the effectiveness of the treatment protocol.

## **DISCUSSION**

The purpose of this study was to gather preliminary data showing the therapeutic role of values and acceptance for socially phobic individuals. The results of this investigation support the prediction that an ACT intervention would significantly reduce participants' levels of experiential avoidance (AAQ) and increase their effectiveness related to pursuing valued social relationships. Although not specifically hypothesized, it was not surprising that the treatment decreased the participants' symptoms of social phobia (SP and Diff scores of the SPAI).

Specifically, findings indicated that the participants' ratings of experiential avoidance, which was directly targeted in treatment, decreased significantly (effect size = 1.71). Moreover, the effect sizes associated with both the SP and Diff variables

( $SP= 0.83$ ;  $Diff= 0.86$ ) are comparable or slightly higher than those obtained in other social phobia treatment studies, as reported by Heimberg *et al.* (1998), Fedoroff and Taylor (2000), and Otto *et al.* (2000). Such comparisons suggest that future studies directly comparing the effects of CBT and ACT may be worthwhile, especially to better understand specific change processes related to effective living or quality of life.

Participants' ratings of personal effectiveness in pursuing the value of Friendships and Social Relationships, something also directly targeted in treatment, were significantly higher at follow-up. We chose to analyze only this domain because of its relevance to the presenting problem, yet it would not be surprising to see positive movement in other domains. With exception of week 10, the VLQ scores in this domain showed a gradual upward trend throughout the course of therapy and a marked increase at 3-month follow-up. The observed decline at week 10, while somewhat puzzling, may have been a consequence of the impending end of therapy, which temporarily interfered with participants' ongoing pursuit of social relationships. The gains observed at the 3-month follow-up may reflect a kind of incubation effect, meaning that the accumulated effect of having an expanded social response repertoire [psychological flexibility] took time to reveal itself. Perhaps future longitudinal studies of ACT related processes will help illuminate the active factors facilitating therapeutic growth at post-treatment intervals. Additional studies that engage in a more longitudinal exploration of the effects of ACT treatment may help to clarify this pattern of ongoing therapeutic gains.

While participants' measures of social phobia were not a direct target of the therapy, the data show that participants' levels of social phobia decreased significantly at post-treatment and that the reduction was maintained and slightly improved at follow-up. The positive correlation between participants' decrease in experiential avoidance and decrease in social phobia symptoms is important for further study. Experiential avoidance and psychological acceptance are construed as dialectical partners, whereby increased acceptance implies decreased attempts to control undesired private events (e.g., thoughts and feelings). A central tenant of ACT relates to the problem of control; the idea that the more one tries to alter private events, the more one becomes entangled in process of control itself. This concept is counter to many CBT techniques that seek to control private events, or the illusion of such, directly (first-order change) through methods such as cognitive restructuring and relaxation training. The import of this finding is that socially phobic individuals seem able to achieve broad therapeutic gains (second-order change) without necessarily pursuing symptom reduction as a treatment goal.

Given that this study was intended as a small-scale preliminary investigation, a number of inherent limitations are worthy of mentioning. Among the limitations was the absence of a formal control group condition, though the study employed a within subjects design using treated subjects as their own controls in order to compensate for this design limitation. In addition, when considering the compelling data that support the stability of social phobia symptoms in this sample and in the general population, an assumption that time alone does not decrease symptoms seems a reasonable one.

Another limitation of this study was its relatively small sample size. Clearly, future studies should aim to expand sample sizes in order to enhance the statistical

power of the analyses, and to decrease measurement variability. The study also suffered from a significant dropout rate (45% of those who began treatment). This rate is significantly higher than other published studies using CGBT: 20% (Heimberg *et al.*, 1990), 22% (Heimberg *et al.*, 1998), 25% (Otto *et al.*, 2000). This effect may be accounted for by the liberal inclusion criteria employed for selection, and by the number of agoraphobic responders in the initial sample pool. Another potential factor related to dropout may be the relatively early use of experiential or in-session therapeutic exposure, which may have served as psychological threat for some participants. Future studies might consider expanding the number of sessions and incorporating experiential exercises more slowly.

While the data in this study indicate a significant reduction in participants' self-report social anxiety scores as measured by the SPAI, the mean scores of completers on the Diff variable were 111.83 at pre-treatment, 94.83 at post-treatment, and 90.50 at 3-month follow-up. The authors of the SPAI specify the following guidelines for interpreting the Diff score: Difference score >80, probable social phobia; Difference score 60-79, possible social phobia; Difference score 34-59, possible mild social phobia; and Difference score <34, social phobia unlikely. Based on these guidelines, it appears that the completer sample still met criteria for social phobia at 3-month follow-up. Although the focus of treatment was not ultimately linked to first-order symptom reduction changes, we acknowledge that traditional behavioral practitioners would likely tie therapeutic success to sub-clinical ratings. Whether continued decline in symptoms persists with time is unknown and calls for more extended longitudinal studies using ACT. Similarly, whether changes in experiential avoidance and/or valued living yield decreased social anxiety (or other symptoms) remains an ongoing area for exploration in clinical research.

No normative data currently exist for the VLQ. Therefore, comparisons between participants and a non-clinical sample are not possible. Existing data from Hayes, Strosahl, Wilson *et al.* (2004) showed that a difference exists between the AAQ scores of clinical and non-clinical populations. However, no formal norms are published as the AAQ remains in development. This lack of data makes it challenging to assess, at present, the relative magnitude of the therapeutic gains achieved by the participants. Further refinement of these measures will prove beneficial to future studies.

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