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An Integrated, Acceptance-Based Behavioral Approach for Depression With Social Anxiety: Preliminary Results

Kristy L. Dalrymple[1,2], **Theresa A. Morgan**[1,2], **Jessica M. Lipschitz**[3], **Jennifer H. Martinez**[4], **Elizabeth Tepe**[5], and **Mark Zimmerman**[1,2]

[1]Rhode Island Hospital, Providence, USA

[2]Brown University, Providence, RI, USA

[3]University of Rhode Island, Kingston, USA

[4]University of Massachusetts, Boston, MA, USA

[5]Yale University, New Haven, CT, USA

Abstract

Depression and social anxiety disorder (SAD) are highly comorbid, resulting in greater severity and functional impairment compared with each disorder alone. Although recently transdiagnostic treatments have been developed, no known treatments have addressed this comorbidity pattern specifically. Preliminary support exists for acceptance-based approaches for depression and SAD separately, and they may be more efficacious for comorbid depression and anxiety compared with traditional cognitive-behavioral approaches. The aim of the current study was to develop and pilot test an integrated acceptance-based behavioral treatment for depression and comorbid SAD. Participants included 38 patients seeking pharmacotherapy at an outpatient psychiatry practice, who received 16 individual sessions of the therapy. Results showed significant improvement in symptoms, functioning, and processes from pre- to post-treatment, as well as high satisfaction with the treatment. These results support the preliminary acceptability, feasibility, and effectiveness of this treatment in a typical outpatient psychiatry practice, and suggest that further research on this treatment in larger randomized trials is warranted.

Keywords

depression; social anxiety; acceptance and commitment therapy; behavior therapy

Introduction

Social anxiety disorder (SAD) is one of the most common comorbid anxiety disorders with depression, particularly in clinical samples where rates are as high as 30% (Belzer &

Corresponding Author: Kristy L. Dalrymple, Department of Psychiatry, Rhode Island Hospital, 146 West River Street, Suite 11B, Providence, RI 02904, USA. kristy_dalrymple@brown.edu.

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Schneier, 2004; Brown, Campbell, Lehman, Grisham, & Mancill, 2001; Dalrymple & Zimmerman, 2007). Despite its prevalence, individuals rarely seek treatment primarily for SAD and instead seek treatment for more acute conditions such as depression (Weiller, Bisserbe, Boyer, Lepine, & Lecrubier, 1996). Yet when directly asked, three quarters of these individuals admitted they would also like treatment for SAD (Dalrymple & Zimmerman, 2008). Unfortunately, SAD often goes under-recognized in these individuals and consequently is under-treated (Grant et al., 2005; Zimmerman & Chelminski, 2003).

Depression-SAD comorbidity results in greater severity of symptoms, poorer functioning, and a greater presence of comorbid substance use disorders compared with depression without SAD (Dalrymple & Zimmerman, 2007; Nelson et al., 2000; Stein et al., 2001). The onset of SAD often precedes that of depression, and an earlier onset of SAD is associated with an earlier onset and greater severity of depression compared with a later onset of SAD (Beesdo et al., 2007; Dalrymple & Zimmerman, 2011a). This comorbidity pattern may also affect treatment outcomes, with pharmacotherapy studies indicating that comorbid SAD is associated with a poorer course of illness (Mulder, Joyce, Frampton, Luty, & Sullivan, 2006), treatment-resistant depression (Souery et al., 2007), and a greater number and earlier onset of depressive recurrences compared with patients without comorbid SAD (Holma, Holma, Melartin, Rytsala, & Isometsa, 2008). Psychotherapy findings have been more mixed, with one study showing that patients who received cognitive-behavior therapy (CBT) for depression fared worse when comorbid SAD was present (DeRubeis et al., 2005). However, other studies have found that despite higher depression and SAD severity at pre- and post-treatment, rates of improvement have not differed (e.g., Erwin, Heimberg, Juster, & Mindlin, 2002; Marom, Gilboa-Schechtman, Aderka, Wiezman, & Hermesh, 2009; Smits, Minhajuddin, & Jarrett, 2009). Marom and colleagues (2009) continued to follow patients for 1 year after treatment termination and found that patients with SAD and comorbid depression experienced an increase in SAD symptom severity over the follow-up period, whereas patients without comorbid depression experienced further alleviation in SAD symptoms.

Numerous studies have supported the efficacy of exposure for SAD (e.g., Heimberg et al., 1998; Herbert et al., 2005). Traditional exposure is based on learning models (e.g., Mowrer, 1947) that describe that anxiety in social interactions produces a conditioned fear response that is triggered in similar future social interactions. This conditioned fear response produces a learned behavior of avoiding social situations to temporarily decrease anxiety, but ultimately leads to an expanding pattern of avoidance in the long term that serves to maintain and potentially exacerbate anxiety. Thus, the goal of exposure is to extinguish these conditioned fears and break the cycle of avoidance by having individuals repeatedly expose themselves to these situations. Based on a traditional CBT model, it is believed that anxiety decreases in these situations through the processes of habituation, learning new associations, and correcting dysfunctional thinking patterns (Otto & Safren, 2001). However, more recent conceptualizations suggest that inhibitory learning (i.e., developing competing, non-threatening associations across different contexts) and acceptance of fear are more crucial to extinction rather than a reduction of fear (Craske et al., 2008).

Several studies have also supported the efficacy of Behavioral Activation (BA) for depression (Dimidjian et al., 2006; Jacobson et al., 1996), which is a contemporary behavioral therapy that views depressive behaviors (e.g., social withdrawal) as avoidance of environmental stimuli that are aversive or less positively reinforcing (Hopko, Lejuez, Ruggiero, & Eifert, 2003). Thus, the overall goal of BA is to increase awareness of internal and external triggers of negative emotional states, assess the function of depressive behaviors, and emphasize re-engagement in more adaptive behaviors. Originally, the function of re-engagement in behaviors primarily was to increase contact with positive or pleasurable events (Lewinsohn, 1974); however, modern applications have emphasized re-engagement based primarily on personally identified goals regardless of emotional states that may be experienced in the short term (Martell, Dimidjian, & Herman-Dunn, 2010).

The more recent conceptualizations of the functions of exposure therapy and BA are consistent with each other, as well as with "third wave" behavioral approaches such as Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999, 2012). ACT is based on a functional contextual perspective, which views an individual's behavior and psychological experiences in the context of their history and current situation (Hayes et al., 2012). The ultimate aim of ACT is increasing psychological flexibility, which is defined as "contacting the present moment as a conscious human being, fully and without needless defense—as it is and not as what it says it is—and persisting with or changing a behavior in the service of chosen values" (Hayes et al., 2012, p. 96). Emotional pain is understood as a natural result of living, and unnecessary suffering is created when repeated efforts to escape from or avoid emotional pain are undertaken. This attempt to control or eliminate such experiences has been termed *experiential avoidance*, which over time tends to produce the paradoxical effect of creating more of these unwanted experiences (Hayes et al., 2012). Chronic experiential avoidance also leads to a limiting of one's behavioral repertoire (i.e., behavioral avoidance), which then results in functional impairment. Research has indicated that greater experiential avoidance is associated with diminished positive affective experiences, life satisfaction, and less-frequent positive events (Kashdan, Barrios, Forsyth, & Steger, 2006), as well as poorer quality of life and behavioral ineffectiveness (see Hayes, Luoma, Bond, Masuda, & Lillis, 2006, for a review). Given its emphasis on increasing functioning in multiple valued domains, ACT thus may be able to provide a broader approach to behavioral change and improving quality of life.

Preliminary efficacy of ACT has been demonstrated for a variety of psychological problems, including depression and SAD separately (see Hayes et al., 2006, for a review). For example, a recent open trial examined the efficacy of 12 weeks of ACT integrated with exposure for 19 individuals with generalized SAD (Dalrymple & Herbert, 2007). The treatment was delivered in an individual format, addressed the major phases of ACT via metaphors and experiential exercises (adapted from Hayes et al., 1999), and integrated exposure via in-session role-play exercises, in-vivo exercises, homework exercises, and social skills training. Results showed large effect size improvements from pre- to post-treatment in SAD severity, functioning, quality of life, and behavioral role-play task performance. Large effect size changes also occurred in experiential avoidance, and earlier changes in experiential avoidance predicted later changes in symptoms. This pilot study thus

suggested that ACT could be feasibly integrated with exposure for SAD. Other studies also have demonstrated the preliminary efficacy of ACT for SAD, finding that it resulted in decreased social anxiety, increased willingness to engage in social or performance situations, increased engagement in values-consistent behaviors, and improved behavioral performance (e.g., Block & Wulfert, 2000; Kocovski, Fleming, & Rector, 2009; Ossman, Wilson, Storaasli, & McNeill, 2006).

Studies thus far also support the use of ACT for depression. The first study of ACT for depression (previously named “cognitive distancing”; Zettle & Rains, 1989) compared it with cognitive therapy after 12 weeks of treatment. A recent re-analysis of the data (Zettle, Rains, & Hayes, 2011) found that ACT resulted in greater reductions in depressive symptoms compared with cognitive therapy, and cognitive defusion at post-treatment mediated this differential treatment effect at follow-up. The occurrence of depressive thoughts and the level of dysfunctional attitudes did not mediate this relationship. Other recent studies also have shown that ACT results in improved symptoms, psychosocial functioning, and quality of life for individuals with depression with psychotic features and with depression on sick leave (Folke, Parling, & Melin, 2012; Gaudiano, Nowlan, Brown, Epstein-Lubow, & Miller, 2013). The study by Gaudiano et al. (2013) on ACT for individuals with depression with psychotic features integrated ACT with BA, demonstrating the feasibility and preliminary efficacy of combining these two approaches.

Given the initial support for ACT in the treatment of depression and SAD separately, it may serve as a potentially viable alternative treatment approach for addressing depression-SAD comorbidity. Evidence indicates that depression and SAD share features that may make this comorbidity pattern unique from depression comorbid with other anxiety disorders (e.g., lower reward sensitivity, avoidance behaviors, excessive reassurance-seeking; Brown, Chorpita, & Barlow, 1998; Kashdan, 2004; Nelson et al., 2000), suggesting that this specific comorbidity pattern is deserving of clinical focus. Recent years have seen the development of cognitive-behavioral transdiagnostic approaches in response to the acknowledgment of comorbidity within “real-world” clinical settings, such as the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders (Barlow, Allen, & Choate, 2004). Although results from this treatment compared with a waitlist control have been promising thus far (Farchione et al., 2012), new findings from a trial comparing ACT with CBT across different anxiety disorders found that ACT outperformed CBT for patients with comorbid mood disorders at post-treatment and 12-month follow-up (Wolitzky-Taylor, Arch, Rosenfield, & Craske, 2012). Others also have hypothesized that perhaps ACT is particularly applicable to more severe and treatment-resistant populations (Twohig, 2009). However, many prior studies on ACT have examined its efficacy in more circumscribed populations, and thus more research is required to examine its effectiveness in more severe and diagnostically complex samples.

Therefore, the aim of the current study was to develop and pilot test the effectiveness of ACT integrated with behavior therapy for comorbid depression and SAD, using a 16-session individual-format protocol based on prior research (Dalrymple & Herbert, 2007). This treatment was designed and tested as an adjunctive treatment to pharmacotherapy in a routine outpatient psychiatric sample. The current study aims to be more reflective of “real-

world" clinical practice, as it was conducted in a hospital-based practice where comorbidity is high and where patients typically receive medication or medication plus psychotherapy. It was hypothesized that patients would experience significant decreases in depression and SAD symptoms, psychological inflexibility, and behavioral avoidance following 16 sessions of acceptance-based behavior therapy. Given the emphasis on quality of life and functioning as important indicators of improvement, these variables also were assessed and expected to improve significantly from pre-to post-treatment.

Method

Participants

Participants were outpatients seeking treatment at the Outpatient Psychiatry Department of Rhode Island Hospital, and were recruited between March 2010 and May 2012. Inclusion criteria were adults ages 18 and above, with *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994) diagnoses of generalized SAD and a depressive disorder (major depressive disorder [MDD], MDD in partial remission, depressive disorder not otherwise specified [DDNOS], or dysthymic disorder). The decision was made to broaden inclusion beyond MDD, as this is more reflective of patients seen in typical psychiatric practice. Exclusion criteria for the study were: diagnoses of a bipolar disorder, psychotic disorder, or borderline personality disorder; inability to speak or read English sufficiently to complete procedures for the study; receipt of electro-convulsive therapy within the past 3 months; and cognitive impairment. All other comorbid disorders were permitted as long as they were not considered to be primary diagnoses (i.e., the main reason for treatment-seeking), to increase the generalizability of the study to other clinical practice settings.

Measures

Diagnoses—The *Structured Clinical Interview for DSM-IV Axis I Disorders* (SCID; First, Spitzer, Gibbon, & Williams, 1996) was administered to determine study eligibility. Diagnosticians were doctoral-level clinical psychologists and research assistants with bachelor's degrees in social or biological sciences. They were trained as part of the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) Project, which provides extensive training and monitoring throughout the study to minimize rater drift. The comprehensive training program has been described in detail elsewhere (Dalrymple & Zimmerman, 2011b). Inter-rater reliability from 65 joint-interview evaluations from the MIDAS Project indicates high diagnostic agreement (e.g., MDD $\kappa = 0.90$, SAD $\kappa = 0.84$; see Dalrymple & Zimmerman, 2011b). The borderline personality disorder items from the *Structured Interview for DSM-IV Personality Disorders* (SIDP-IV; Pfohl, Blum, & Zimmerman, 1997) were administered to rule out the presence of that disorder. Previous studies from the MIDAS Project also have shown high diagnostic agreement on the SIDP-IV (Zimmerman, Rothschild, & Chelminski, 2005).

Symptom severity—The *Quick Inventory of Depressive Symptomatology* (QIDS-SR/C; Trivedi et al., 2004) self-report and clinician versions were used to assess symptoms of depression. Both versions have demonstrated highly acceptable psychometric properties

(Trivedi et al., 2004; Cronbach's alphas were 0.62 for the QIDS-SR and 0.78 for the QIDS-C in the current study). The *Liebowitz Social Anxiety Scale* (LSAS; Liebowitz, 1987) is a clinician-rated, well-established measure assessing social anxiety fear and avoidance separately, with good psychometric properties (Heimberg et al., 1999; Cronbach's α = .88 for fear and avoidance subscales). Self-report SAD symptoms were assessed with the *Social Phobia and Anxiety Inventory* (SPAI; Turner, Beidel, Dancu, & Stanley, 1989), which also has demonstrated good psychometric properties (Beidel, Borden, Turner, & Jacob, 1989; current Cronbach's α = .98).

Quality of life and functional impairment—The *Quality of Life Inventory* (QOLI; Frisch, Cornell, Villanueva, & Retzlaff, 1992) assesses importance and satisfaction in a variety of domains such as health and work, and has demonstrated good psychometric properties (Frisch et al., 1992; Cronbach's α = .72 for importance and satisfaction items). Functional impairment was measured using the *World Health Organization Disability Assessment Schedule* (WHO-DAS; Epping-Jordan & Ustan, 2001), a self-report measure of disability (e.g., activity limitations) in a variety of domains. It has also demonstrated adequate psychometric properties (Chwastiak & Von Korff, 2003; McKibbin, Patterson, & Jeste, 2004; Cronbach's α = .94).

Process measures—The *Behavioral Activation for Depression Scale* (BADS; Kanter, Mulick, Busch, Berlin, & Martell, 2007) was used as a process measure of behavioral avoidance. The BADS consists of 29 items assessing BA/avoidance in the past week, with higher scores reflecting greater BA. Preliminary psychometric data on the BADS suggest that it demonstrates good reliability and validity (Cronbach's α in the current study = .77). The *Acceptance and Action Questionnaire–II* (AAQ-II; Bond et al., 2011) is a 7-item measure of psychological inflexibility; higher scores are indicative of greater inflexibility. Research suggests that this measure possesses good internal consistency, reliability, and validity (Bond et al., 2011; Cronbach's α = .79).

Other measures—The *Reaction to Treatment Questionnaire* (RTQ; Holt & Heimberg, 1990) was used to measure treatment expectancies and perceived credibility of the treatment. The *RTQ* was adapted for the current study to include questions pertaining to depression and SAD, and was administered after the first therapy session. Patient satisfaction with the treatment was administered post-treatment, using the *Client Satisfaction Questionnaire–8* (CSQ-8; Larsen, Attkisson, Hargreaves, & Nguyen, 1979). A post-treatment qualitative interview was also conducted by an independent assessor, which asked open-ended questions such as: "What aspects of the treatment did you find most helpful?" and "In what ways have you benefitted from the treatment?" Finally, information related to the pharmacotherapy sessions was collected via an adapted version of the *Outpatient Visit Clinical Record Form* from the Texas Medication Algorithm Project (Crismon et al., 1999). The form was completed by the treating psychiatrist following each medication visit, and included information pertaining to medication adherence, changes in medication, and reasons for changes in medication.

Treatment

Participants received 16 weekly, individual sessions of the treatment through the Outpatient Psychiatry Department; all participants received the same protocol in the same order. Therapists were the first author (K.L.D.) or advanced clinical psychology doctoral students trained and supervised weekly by the first author. The first author has received formal training in and practiced ACT, BA, and exposure therapy for the past 13 years, with the past 8 years being within the outpatient practice of the current study. She has provided training and supervision in these therapies for the past 4 years. The treatment was designed as an adjunctive treatment to pharmacotherapy, and integrates BA for depression (Martell, Addis, & Jacobson, 2001) and exposure therapy for SAD (e.g., Heimberg & Becker, 2002; Turner, Beidel, Cooley, Woody, & Messer, 1994). To enhance integration of these two approaches, they were delivered from an ACT rather than traditional CBT model. The integration of these approaches also was based on a prior treatment trial incorporating ACT and exposure therapy for SAD (Dalrymple & Herbert, 2007).

Metaphors and experiential exercises were used to promote acceptance toward affective experiences, to reduce experiential and behavioral avoidance that underlies depression and SAD. To fully integrate the treatment of depression and SAD, all aspects of the treatment addressed both problems. In other words, BA exercises (typically used for depression) and exposure exercises (typically used for anxiety) were used to address avoidance behaviors related to depression and SAD, and were applied flexibly to address the relevant problem for a particular client at a particular session. Exercises drawn from BA and exposure therapy were used to practice an acceptance-based stance toward emotional experiences while engaging in personally identified valued activities, as a way to integrate ACT, BA, and exposure (see below for examples). While the function of behavioral exercises in CBT typically has been to decrease negative emotions and correct dysfunctional cognitions, in ACT the function of behavioral exercises is to encourage engagement in activities that the patient has self-identified as being important or valued, and to provide opportunities to practice increased willingness to experience uncomfortable emotions that arise as part of that process. Therefore, instead of attempting to reduce discomfort, the patient is encouraged to carry this emotional discomfort with them as they engage in meaningful behaviors.

Initial sessions (Sessions 1–3) consisted of reviewing avoidance and withdrawal patterns and how these patterns have led to reduced quality of life, assessing strategies previously used to attempt to eliminate or control negative experiences, and evaluating the usefulness of these strategies in helping them live a meaningful and fulfilling life. The TRAP (Trigger, Response, Avoidance Pattern) exercise in BA (Martell et al., 2001) was conducted to identify avoidance patterns related to depression and anxiety and highlight the paradoxical effect of experiential avoidance. The TRAP exercise was paired with the Chinese Handcuffs Metaphor (Hayes et al., 1999, p. 105) to illustrate that attempted movements away from discomfort (i.e., avoidance behaviors, or those in the “AP” of the TRAP) constricts our lives and perhaps an alternative is to approach meaningful behaviors in the presence of discomfort. Willingness then was introduced as an alternative to experiential avoidance using the Two Scales Metaphor (Hayes et al., 1999, p. 133), and was paired with in-session and in-vivo exposure exercises related to chosen values. Exposure exercises first were

introduced in Session 4, and continued for the remainder of the treatment. Once a target behavior was chosen, it was linked to specific values (i.e., ways that the behavior would bring meaning to one's life), and practiced along with the acceptance or mindfulness-based skills that were introduced that particular session.

The next phase (Sessions 5–9) consisted of using experiential exercises (including mindfulness meditation and the Milk, Milk, Milk Exercise; Hayes et al., 2012, p. 248) and metaphors (e.g., Bad Cup Metaphor; Hayes et al., 2012, p. 264) to illustrate over-identification with thoughts and feelings (i.e., "fusion"), and to promote a relationship with these experiences in which they are viewed as "merely ongoing mental activity" (i.e., "defusion"; Hayes et al., 2012, p. 68). The treatment continues in Sessions 10 and 11 by fostering a sense of self in which internal experiences are viewed as transient and separate from the self (referred to as "self-as-context"). This is accomplished through metaphors such as the Chessboard Metaphor, and through the experiential exercise called The Observer Exercise (Hayes et al., 2012, pp. 231 and 233, respectively).

Formal values clarification exercises (Sessions 12–13) are then conducted (although valuing is referred to throughout treatment, beginning in the first session), and behaviors are identified related to those values and then practiced in-session and for homework. The "What Do You Want Your Life to Stand For?" exercise (Hayes et al., 2012, p. 304) is used to clarify values, in which the patient is asked to visualize important persons in their life provide a eulogy of the meaning of their life. Then in each session a target value is chosen, and specific behaviors related to that value are identified and practiced. In the committed action phase (Sessions 14–15), willingness is linked to valuing to emphasize engagement in the process of moving in valued directions while making room for emotional experiences (e.g., via the Bubble in the Road Metaphor; Hayes et al., 2012, p. 338). The final sessions (15–16) are designed to assist patients with treatment termination by discussing relapse prevention (e.g., identifying warning signs, how to get back on track, and when it is appropriate to seek additional help), reviewing progress in treatment (with a particular focus on improved quality of life and functioning rather than symptom reduction), and continuing to discuss personally identified values and related behavioral goals as part of a post-treatment plan.

Pharmacotherapy

All patients also received pharmacotherapy-as-usual from board-certified psychiatrists at the same outpatient practice. There were no restrictions on the types of medications that could be prescribed, or on the number or frequency of pharmacotherapy visits during the course of the study. Pharmacotherapy visits were tracked for each patient, in which medications prescribed and changes in prescriptions were recorded.

Procedure

All study procedures were approved by the Institutional Review Board at Rhode Island Hospital. Study participants were referred by their treating psychiatrist to a study staff member, who provided information on the study and obtained written informed consent. The SCID and SIDP were used to confirm study eligibility. The additional assessor-rated

measures (QIDS-C and LSAS) were also administered, and patients were given a self-report questionnaire packet to complete and bring to the first therapy session. Assessments were completed at pre-, mid- (after Session 8), and post-treatment (after Session 16).

Statistical Analyses

Preliminary analyses were conducted to compare dropouts and completers on demographic characteristics and severity level. Changes in outcome and process measures were analyzed using repeated measures analyses of variance, using Bonferroni corrections for the pairwise comparisons. Pre- to post-treatment within subjects Cohen's *d* effect sizes also were calculated to examine the magnitude of change over the course of treatment. The percentage of patients meeting criteria for clinically reliable change was calculated, based on procedures by Jacobson & Truax (1991). A reliable change index (RCI) is calculated for the measure, which takes into account the reliability of the measure and to what degree treatment gains exceed measurement error. The reliability estimate used to calculate RCIs was 0.85 for the QIDS-C (Trivedi et al., 2004), and 0.92 for the LSAS fear and avoidance subscales (Heimberg et al., 1999). Completer and intention-to-treat (ITT) analyses (using the last observation carried forward method) were conducted to examine the consistency of results; only ITT results that differed from completer analyses are reported in detail. Finally, exploratory analyses were conducted to examine preliminary relationships between changes in the outcome and process variables, by computing Pearson correlations between pre- to post-treatment residualized change scores. Residualized change scores were used as they control for measurement error and initial differences between patients (Steketee & Chambless, 1992). These analyses were conducted with ITT data only, to increase power.

Results

Preliminary Analyses

Demographic characteristics—Participants had a mean age of 36 years, with ages ranging from 18 to 69. Slightly more than half were male, and the majority were Caucasian and had a high school degree, general educational development degree (GED), or some college experience without a degree. Half of the sample had never been married (see Table 1). As shown in Table 2, the mean onset of SAD was earlier than the mean onset of depression. Baseline severity of the sample was high, with the majority having recurrent depression, chronic current episode duration (defined as greater than 2 years), and poor functioning. Axis I comorbidity was high, with 25 (80.6%) patients having at least one other current or partial remission diagnosis in addition to depression and SAD. On average, patients had nearly 4 total current or partial remission diagnoses ($M = 3.6$, $SD = 1.4$), and 5 patients (13.5%) had an additional dysthymia diagnosis (i.e., met criteria for "double depression"; see Table 2).

Participant flow—As shown in Figure 1, 38 participants were eligible, and 31 began treatment. One participant did not start therapy due to a desire to see a therapist in the community, but reasons were not known for the other 6 participants who never started the therapy. The treatment completion rate was 58% (18/31), with most participants discontinuing treatment prior to the mid-treatment assessment and 1 participant

discontinuing after completing 12 of 16 sessions (average number of sessions completed by dropouts = 4). Reasons for attrition included: interest in addressing other psychological problems (1 an eating disorder, 1 a cannabis dependence disorder); 1 felt that treatment was not needed; 1 did not want to do exposure exercises; and 1 was unable to make the time commitment. Other reasons for early discontinuation are unknown.

Dropouts versus completers—There were no differences between completers and dropouts on demographics or baseline clinical characteristics. Dropouts scored significantly higher than treatment completers on the pre-treatment SPAI (dropout $M = 150.04$, $SD = 21.29$; completer $M = 124.23$, $SD = 25.29$; $t(24) = 2.61$, $p = .02$), but there were no other differences on the pre-treatment measures.

Pharmacotherapy—The majority (86.7%; $n = 26$) of patients were prescribed a selective serotonin reuptake inhibitor (SSRI) or serotonin-norepinephrine reuptake inhibitor (SNRI) at the beginning of the study (either as a new medication or continuation from a previous provider). Nine patients taking an SSRI or SNRI also were taking at least one adjunctive medication, such as a benzodiazepine ($n = 6$), hypnotic ($n = 1$), or stimulant ($n = 2$). Four of the six (67%) who were taking an adjunctive benzodiazepine either dropped out or did not start the therapy. Two of the nine patients were taking two SSRIs/SNRIs concurrently (i.e., one was prescribed citalopram, fluoxetine, and zolpidem; the other was prescribed buproprion, desvenlafaxine, and alprazolam). Treatment completers attended an average of 3 ($SD = 2.0$) pharmacotherapy visits during their participation in the study (range = 1–8 visits). Medication changes were made at approximately one third of the visits (34.6%), and psychiatrists rated patients as having adequate medication adherence at the majority of visits (95.1%).

Interviewer-Rated Measures

Completer analyses—As shown in Table 3, the overall ANOVA on the LSAS fear was significant, with fear significantly decreasing from pre- to mid-treatment ($p < .001$) and pre- to post-treatment ($p < .001$). The LSAS avoidance ANOVA also was significant, with scores decreasing from pre- to mid-treatment ($p < .001$) and pre- to post-treatment ($p = .006$). The overall QIDS-C ANOVA was significant, with pairwise comparisons showing that scores decreased from pre- to post-treatment ($p < .001$) and mid- to post-treatment ($p = .005$). Because patients were enrolled into the trial with varying levels of baseline depression severity in an effort to increase external validity, this may have created a floor effect. Therefore, results also were analyzed for the subsample ($n = 9$) of participants who had moderate-to-severe pre-treatment QIDS-C scores. This subsample experienced significant decreases from pre-to post-treatment only ($p = .001$).

ITT analyses—Results from the ITT pairwise comparisons were similar to the completer results, although there were marginal differences from mid- to post-treatment for the LSAS fear and avoidance subscales in the ITT analyses ($p = .06$ and .07, respectively).

Self-Report Measures

Completer analyses—The ANOVA on the SPAI was significant, with scores decreasing at all three time points (pre- to mid-treatment $p = .05$; mid- to post-treatment $p = .004$; pre- to post-treatment $p = .002$). The QIDS-SR decreased significantly from pre- to post-treatment ($p = .01$) only, with a marginal difference from mid- to post-treatment ($p = .06$). WHODAS scores significantly improved from pre- to post-treatment ($p = .02$) only, as well as QOLI scores (pre- to post-treatment $p = .05$). Figure 2 shows the frequencies of quality of life classifications across time points; classifications were based on *T*-score ranges, as described in the QOLI manual (0–36 = very low; 37–42 = low; 43–57 = average; 58–77 = high; Frisch, 1994). Scores on the AAQ-II significantly decreased from mid- to post-treatment ($p = .05$) and pre- to post-treatment ($p = .003$), and significant increases on the BADS occurred from pre- to mid-treatment ($p < .001$) and pre- to post-treatment ($p = .005$).

ITT analyses—The ITT pairwise comparisons showed a marginal difference on the SPAI from pre- to mid-treatment ($p = .06$), and the QIDS-SR showed no difference from pre- to post-treatment ($p = .19$). The WHODAS was only marginally significant from pre- to post-treatment ($p = .06$). Although the overall ITT ANOVA for the AAQ-II was significant, none of the pairwise comparisons were significant.

Effect Sizes

Based on Cohen's conventions for effect sizes (small $d = 0.2$, medium = 0.5, and large = 0.80; Cohen, 1988), completer pre- to post-treatment effect sizes were large for the symptom and process measures, and medium-to-large for the QOLI and WHODAS. The ITT pre- to post-treatment effect sizes were medium for most of the measures, but large for the BADS and small for the QIDS-SR, WHODAS, and AAQ-II (see Table 3).

Reliable Change

Overall, 62.5% (10/16) of completers experienced reliable change on the QIDS-C; this percentage increased to 88.9% (8/9) when considering only those with initial moderate-to-severe depression. In the ITT sample, reliable change was experienced by 26.7% (8/30) on the QIDS-C, and 43.8% (7/16) of the subsample with initial moderate-to-severe depression. Reliable change was experienced by 43.8% (7/16) of treatment completers on the LSAS fear subscale, and 50% (8/16) of completers on the LSAS avoidance subscale. Reliable change was experienced in 30% (9/30) of patients in the ITT sample on the fear and avoidance subscales of the LSAS.

Relationships Between Outcome and Process Variables

Table 4 shows the correlations between the pre- to post-treatment residualized change scores of the outcome and process variables. Pre- to post-treatment changes in depression and SAD correlated with each other, as well as with the WHODAS and QOLI in some cases. In addition, pre- to post-treatment changes on the AAQ-II and BADS were correlated with each other, and both were correlated with pre- to post-treatment changes in depression, social anxiety, functioning, and quality of life.

Treatment Credibility and Satisfaction

After the first session, patients found the treatment to be highly logical (*M* = 8.4, *SD* = 1.5; on scale of 1–10). They also were highly confident that the treatment would sufficiently address their depression (*M* = 7.3, *SD* = 1.3) and social anxiety (*M* = 7.3, *SD* = 1.4), and they were highly confident in recommending the treatment to a friend with depression (*M* = 7.4, *SD* = 1.7) or SAD (*M* = 7.5, *SD* = 1.9). Satisfaction with treatment for completers as measured by the CSQ-8 also was high (*M* = 29.3, *SD* = 2.3, out of a possible 32 points). Finally, a post-treatment qualitative interview was conducted by an independent assessor; see Table 5 for a summary of responses.

Discussion

The current study is the first to our knowledge that has examined the preliminary effectiveness of an acceptance-based behavior therapy addressing comorbid depression and SAD as an adjunct to pharmacotherapy, implemented in a routine psychiatric practice setting. Results showed significant decreases in depression and SAD severity over the course of treatment, and were consistent with results obtained in other trials examining ACT for SAD (e.g., Dalrymple & Herbert, 2007) and depression (e.g., Zettle et al., 2011) separately. Although effect sizes were somewhat lower compared with some CBT efficacy studies for SAD (e.g., 1.94 in Herbert et al., 2005), they still were well within the range (0.51–1.08 across meta-analyses of CBT for SAD studies; see Rodebaugh, Holaway, & Heimberg, 2004). A similar pattern was found for depression outcomes, with effect sizes being lower than some efficacy studies (e.g., 2.0 in Elkin et al., 1989), but still within the range (0.87–2.60 across CBT for depression studies; see Hans & Hiller, 2013).

Effectiveness studies may serve as more useful comparisons than single-disorder efficacy studies, given that the sample in the current study was a highly comorbid one within a typical clinical practice. For example, McEvoy and Nathan (2007) found a large effect size change in depression (1.2) in patients with comorbid depression and anxiety treated with CBT in a community mental health clinic. Similar findings were reported in a recent meta-analysis (Hans & Hiller, 2013), which found large effect sizes for depression (1.06–1.13), and moderate-to-large effect sizes for secondary outcomes (0.7–0.9). Therefore, the findings from the current study are similar to those obtained in other effectiveness trials. Results on reliable change in the current study also were consistent with effectiveness studies that have shown reliable change of approximately 50% on depression measures and 15% to 30% on anxiety measures (e.g., McEvoy & Nathan, 2007; Westbrook & Kirk, 2005).

Treatment trials typically use symptom reduction as the primary outcome of interest. However, this is inconsistent with the ACT model, which emphasizes improving quality of life and functioning rather than symptom reduction per se (Hayes et al., 1999). Given that other types of treatment (e.g., traditional CBT or medications) emphasize outcomes that are perhaps incongruent with ACT, it is understandable that ACT may not outperform these other treatments when symptom reduction is used as the metric. Recent research has indicated that with respect to depression, patients more frequently rated factors other than symptom reduction as being very important in determining whether they had achieved remission (e.g., a return to usual functioning and features of positive mental health including

optimism, vigor, and self-confidence; Zimmerman et al., 2006). Responses from the post-treatment qualitative interview in the present study also frequently included behavioral changes and greater emotional awareness as factors contributing to perceived improvement. Therefore, perhaps quality of life and functioning should be given greater importance as outcome variables, which would require a major paradigm shift from how treatment studies currently are conceptualized and implemented under the medical model.

The preliminary findings from the present study on quality of life and functioning are promising. The effect size on the QOLI in the current study (completer = 0.78/ITT = 0.54) was larger than what has been obtained from a previous trial of CBT for SAD (0.49 in Eng, Coles, Heimberg, & Safren, 2001) and a recent trial comparing ACT and CBT for anxiety disorders (within $d = 0.43$ for both treatments; Arch et al., 2012), and was comparable with an earlier trial of ACT for SAD (0.74 in Dalrymple & Herbert, 2007). Furthermore, the percentage of completers classified as having “very low” quality of life decreased from 82.4% to 50% after 16 sessions, and those with “average” quality of life increased from 11.8% to 37.5%. A medium-to-large effect size improvement was also obtained on the functioning measure. It is encouraging that these significant changes in quality of life and functioning occurred after only 16 sessions within a severe sample with high comorbidity, although future research is needed to determine to what degree these gains are maintained over the long term.

Despite these encouraging findings with quality of life and functioning, it should be noted that the effect sizes for the symptom measures were larger than those for quality of life and functioning. Although symptom reduction is not emphasized in ACT, it often occurs perhaps as a result of movement toward values-consistent behaviors. For instance, results from the completer analyses showed that reductions in behavioral avoidance occurred early in treatment (from pre- to mid-treatment), yet greater reductions in depressive symptoms appeared to occur in the latter half of treatment. This is consistent with the ACT model, which posits that early symptom change is not necessarily required in order for behavioral changes to occur. More fine-tuned analyses of the timing of changes between these measures could continue to examine this. Furthermore, it may be difficult to fully capture the improvements in quality of life and functioning within a relatively short time frame of 16 weeks, especially for patients with more severe and chronic problems. Future studies should examine results after longer follow-up periods, to determine if effects for quality of life and functioning catch up to, or even surpass, effects on symptom measures.

Process variables can also serve as useful variables that may more accurately reflect the effects of ACT. In the current study processes hypothesized to be important (i.e., BA and psychological flexibility) showed significant changes over time, especially within the completer sample. Changes in the process measures from pre- to post-treatment also were significantly correlated with changes in the more traditional outcome measures. Given the lack of a control group, mediation analyses could not be conducted; however, results suggest that BA and psychological flexibility should continue to be examined as potential mechanisms of change.

Results from the current study, in combination with the recent findings from Wolitzky-Taylor et al. (2012), suggest that ACT could be an effective approach for individuals experiencing comorbid depression and anxiety. Future research should continue to examine if this is the case, and why. For example, it could be that ACT's broader approach of addressing psychological inflexibility that underlies a range of emotional problems is particularly well-suited to someone who is experiencing severe or chronic problems. In addition, ACT's emphasis on improved quality of life and functioning rather than symptom reduction per se may fit well with a more severe, chronic, and/or comorbid population (Twohig, 2009). Many individuals with comorbid depression and SAD have experienced these problems chronically since childhood (Dalrymple & Zimmerman, 2007). By the time these individuals have entered treatment as adults, they have attempted for many years to avoid or suppress these emotions, which has led to significant functional impairment and reduced quality of life. Thus, these patients may have an acute sense of the futility of avoidance strategies compared with individuals with less chronic problems, and may be more receptive toward an acceptance-based approach.

The current study possesses several strengths, such as use of self-report and independent assessor measures, use of assessments at multiple time points, and use of measures assessing processes, quality of life, and functioning. In addition, the treatment was conducted in a typical outpatient psychiatry practice, thereby increasing external validity. However, limitations also exist that should be considered. The sample was small and this was an open trial; therefore, results are preliminary and it is unknown to what degree the results are specific to this particular treatment. In addition, the small sample size may have resulted in low power to detect differences at some time points on some of the measures, and the conservative nature of Bonferroni corrections and last observation carried forward methods for the ITT analyses also may have contributed to the lack of significant difference for a few of the measures. Due to the small size of the completer sample, ITT values were used for the correlations on the residualized gain scores between the measures. However, this may have created bias, and it is recommended that future studies of larger samples continue to examine the relationship between changes on measures of outcomes and processes.

The present study tested an overall treatment package that contained several elements, such as behavioral exercises, valuing, and cognitive defusion. More recently, the literature has emphasized the importance of determining what elements of treatment packages are effective relative to others and identifying mediators and moderators of outcomes, rather than only testing large treatment packages against each other (Kazdin, 2005). Additional research is needed to ascertain if certain elements of this treatment package may hold greater importance over others. Furthermore, although multiple assessment points were used, there was no follow-up assessment period, and thus it is unknown whether the obtained improvements would be maintained over a longer period of time.

In an effort to include a sample more reflective of routine practice settings, patients were recruited who experienced varying levels of baseline depression. QIDS-C for the overall sample were somewhat low at pre-treatment (i.e., on the lower end of the moderate severity category). This could have created a floor effect from pre- to mid-treatment, which could account for non-significant findings during that time period due to less time to observe

significant changes. However, assessing from pre- to post-treatment rather than pre- to mid-treatment allows greater time for differences to emerge. Therefore, results were analyzed separately for the subgroup of patients with baseline moderate to severe depression. This subgroup showed significant decreases only from pre- to post-treatment, suggesting that a lack of significant change from pre- to mid-treatment may not be attributable solely to a floor effect.

Another limitation is the amount of patients who were enrolled into the study but never started the therapy, and who discontinued treatment prematurely. Other effectiveness studies also have found higher attrition rates relative to efficacy studies, with rates averaging 25% to 30% and reaching as high as 68% (Hans & Hiller 2013; Lincoln et al., 2005). One of these trials (Lincoln et al., 2005) found that marital status and comorbidity were significant predictors of attrition. Therefore, it is possible that the high comorbidity of the sample contributed to the high attrition rate, although it is unclear at this time what the reasons were for many of the patients (especially those who never started). Given that all patients were specifically seeking medication treatment at a psychiatry practice, the high attrition could be related to patients' beliefs about the cause of their problems (e.g., biological vs. environmental/behavioral). For example, those who believe the cause to be biological may be more motivated to receive medication treatment only, and thus may discontinue psychotherapy (Meyer & Garcia-Roberts, 2007). Yet another likely explanation is that discontinuation could be due to the nature of social anxiety, as evidenced by the fact that those who dropped out did so after Session 4 on average (after exposure was initiated), and they had higher pre-treatment scores on the SPAI. Nonetheless, it is clear that a better understanding of reasons for attrition is needed to improve initial and continued engagement in treatment.

Finally, because the participants were also receiving medication, one could argue that the improvements experienced were related to pharmacotherapy rather than psychotherapy. Although this may be possible, research on combined treatment (pharmacotherapy plus psychotherapy) for depression and SAD separately has indicated that at least in the short term, combined treatment generally outperforms pharmacotherapy alone. For example, the odds of achieving remission is higher with combined treatment for depression relative to pharmacotherapy alone (with the highest odds ratio of 2.36 after 4 months of treatment; Oestergaard & Møldrup, 2011), and studies for SAD show greater effects of combined treatment relative to pharmacotherapy alone (e.g., $d = 1.05$ vs. 0.60 on the LSAS, respectively; Blanco et al., 2010). In addition, a recent study of CBT for SAD conducted in routine clinical practices showed that during a 6-month period while waiting to receive CBT, patients either changed little or slightly worsened (Furuwaka et al., 2013). Two thirds of those patients were receiving antidepressants, benzodiazepines, or both during this 6-month period, suggesting that the improvement obtained after CBT was added was not due to medication alone. Therefore, it is perhaps less likely that the improvements achieved in the current study were not necessarily due to medication only; however, a randomized trial currently is underway to compare this therapy plus pharmacotherapy as usual to pharmacotherapy alone to examine its adjunctive effects.

In conclusion, findings from the current study provide preliminary support for the acceptability, feasibility, and effectiveness of an integrated, acceptance-based behavioral therapy designed to address depression and SAD comorbidity. Patients who were treated at a routine psychiatric practice showed significant improvements in social anxiety severity, depression severity, quality of life, and functioning over the course of 16 sessions, suggesting that this treatment may be applicable to patients treated in real-world clinical settings. Furthermore, significant changes were found in the process measures of psychological flexibility and BA, and these variables should continue to be examined as potential mechanisms of action in this treatment. Given the pilot nature of this study, future research is needed to test the treatment on a larger scale and in comparison with other treatments.

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Biographies

Kristy L. Dalrymple, PhD, is a staff psychologist at Rhode Island Hospital and assistant professor (research) at the Alpert Medical School of Brown University. Her research focuses

on treatment development for comorbid mood and anxiety disorders, Acceptance and Commitment Therapy, and acceptance- and mindfulness-based processes associated with psychopathology.

Theresa A. Morgan, PhD, is a postdoctoral fellow at the Alpert Medical School of Brown University and at Rhode Island Hospital. Her research focuses on the intersection of personality pathology, functioning and behavior, with an emphasis on the structure and assessment of personality in clinical settings.

Jessica M. Lipschitz, MA, is an advanced graduate student at the University of Rhode Island. Her research focuses on improving the reach of empirically supported treatments for individuals with depression and anxiety, development and dissemination of readiness-focused treatments, and evaluating mechanisms of health behavior change.

Jennifer H. Martinez, BS, is a clinical psychology doctoral candidate at the University of Massachusetts Boston. Her research focuses on the role of contextual and cultural factors on the maintenance and treatment of anxiety disorders.

Elizabeth Tepe, BA, is a current psychology doctoral student at Yale University. Her research focuses on explicit and implicit cognitive biases that influence the regulation of negative emotions and the implications of these biases on the etiology and maintenance of mood and anxiety disorders.

Mark Zimmerman, MD, is the director of outpatient psychiatry at Rhode Island Hospital and associate professor at the Alpert Medical School of Brown University. He is the principal investigator of the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project, an integration of research methods into clinical practice.

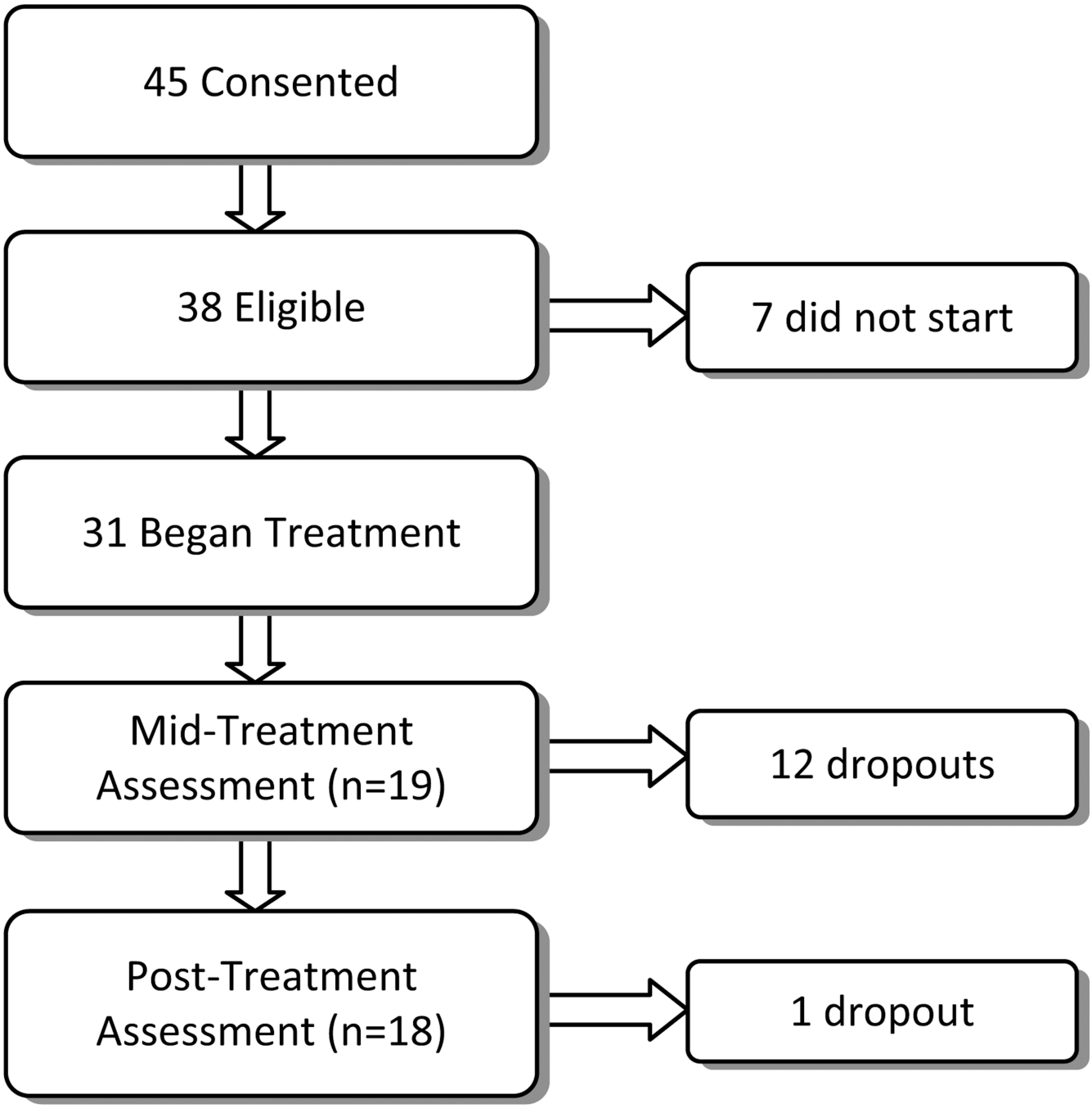

Figure 1.
Participant flow chart.

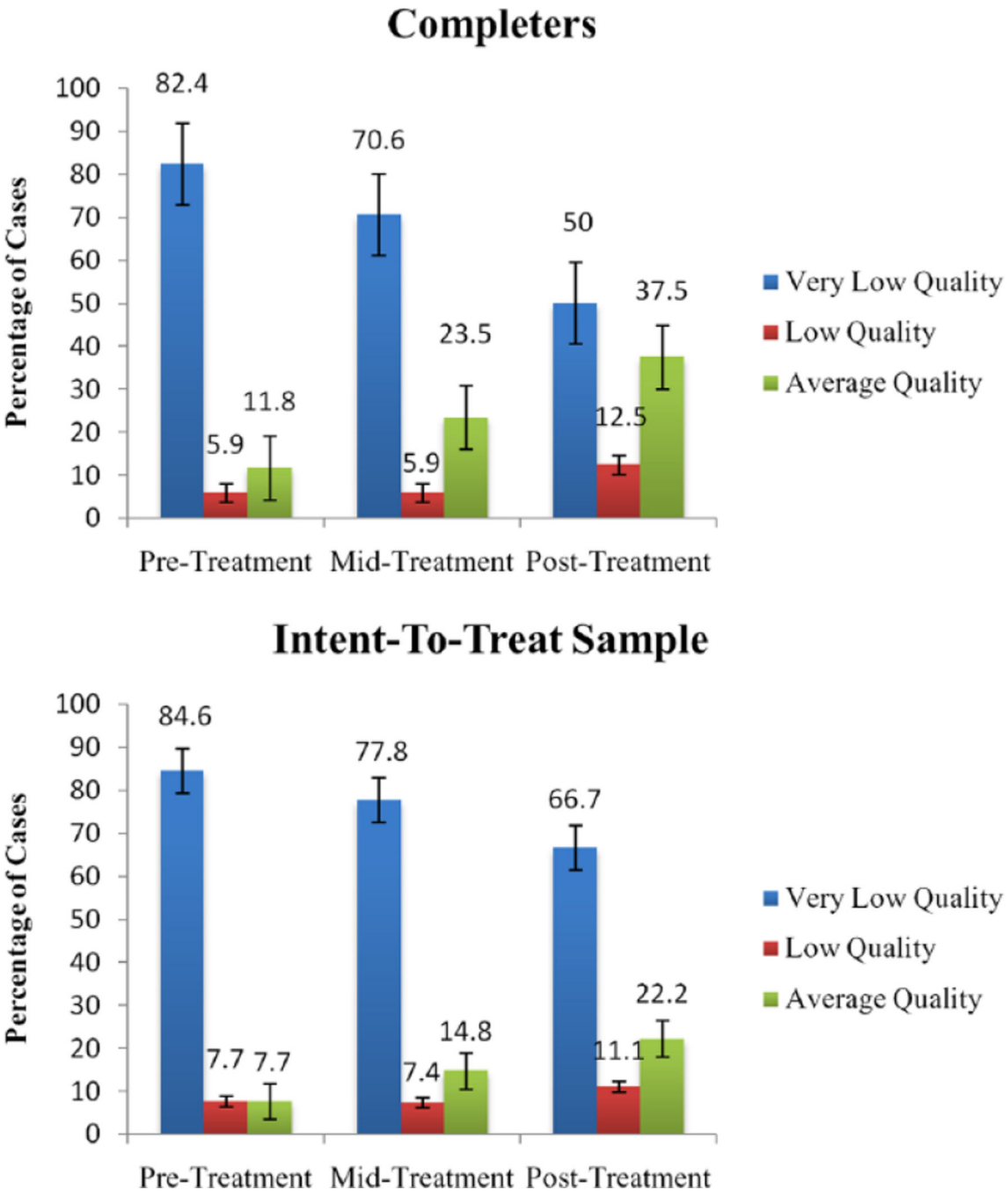

Figure 2.

Categories of quality of life following 16 sessions of integrated acceptance-based behavior therapy.

Note. A 2 × 2 chi-square analysis between very low/average quality of life and pre-treatment/post-treatment was marginally significant ($\chi^2 = 3.52$, $p = .06$).

Table 1

Demographic Characteristics of Outpatients With Comorbid Depression and Social Anxiety Disorder.

	All participants (*n* = 38)	Completers (*n* = 18)	Dropouts (*n* = 13)	Completers vs. dropouts	*p* value
Gender, *n* (%)					
Female	17 (45.9)	5 (27.8)	7 (58.3)	$\chi^2 = 2.80$	.14
Male	20 (54.1)	13 (72.2)	5 (41.7)		
Race, *n* (%)					
White	33 (89.2)	15 (83.3)	12 (100.0)	$\chi^2 = 2.22$	.53
Non-White	4 (10.8)	3 (16.8)	0 (0.0)		
Marital, *n* (%)					
Married	10 (27.8)	4 (22.2)	5 (45.5)	$\chi^2 = 4.27$	.23
Cohabitating	2 (5.6)	0 (0.0)	0 (0.0)		
Separated/divorced/annulled	6 (16.6)	3 (16.7)	2 (18.2)		
Never married	18 (50.0)	11 (61.1)	4 (36.4)		
Education, *n* (%)					
Grad high school/GED	7 (18.9)	4 (22.3)	2 (16.6)	$\chi^2 = 10.35$	.11
Some college without degree	17 (45.9)	4 (22.2)	8 (66.7)		
2- or 4-year college degree	9 (24.3)	6 (33.3)	2 (16.6)		
Graduate degree	4 (10.8)	4 (22.2)	0 (0.0)		
Age (*M*, *SD*)	36.43 (13.0)	39.8 (14.3)	35.0 (12.9)	$t = -0.93$	.36

Note. Participants who were enrolled but never started the treatment were included in the All Participants category, but not the Dropouts category.

Table 2

Baseline Clinical Characteristics and Diagnostic Comorbidity of Outpatients With Comorbid Depression and Social Anxiety Disorder.

	All participants (*n* = 38)	Completers (*n* = 18)	Dropouts (*n* = 13)	Completer vs. dropouts	*p* value
GAF (*M*, *SD*)	53.9 (4.7)	55.1 (4.3)	54.0 (3.3)	$t = -0.73$	.47
Depression episode duration in weeks (*M*, *SD*)	266.9 (637.8)	238.0 (554.7)	411.8 (906.7)	$t = 0.63$	.54
Depression age of onset (*M*, *SD*)	21.2 (11.9)	21.1 (13.7)	21.1 (11.0)	$t = -0.003$	1.0
SAD age of onset (*M*, *SD*)	12.4 (7.8)	12.2 (8.6)	10.3 (4.4)	$t = -0.69$	.49
Number of diagnoses (*M*, *SD*)	3.6 (1.4)	3.2 (0.9)	4.0 (1.6)	$t = 1.49$	.17
Duration of SAD since onset (*M*, *SD*)	24.3 (14.8)	27.6 (15.8)	24.4 (14.6)	$t = -0.54$	.59
Duration of depression since onset (*M*, *SD*)	15.6 (12.6)	19.8 (14.4)	11.8 (9.2)	$t = -1.58$	.13
History of hospitalization (*n*, %)	7 (20.0)	6 (33.3)	0 (0.0)	$\chi^2 = 4.62$	.06
History of suicide attempt (*n*, %)	5 (14.3)	3 (16.7)	0 (0.0)	$\chi^2 = 2.05$	.27
Type of depression (*n*, %)				$\chi^2 = 3.83$	.28
Single episode	9 (27.3)	5 (29.4)	3 (30.0)		
Recurrent	23 (69.7)	12 (70.6)	6 (60.0)		
Comorbidity (current or PR; *n*, %)					
GAD	12 (32.4)	6 (33.3)	4 (30.8)		
Specific phobia	5 (13.5)	2 (11.1)	1 (7.7)		
Dysthymia	5 (13.5)	3 (16.7)	1 (7.7)		
ADHD	4 (10.8)	1 (5.6)	3 (23.1)		
OCD	3 (8.1)	2 (11.1)	1 (7.7)		
Alcohol use disorder	3 (8.1)	1 (5.6)	2 (15.4)		
PTSD	3 (8.1)	1 (5.6)	0 (0.0)		
Panic with agoraphobia	3 (8.1)	0 (0.0)	1 (7.7)		
BDD	2 (5.4)	1 (5.6)	1 (7.7)		
Cannabis abuse	2 (5.4)	1 (5.6)	1 (7.7)		

	All participants (*n* = 38)	Completers (*n* = 18)	Dropouts (*n* = 13)	Completer vs. dropouts	*p* value
Impulse control	3 (8.1)c	1 (5.6)	1 (7.7)		
Bulimia	1 (2.7)	0 (0.0)	1 (7.7)		

Note. Participants who were enrolled but never started the treatment were included in the All Participants category, but not the Dropouts category. Total number of diagnoses includes current and partial remission (PR) diagnoses. Duration of SAD and depression since onset were calculated by subtracting the age of onset from the current age. History of hospitalization and suicide attempt were dichotomized into 0 versus 1 or more. GAF = Global Assessment of Functioning; SAD = social anxiety disorder; GAD = Generalized Anxiety Disorder; ADHD = Attention Deficit/Hyperactivity Disorder; OCD = Obsessive Compulsive Disorder; PTSD = Post-traumatic Stress Disorder; BDD = Body Dysmorphic Disorder.

Table 3

Changes in Symptoms, Quality of Life, and Functioning Following 16 Sessions of Integrated Acceptance-Based Behavior Therapy.

	Completers (n = 18)					Intent-to-treat (n = 31)				
Measure	***M***	***SD***	***F***	***p* value**	**ES**	***M***	***SD***	***F***	***p* value**	**ES**
QIDS-CR										
Pre-treatment	11.00	4.44	9.93	<.001**	1.28	10.13	4.85	8.91	<.001**	0.63
Mid-treatment	10.19	5.41				9.53	5.52			
Post-treatment	5.50	3.90				6.97	5.08			
QIDS-SR										
Pre-treatment	11.58	4.03	5.86	<.01**	0.68	11.62	4.18	3.61	.03*	0.30
Mid-treatment	11.67	4.58				11.85	4.54			
Post-treatment	9.00	4.00				10.54	4.68			
LSAS fear										
Pre-treatment	40.56	13.46	16.41	<.001**	0.92	43.53	11.66	13.66	<.001**	0.60
Mid-treatment	32.44	13.07				38.67	13.30			
Post-treatment	27.13	14.97				34.93	16.10			
LSAS avoid										
Pre-treatment	37.00	13.86	12.41	<.001 **	0.96	38.80	13.06	9.20	<.001**	0.57
Mid-treatment	27.94	14.22				34.50	15.09			
Post-treatment	23.19	14.21				30.40	16.00			
SPAI-SP										
Pre-treatment	121.92	27.69	17.03	<.001**	1.04	133.17	26.67	10.60	<.001**	0.51
Mid-treatment	106.35	36.28				125.19	35.52			
Post-treatment	90.65	37.41				117.31	41.16			
QOLI										
Pre-treatment	27.64	12.74	5.22	.01**	0.78	24.88	11.23	5.78	<.01**	0.54
Mid-treatment	32.93	12.86				28.50	12.38			
Post-treatment	37.79	12.49				31.50	13.02			
WHO DAS										
Pre-treatment	34.75	13.78	7.36	<.01**	0.71	34.51	17.12	4.54	.02*	0.30

	Completers (*n* = 18)					Intent-to-treat (*n* = 31)				
Measure	***M***	***SD***	***F***	***p* value**	**ES**	***M***	***SD***	***F***	***p* value**	**ES**
Mid-treatment	30.27	14.62				32.73	17.22			
Post-treatment	24.29	12.81				29.61	17.74			
BADS										
Pre-treatment	116.07	20.95	12.83	<.001**	1.19	116.31	17.72	9.36	<.001**	0.76
Mid-treatment	134.57	25.08				126.62	22.46			
Post-treatment	142.93	23.60				131.54	23.43			
AAQ										
Pre-treatment	29.36	8.42	10.71	<.001**	1.05	30.73	7.37	3.73	.03*	0.44
Mid-treatment	24.36	8.19				28.12	8.30			
Post-treatment	21.29	6.34				27.15	8.48			

Note. ES = Cohen's *d* within group, pre- to Post-treatment effect size; QIDS-C = Quick Inventory of Depressive Symptomatology-Clinician Rating; QIDS-SR = Quick Inventory of Depressive Symptomatology-Self-Report; LSAS = Liebowitz Social Anxiety Scale; SPAI = Social Phobia and Anxiety Inventory; QOLI = Quality of Life Inventory; WHODAS = World Health Organization Disability Assessment Schedule; BADS = Behavioral Activation for Depression Scale; AAQ = Acceptance and Action Questionnaire.

* $p \leq .05$.

** $p \leq .01$.

Table 4

Associations Between Pre-To Post-treatment Changes in Symptoms and Processes.

	AAQ-II	WHODAS	BADS	LSAS-Fear	LSAS-Avoid	QIDS-C	QIDS-SR	QOLI	SPAI
AAQ-II	—								
WHODAS	.63**	—							
BADS	−.68**	−64**	—						
LSAS fear	.58**	.50**	−.63**	—					
LSAS avoid	.46*	.33	−.50**	.89**	—				
QIDS-C	.13	.27	−.36	.58**	.59**	—			
QIDS-SR	.55**	.67**	−.77**	.62**	.51**	.25	—		
QOLI	−.49*	−.66**	.59**	−.39*	−.25	−.26	−.60**	—	
SPAI	.53**	.32	−.37	.81**	.77**	.17	.41*	−.08	—

Note. Pearson correlations were conducted on residualized gain scores from pre- to Post-treatment. Higher scores on the BADS and QOLI reflect greater behavioral activation and better quality of life, whereas high scores on the other measures reflect greater symptoms, poorer functioning, and greater psychological inflexibility. AAQ-II = Acceptance and Action Questionnaire–II; WHODAS = World Health Organization Disability Assessment Schedule; BADS = Behavioral Activation for Depression Scale; LSAS = Liebowitz Social Anxiety Scale; QIDS-C = Quick Inventory of Depressive Symptomatology–Clinician Rating; QIDS-SR = Quick Inventory of Depressive Symptomatology–Self-Report; QOLI = Quality of Life Inventory; SPAI = Social Phobia and Anxiety Inventory.

* $p \leq .05$.

** $p \leq .01$.

Table 5

Participant Feedback From the Post-treatment Qualitative Interview.

Question	Feedback
What aspects of the treatment did you find most helpful?	Talking to different people, something I don't have experience doing, and it opened me up a lot.
	The different strategies and role-playing of situations, examining the cause of the anxiety and pushing past that.
	[The therapist] would do role-playing situations or things that would give me anxiety and work on dealing with it.
	Visualization, role-playing, meditation.
	Long-term goals being broken into more short-term sub-actions. Meditating was helpful.
	Being able to observe myself and viewing my emotions as something that I can control and they do not define me, don't let them take control; dealing with ruminations and stop avoiding my feelings, I wasn't aware of that avoidance but especially with my anxiety I let that happen; also in realizing that I have my identity and it is something I define and not others.
What aspects of the treatment did you find the least helpful?	The questionnaires that I had to fill out. Depending on week to week, it was hard to think specifically because sometimes it depends on the circumstances.
	Role-playing.
In what ways have you benefitted from the treatment?	Improvement in how I interact with people, a little more at ease and I picked up a few social cues.
	Gained a lot of tools that I can use when I feel down or nervous, you have to feel bad to feel good.
	I try to live in the moment (that really stuck in my head), try not to think too much about the past or future. Being non-judgmental at work. Not to dwell.
	More emotional awareness, I'm more willing to do things that the anxiety had held me back from.
	My depression and suicidal thoughts subsided because I got out and socialized more, the isolation makes it worse.
	I've become more willing socially.
	Feeling more in control of my emotions, developed ways of dealing with feelings, my mood is on average better, I stopped having feelings of being failure or ruminations of the past; the therapist also was able to adapt to my specific situation.