Efficacy of a Manualized and Workbook-Driven Individual Treatment for Social Anxiety Disorder

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Social anxiety disorder is a prevalent and impairing disorder for which viable cognitive-behavioral therapies exist. However, these treatments have not been easily packaged for dissemination and may be underutilized as a result. The current study reports on the findings of a randomized controlled trial of a manualized and workbook-driven individual cognitive-behavioral treatment for social anxiety disorder (Hope, Heimberg, Juster, & Turk, 2000; Hope, Heimberg, & Turk, 2006). This treatment package was derived from an empirically supported group treatment for social anxiety disorder and intended for broad dissemination, but it has not previously been subjected to empirical examination on its own. As a first step in that examination, 38 clients seeking treatment for social anxiety disorder at either the Adult Anxiety Clinic of Temple University or the Anxiety Disorders Clinic of the University of Nebraska-Lincoln were randomly assigned to receive either immediate treatment with this cognitive-behavioral treatment package or treatment delayed for 20 weeks. Evaluation at the posttreatment/postdelay period revealed substantially

greater improvements among immediate treatment clients on interviewer-rated and self-report measures of social anxiety and impairment. Three-month follow-up assessment revealed maintenance of gains. Clinical implications and directions for future research are discussed.

SOCIAL ANXIETY DISORDER IS a highly prevalent and impairing disorder. In the recently completed National Comorbidity Survey Replication, a lifetime prevalence rate of 12.1% was reported (Kessler et al., 2005). In the original National Comorbidity Survey, diagnosis of social anxiety disorder was negatively related to educational attainment and income, and rates of social anxiety disorder were significantly higher in people who, at the time of the study, were not working or in school (Magee, Eaton, Wittchen, McGonagle, & Kessler, 1996). Social anxiety disorder has also been repeatedly associated with impairment in both romantic relationships and friendships (e.g., Antony, Roth, Swinson, Huta, & Devins, 1998; Schneier et al., 1994; Whisman, Sheldon, & Goering, 2000).

Despite the prevalence and impairment associated with social anxiety disorder, most people with the disorder do not seek treatment (Erwin, Turk, Heimberg, Fresco, & Hantula, 2004; Kessler, Stein, & Berglund, 1998; Olfson et al., 2000). Importantly, when they do seek treatment, individuals with social anxiety disorder are unlikely to receive empirically supported cognitive-behavioral therapies (Goisman, Warshaw, & Keller, 1999; Rowa, Antony, Brar, Summerfeldt, & Swinson, 2000). This is unfortunate since the efficacy of cognitive behavioral treatment for social anxiety disorder is well established. Most notably, cognitive-behavioral group therapy (CBGT; Heimberg & Becker, 2002) has been thoroughly studied. CBGT has been shown to be more efficacious than a control psychotherapy (Heimberg et al., 1990; Heimberg et al., 1998) and as efficacious as the monoamine oxidase inhibitor, phenelzine (Heimberg et al., 1998). Furthermore, CBGT is associated with lower rates of relapse upon treatment discontinuation than phenelzine (Liebowitz et al., 1999). Other studies that have employed CBGT, or group treatments similar to it, provide added support for the efficacy of this treatment approach (e.g., Davidson et al., 2004) and its effectiveness in community and clinical settings as well (Gaston, Abbott, Rapee, & Neary, 2006; McEvoy, 2007).

There has been much discussion about the relative advantages and disadvantages of group versus individual treatment for social anxiety disorder (e.g., Huppert, Roth, & Foa, 2003). Group treatment for social anxiety disorder is inherently sensible since the group format provides exposure to much of what clients fear (e.g., casual interaction before the group begins, sharing personal information, doing things in front of other people) in a safe, therapeutic environment. Heimberg and Becker (2002) identified a number of other advantages of group treatment, including learning that others have similar problems, the opportunity to learn from other members of the group, and encouragement through observation of others' successes.

However, in many clinical settings, group treatment is simply not feasible. In a typical clinical practice, it may take several months to gather a sufficient number of clients with social anxiety disorder to form a group. Individual treatment may also be better tolerated by clients with social anxiety disorder (particularly those with severe symptoms), allows the therapist to better tailor treatment to each client's idiosyncratic concerns, and permits flexibility to tailor treatment when clients present with comorbid conditions. Furthermore, both meta-analyses (Fedoroff & Taylor, 2001; Gould, Buckminster, Pollack, Otto, & Yap, 1997; Powers, Sigmarsson, & Emmelkamp, 2008; Taylor, 1996) and randomized trials (Lucas & Telch, 1993; Scholing & Emmelkamp, 1993) have shown that individual treatment is as efficacious as group treatment. In one randomized trial, individual treatment was somewhat more efficacious than group treatment (Stangier, Heidenreich, Peitz, Lauterbach, & Clark, 2003). These factors have led to an increasing emphasis on the development of individual treatments for social anxiety disorder, but currently, these are not widely available (e.g., Clark et al., 2003, 2006).

With these concerns in mind, the current study examined the efficacy of a manualized individual treatment for social anxiety disorder. This treatment program, *Managing Social Anxiety: A Cognitive-Behavioral Therapy Approach*, was designed to be easily integrated into clinical practice. It includes both a therapist guide (Hope, Heimberg, & Turk, 2006) and a client workbook (Hope, Heimberg, Juster, & Turk, 2000). The material included in both the therapist guide and client workbook was drawn from the manual for CBGT, which, as noted above, has been shown to be efficacious and effective in numerous studies (Rodebaugh, Holaway, & Heimberg, 2004). No previous empirical examination of this treatment has been conducted, and it is important to avoid the assumption that it would be efficacious or effective simply because the group treatment from which it

was derived has been empirically supported. Furthermore, the client workbook is a new aspect of this treatment, making the independent evaluation of this treatment package all the more critical.

In this study, clients with social anxiety disorder at two study sites were randomly assigned to an immediate treatment (IT) condition or to a delayed treatment (DT) condition, a control condition selected to best establish the signal strength of this new protocol before subjecting it to more rigorous tests or moving toward broader dissemination (see papers on this approach by Onken, Blaine, & Battjes, 1997, and Rounsaville, Carroll, & Onken, 2001). In the initial phase of the study, immediately after completing a baseline assessment, clients in the IT condition received 16 sessions of cognitive-behavioral therapy over the course of 20 weeks. Twenty weeks were allowed to complete 16 sessions to account for issues such as holidays, illness, and vacations that often prevent clients from receiving 16 consecutive weeks of therapy; thus, some clients in the IT condition completed therapy within 16 weeks whereas others took the full 20 weeks to complete 16 sessions. Clients in the DT condition began treatment 20 weeks after the baseline assessment. We hypothesized that clients who received immediate treatment would experience greater improvement in social anxiety symptoms than clients who remained on a wait-list for the same period of time. We further expected that clients would maintain their gains, or possibly show further gains, after a 3-month follow-up period.

Method

STUDY DESIGN

Participants initially presented to the Adult Anxiety Clinic of Temple University or the Anxiety Disorders Clinic at the University of Nebraska-Lincoln for difficulties with anxiety. At the University of Nebraska, all potential participants underwent an initial evaluation with the Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV; T. Brown, DiNardo, & Barlow, 1994), and at Temple, all potential participants underwent the Anxiety Disorders Interview Schedule for DSM-IV, Lifetime Version (ADIS-IV-L; DiNardo, Brown, & Barlow, 1994). The ADIS interviews were used to establish diagnoses and determine study eligibility.

Once informed consent was obtained, participants underwent a baseline assessment. Following this assessment, participants were randomly assigned to either IT or DT. Clients assigned to the DT condition waited 20 weeks to begin treatment, but received periodic phone check-ins from their assigned clinician in order to monitor their clinical status.

At the end of the initial 20 weeks of the study, participants underwent another assessment with the same measures used in the baseline assessment. For participants assigned to the IT condition, this served as their posttreatment assessment. For participants assigned to the DT condition, this served as a metric of how their symptoms had changed during their time on the wait-list and an assessment of the severity of their symptoms prior to beginning treatment. After their 16 sessions of cognitive-behavioral therapy, they too were given a posttreatment assessment, again with the same measures used at the baseline assessment.

Assessors and therapists were either postdoctoral fellows or doctoral students in clinical psychology who were supervised by Ph.D.-level clinicians with expertise in the nature, assessment, and treatment of social anxiety. At Temple, therapists completed at least two training cases using the study protocol before treating study cases. Due to the lesser flow of potential participants at Nebraska, this was not feasible. There, potential therapists were required to view videotapes of D. A. Hope and other highly experienced therapists conducting the protocol prior to seeing study cases. Interviewers were trained in the use of the ADIS according to standard procedures (T. Brown, DiNardo, Lehman, & Campbell, 2001). Assessors were uninformed about the condition to which clients had been assigned.

PARTICIPANTS

Participants were 38 individuals with a principal diagnosis of social anxiety disorder (Temple $n = 21$; Nebraska $n = 17$). Most participants were diagnosed with the generalized type of social anxiety disorder (31 participants, 81.6%); the remainder of the sample presented with clinically significant fears of public speaking (7 participants, 18.4%). The mean age of the sample was 34.87 ($SD = 14.73$). Participants at Nebraska were significantly older ($M = 41.24$) than participants at Temple, $M = 29.71$, $t(36) = -2.57$, $p < .05$. Of the total sample, 22 (57.9%) were female; site differences on gender did not emerge. The overall sample was ethnically diverse: 78.9% of participants were Caucasian, 13.2% African-American, 2.6% Hispanic, and 5.3% Asian. However, all ethnic minorities came from the Temple site. The majority of the sample was single (55.3%), and most were working at the time of the study. A minority (10.5%) of the sample reported that they were unemployed.

Potential participants were excluded from the study if they met criteria for current substance dependence, current bipolar disorder, current or past psychotic disorder, or if they were suicidal or at

imminent risk for engaging in self-harming behaviors. Other comorbid conditions were allowed so long as social anxiety disorder was the principal diagnosis. Many participants met criteria for additional Axis I diagnoses: 31.58% of participants had one additional Axis I diagnosis, and 10.5% of participants had two or more additional Axis I diagnoses. The most common comorbid disorders were dysthymic disorder ($n = 7$), generalized anxiety disorder ($n = 6$), major depressive disorder ($n = 5$), and specific phobia ($n = 3$).

Clients were permitted to be on medication during the study if they had been on a stable dose for at least 3 months at the time of study entry and they agreed not to alter their dose during the study. Of the 38 participants, 10 (26.3%) reported that they were on medication. Four were taking paroxetine, 2 were taking citalopram, and the remaining 4 clients were taking buproprion, nefazadone, clonazepam, or imipramine. Eight clients were taking only one medication. However, the 2 clients taking citalopram were taking additional medications, one taking buspirone, and the other taking olanzapine and adderall. Clients were not permitted to be in concurrent psychotherapy for anxiety-related concerns.

MEASURES

Interviewer-Rated Measures

Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV; T. Brown et al., 1994) and Anxiety Disorders Interview Schedule for DSM-IV, Lifetime Version (DSM-IV-L; DiNardo et al., 1994). As noted, the ADIS-IV and the ADIS-IV-L were used to establish the diagnosis of social anxiety disorder and any comorbid conditions. Both versions of the ADIS are administered and scored in the same way, with one exception—the ADIS-IV-L assesses for current and lifetime diagnoses whereas the ADIS-IV assesses only current diagnoses. However, only current diagnoses are considered in this study. Hereafter, we refer to both the ADIS-IV and the ADIS-IV-L simply as the ADIS.

The ADIS includes a Clinician's Severity Rating (CSR) for each diagnosis; the CSR for social anxiety disorder served as a major outcome measure in the study. The CSR is a 0- to 8-point scale, with any score of 4 or above indicating a clinically significant distress and impairment warranting the assignment of a DSM-IV (American Psychiatric Association, 1994) diagnosis.

Due to procedural differences between the two sites, the social anxiety disorder section of the ADIS was administered at both the initial evaluation (i.e., to determine eligibility) and at the baseline assessment at Temple, but only at the initial evaluation at Nebraska. The social anxiety disorder CSR from the initial evaluation therefore served as the pretreatment severity rating for participants in the study. The social anxiety disorder section of the ADIS was administered at both sites at all subsequent assessment points to assess change in severity of social anxiety symptoms. Clients were also readministered additional modules of the ADIS for which they met diagnostic criteria at the initial evaluation.

The psychometric properties of the ADIS are well-established. In 362 clients with mixed diagnoses, T. Brown et al. (2001) reported a kappa of .77 for a primary diagnosis of social anxiety disorder using the ADIS-IV-L. Because the social anxiety disorder module of the ADIS was administered at the initial evaluation and at the baseline evaluation at the Temple site, inter-rater reliability could be calculated. A match was defined as correctly identifying the presence vs. absence of a diagnosis of social anxiety disorder and matching on the CSR plus or minus one point, and there was 100% agreement (kappa = 1.0). At Nebraska, a second rater reviewed videotapes of a subset of the ADIS interviews conducted during the recruitment phase. Using the same criteria, the kappa coefficient was .87.

Liebowitz Social Anxiety Scale (LSAS; Liebowitz, 1987). The LSAS, which is the most widely used clinician-administered measure of social anxiety, was the other major social anxiety outcome measure used in the study. It includes 24 items, 11 pertaining to social interaction situations (e.g., hosting a party) and 13 pertaining to performance situations (e.g., making a presentation to a small group). Each item is rated according to the degree to which clients have feared and avoided each situation over the past week. The LSAS total score was used as the outcome measure in the current study. In a study by Heimberg et al. (1999), using data from 382 clients with social anxiety disorder, a mean LSAS total score of 67.2 (SD = 27.5) was reported. In the current sample, the mean LSAS total score at baseline was 68.19 (SD = 22.95). The LSAS has been shown to have strong convergent validity and adequate discriminant validity and is sensitive to treatment change (Fresco et al., 2001; Heimberg & Holaway, 2007; Heimberg et al., 1999). It is also a highly reliable measure; Cronbach's alphas of .95 and .96 for the LSAS total score have been reported (Fresco et al., 2001; Heimberg et al.). In the current sample, Cronbach's alpha for the LSAS total score was .95.

Clinical Global Impression Improvement Rating (CGI-I; Guy, 1976). The CGI-I is a widely used

measure for the assessment of change in treatment. We used a modified version of the CGI-I with anchor points developed specifically for rating changes in symptoms and impairment associated with social anxiety disorder (Zaider, Heimberg, Fresco, Schneier, & Liebowitz, 2003). It is a single item 1–7 rating, with 1 = very much improved, 2 = much improved, 3 = minimally improved, 4 = no change, and 5–7 representing varying degrees of deterioration. This rating was completed at all assessments after baseline upon completion of the administration of the ADIS social anxiety disorder module and the LSAS. Clients who received a rating of 1 or 2 were classified as responders, and all others were classified as nonresponders, in keeping with the traditional use of this instrument. Zaider et al. (2003) demonstrated high reliability and validity for this rating at the Temple site.

Self-Report Measures

Three self-report measures were used to assess the severity of social anxiety symptoms.

Social Interaction Anxiety Scale (SIAS) and the Social Phobia Scale (SPS; Mattick & Clarke, 1998). The SIAS measures anxiety in dyads and groups; the SPS measures anxiety in situations in which the person may be critically observed by others. Each scale consists of 20 items that are rated on a 5-point Likert-type scale from 0 (*not at all characteristic*) to 4 (*extremely characteristic*). Sample SIAS items include, "I feel I will say something embarrassing when talking" and "I have difficulty making eye contact with others." Sample SPS items include, "I get nervous that people are staring at me as I walk down the street" and "I worry I might do something to attract the attention of other people."

The mean score on the SIAS reported in clinical groups is 50.7 (*SD* = 17.0) (compared to 14.3, *SD* = 11.0 in nonclinical control groups) and the mean score on the SPS is 36.9 (*SD* = 17.5) (compared to 6.3, *SD* = 4.9 in non-clinical control groups; see E. Brown et al., 1997). In the current sample, the mean baseline SIAS score was 43.16 (*SD* = 12.60) and the mean baseline SPS score was 32.89 (*SD* = 15.29).

Both the SIAS and the SPS have been shown to be reliable instruments for the assessment of social anxiety disorder and to possess a high degree of convergent validity with other indices of social anxiety and avoidance (E. Brown et al., 1997; Heimberg, Mueller, Holt, Hope, & Liebowitz, 1992; Mattick & Clarke, 1998). In the current sample, reliability was also good, with Cronbach's alpha of .88 for the SIAS and .92 for the SPS.

Brief Fear of Negative Evaluation Scale (BFNE; Leary, 1983). The BFNE is a 12-item self-report measure based on Watson and Friend's (1969) 30-item true-false Fear of Negative Evaluation Scale. The BFNE asks participants to read 12 statements and report how characteristic each statement is of them using a 5-point, Likert-type scale. The scale includes 8 straightforwardly worded items (e.g., "I am frequently afraid of other people noticing my short-comings") and 4 reverse-worded items (e.g., "I am unconcerned even if I know people are forming an unfavorable impression of me"). Studies have shown that the straightforwardly worded items are more predictive of self-reported anxiety (Rodebaugh et al., 2004), have higher convergent validity, and are less confusing for participants with lower levels of education (Weeks et al., 2005) than the reverse-worded items. Therefore, only the 8 straightforwardly worded items were summed for a total BFNE score. The entire scale was administered.

In the Weeks et al. (2005) study, the mean score on the 8 positively worded items for persons with social anxiety disorder was 30.60 (*SD* = 6.94), whereas the mean score for a nonanxious control group was 12.50 (*SD* = 4.52). In the current sample, the mean straightforward BFNE score at pretreatment was slightly higher, 32.47 (*SD* = 6.42). In Weeks et al.'s sample, the 8-item scale exhibited excellent internal consistency (Cronbach's alpha = .92), as it did in the current sample (Cronbach's alpha = .91).

Sheehan Disability Scale (SDS; Sheehan, 1983). The SDS served as a measure of impairment as a function of social anxiety disorder and comorbid conditions. The SDS was one of the first disability scales to be developed and is the most frequently used disability measure in the psychiatric literature. Clients are asked to rate their level of impairment in work, social life, and family life on a 0 (*not at all*) to 10 (*very severe*) scale. Impairment ratings in these three areas are summed to provide an overall disability score.

Hambrick, Turk, Heimberg, Schneier, and Liebowitz (2004) reported on the psychometric qualities of the SDS and other measures of disability in individuals with social anxiety disorder. The mean score on the SDS for clients with generalized social anxiety disorder was 16.60 (*SD* = 5.74) whereas the mean score for clients with nongeneralized social anxiety disorder was 11.97 (*SD* = 5.51). In the current sample, the mean score for all clients (who primarily had generalized social anxiety disorder) was 14.11 (*SD* = 7.06). The SDS correlates with other disability measures, as well as measures of social anxiety, depression, and quality of life (Hambrick et al., 2004). The SDS has demonstrated sensitivity to impairment across a wide range of disorders (Olfson et al., 1997). In Hambrick et al.'s

study, the SDS had moderate internal consistency (Cronbach's alpha of .55) which is not surprising given that it has only three items. In the current sample, however, Cronbach's alpha was .78.

Quality of Life Inventory (QOLI; Frisch, Cornell, Villanueva, & Retzlaff, 1992). The QOLI, a measure of perceived life satisfaction, requires respondents to make ratings on a 3-point (0-2) scale of importance and a 6-point (-3 to +3) scale of satisfaction for 16 areas of life. Items probe the importance of and satisfaction with life domains such as friendships, romantic relationships, career, and self-esteem. Total scores are based upon the average of one's satisfaction with all 16 areas of life, weighted for the individual importance of those areas of life.

In a study by Eng, Coles, Heimberg, and Safren (2001), the mean score on the QOLI among clients with social anxiety disorder was 0.41 ($SD = 1.41$). The mean in the current sample was 0.34 ($SD = 1.67$). The QOLI is positively correlated with other widely used measures of subjective well-being and life satisfaction and negatively related to measures of depression, anxiety, and general psychopathology (Eng et al., 2001; Safren, Heimberg, Brown & Holle, 1997). Retest reliability ($r = .80–.91$) and internal consistency of the QOLI ($\alpha = .98$) are high (Frisch et al., 1992). In the current study, Cronbach's alpha was .82.

TREATMENT CONDITIONS

Immediate Treatment (IT) Condition (n = 16)
Immediately after completing the baseline assessment, clients in the IT condition began treatment, which consisted of 16 sessions completed within 20 weeks. All sessions lasted for 1 hour, except for the session in which the first in-session exposure was conducted, which lasted 1.5 hours. The content of the treatment was guided by the client workbook (Hope et al., 2000) and consists of five major components: (1) psychoeducation and orientation to CBT; (2) cognitive restructuring skills; (3) graduated exposure to feared social situations, both within the treatment session and as homework for exposure in the client's environment; (4) examination and modification of core beliefs; and (5) relapse prevention and termination. Readings in the client workbook were assigned prior to sessions. The structure of the treatment allowed for some flexibility depending on the client. Generally, up to four sessions were allotted for the initial four chapters of the workbook, which included psychoeducational material about social anxiety, an introduction to the treatment rationale, and development of the fear and avoidance hierarchy. Up to three sessions could be spent on cognitive restructuring skills (e.g., teaching clients to identify and challenge automatic thoughts). The first in-session exposure had to occur at or before Session 8, and treatment then proceeded for the next several sessions with weekly in-session exposures and accompanying cognitive restructuring as well as assignment of homework for in vivo exposures to be completed prior to the following session. The expectation was that all clients would do *at least* four in-session exposures. Parts of later sessions were also dedicated to advanced cognitive restructuring in which core beliefs were examined. During the last two sessions, as termination approached, relapse prevention was discussed. Further details are available in Hope et al. (2000, 2006).

Delayed Treatment (DT) Condition (n = 22)
Immediately after completing the baseline assessment, clients in the DT condition began a 20-week wait period. At the beginning of this period, they were assigned a therapist and brief biweekly telephone contacts were arranged. The purpose of these calls was to check on the client's clinical status and provide support. Use of specific treatment interventions (e.g., cognitive restructuring, suggestions to do exposure) was not permitted. Clients were encouraged to call their therapists if they were having difficulties or believed that they required immediate clinical attention. None of the clients who were assigned to the DT condition were withdrawn because of concern about their clinical status.

At the completion of 20 weeks, clients in the DT condition underwent an evaluation which, as noted above, served as a metric of how their symptoms had changed during their time on the wait-list and the severity of their symptoms prior to beginning treatment. At this point, they began 20 weeks (16 sessions) of CBT and then completed a posttreatment assessment.

THERAPY ADHERENCE

A Therapist Adherence Scale was developed and tested over the course of this study. This scale (available from the authors) required that raters evaluate the extent to which several different therapy activities had been implemented in a manner that was maximally consistent with the intent of the therapy manual. As noted above, the course of therapy was divided into five segments. Ratings were performed on 31 session tapes (17 from Temple and 14 from Nebraska), randomly selected from the five phases of the protocol. Within each phase, several ratings were required, and specific criteria were articulated to facilitate the

process. The ratings were made on a 1-to-5 scale, ranging from 1 (*ineffective*) to 5 (*extremely effective*). A rating of 4 (*reasonably effective*) or 5 (*extremely effective*) was considered to be within protocol.

Tapes were coded by two independent judges who were doctoral students in clinical psychology at the Nebraska site. Both judges rated tapes from 18 sessions (6 from Temple; 12 from Nebraska) in common and achieved an intraclass correlation of $r_i = .82$, suggesting good interrater agreement. Overall, therapists were well within protocol, achieving an average overall rating of 4.44 ($SD = 0.78$) across sites.

Results

ATTRITION

Of the 22 clients assigned to the delayed treatment condition, 3 dropped during the wait period and did not provide postdelay data. Of the 16 clients assigned to the immediate treatment condition, all but 1 completed treatment and provided posttreatment data.

Both intent-to-treat (ITT) and completer analyses were performed. For the ITT analyses, participants' last observation was carried forward. For participants in the delayed treatment condition, this meant carrying forward their pretreatment evaluation to

the postdelay time point. For participants in the immediate treatment condition, this meant carrying forward the pretreatment evaluation to the posttreatment time point. Completer and ITT analyses yielded virtually identical findings. Therefore, only the completer analyses are reported here. ITT analyses are available on request.

BETWEEN-GROUP ANALYSES

There were no significant differences between the IT and DT groups on any measure at the baseline assessment. Main hypotheses were evaluated using univariate analysis of covariance with treatment condition as the independent variable (immediate treatment versus delayed treatment) and the posttreatment or postdelay measure of interest as the dependent variable. The baseline score (pretreatment/predelay) on the measure of interest was used as a covariate. These analyses were first conducted with site (Temple vs. Nebraska) as an additional independent variable. No main effects of site and only one site-by-treatment-condition interaction was significant. Across analyses, inclusion of site effects resulted in larger main effects for condition. Therefore, we report (with the one exception) the more straightforward analyses without site. The site-by-treatment-condition analyses are available on request.

Table 1
Pretreatment scores and posttreatment/postdelay scores on study measures

Measure	Estimated Marginal Mean at Pretreatment (nonadjusted mean and standard deviation in parentheses)	Treatment condition	Posttreatment or Postdelay	F	Cohen's d
Interviewer Rated Measures					
ADIS Clinician Severity Rating for social anxiety disorder	5.61 (5.61, $SD = 0.95$)	Immediate	3.92 ($SE = 0.29$)	10.90**	1.21
		Delayed	5.24 ($SE = 0.27$)		
Liebowitz Social Anxiety Scale	67.71 (68.19, $SD = 22.95$)	Immediate	46.81 ($SE = 5.23$)	4.86*	0.83
		Delayed	62.98 ($SE = 4.71$)		
Self-Report Measures: Social Anxiety					
Brief Fear of Negative Evaluation Scale (8-item)	32.52 (32.47, $SD = 6.42$)	Immediate	21.30 ($SE = 1.47$)	23.80***	1.84
		Delayed	31.23 ($SE = 1.33$)		
Social Phobia Scale	32.90 (32.89, $SD = 15.29$)	Immediate	14.64 ($SE = 2.52$)	27.70***	1.99
		Delayed	32.71 ($SE = 2.29$)		
Social Interaction Anxiety Scale	42.70 (43.16, $SD = 12.60$)	Immediate	27.63 ($SE = 1.77$)	55.94***	2.88
		Delayed	45.89 ($SE = 1.65$)		
Self-Report Measures: Disability and Quality of Life					
Sheehan Disability Scale	14.26 (14.11, $SD = 7.06$)	Immediate	8.66 ($SE = 1.10$)	13.17**	1.37
		Delayed	14.26 ($SE = 1.06$)		
Quality of Life Inventory	0.53 (0.34, $SD = 1.67$)	Immediate	1.19 ($SE = 0.33$)	1.50	0.51
		Delayed	0.63 ($SE = 0.33$)		

Note. ADIS = Anxiety Disorders Interview Schedule; *SD* = Standard Deviation; *SE* = Standard Error of Measurement. *F*-test is for the main effect for condition (immediate vs. delayed treatment) in a one-way analysis of covariance. See text for report of the significant site-by-treatment-condition interaction in preliminary analysis for the ADIS Clinician's Severity Rating. Cohen's *d* is calculated as the differences in means between clients receiving immediate and delayed treatment divided by the pooled *SD*; a *d* of 0.20 is considered small, 0.50 is considered moderate; and 0.80 is considered large (Cohen, 1988).
 * $p < .05$.
 ** $p < .01$.
 *** $p < .001$.

Interviewer-Rated Measures
Table 1 displays means, standard deviations, and effect sizes for all interviewer-rated and self-report measures. At the 20-week assessment, participants in the IT condition received significantly lower ADIS CSR ratings than participants in the DT condition, $F (1, 32) = 13.29$, $p < .001$. This main effect was qualified by the one significant site-by-treatment interaction, $F (1, 32) = 6.27$, $p < .02$. Posttreatment/postdelay means adjusted for baseline demonstrated a tendency for greater improvement on this rating at the Nebraska site. However, the 95% confidence intervals around these means overlapped, suggesting that specific pairwise comparisons were not significant. Clients who completed the IT condition received significantly lower scores on the LSAS at the 20-week assessment than clients who completed the DT condition. Of the 31 clients for whom the CGI-I was completed, 11/15 (73.3%) participants in the IT condition were classified as responders on the CGI-I, compared to 1 (6.3%) client of 16 in the DT condition, $\chi^2 (1, N = 31) = 14.69$, $p < .001$.

At posttreatment assessments, ADIS modules for which clients met diagnosis at pretreatment were readministered and CSR ratings were made. Of the 11 clients who met criteria for at least one additional Axis I disorder at baseline and who completed the posttreatment/postdelay assessment, 4 (36.36%) no longer met criteria for their additional diagnoses by the latter assessment, despite the fact that therapy only targeted the symptoms of social anxiety disorder. Three of these 4 clients had an additional diagnosis of generalized anxiety disorder; 1 of these clients also had co-occurring dysthymia. The other client had a specific phobia. Interestingly, the client with both generalized anxiety disorder and dysthymia lost both of these diagnoses by the end of treatment.

Self-Report Measures
Three social anxiety self-report measures were administered in the study: the BFNE, the SIAS, and the SPS. At the 20-week assessment, clients in the IT condition scored significantly lower on all of these measures than clients who completed the DT condition (see Table 1).

Two measures were administered to assess for disorder-related impairment, the SDS and the QOLI. At the 20-week assessment, clients who were assigned to the IT condition reported significantly less disability (SDS) than clients who completed the DT condition (see Table 1). Clients who completed the IT condition also reported slightly better quality of life than those in the DT condition; this trend resulted in a moderate effect size (all other analyses reported above resulted in large effect sizes per the criteria outlined by Cohen,

1988; see Table 1), but did not reach the level of statistical significance.

WITHIN-GROUP ANALYSES
Paired-sample t-tests were conducted separately for IT and DT participants to examine the degree to which they demonstrated significant within-group change. The IT group demonstrated significant pretreatment to posttreatment change on six of the seven outcome variables, the lone exception being the QOLI. Within-group effect sizes (d) ranged from 1.03 to 5.22, with a median of 2.52 and a mean of 2.98. The DT group demonstrated significant change on only one measure, the SIAS, and that test revealed a significant increase in social interaction anxiety. Five of seven effect sizes were small (< 0.36), and three of seven denoted modest change in the direction of increased anxiety and impairment. Details of these analyses are available from the authors.

FOLLOW-UP ANALYSES
Clients underwent another assessment 3 months posttreatment. Only 12 clients (35% of the completer sample) completed the follow-up independent evaluation. Clients who completed the follow-up evaluation were compared to clients who did not complete the evaluation on pre- and posttreatment ADIS clinician's severity ratings and on pre- and posttreatment LSAS scores. The two groups did not differ significantly on any of these measures. A greater proportion of clients who completed the follow-up evaluation had originally been assigned to the IT group (8/12, 66.6%). However, these analyses are performed on clients who had completed treatment, either immediate or delayed, who were combined for these analyses. Because some of these clients did not return self-report measures at follow-up, the present analyses focus only on the ADIS clinician's severity rating and the LSAS (interviewer-rated measures).

Paired sample t-tests were run comparing scores at pretreatment and follow-up. For both the ADIS rating and the LSAS, clients showed significant improvements from pretreatment to follow-up (both ps $< .001$). However, t-tests comparing post-treatment to follow-up scores were not significant, suggesting maintenance of gains but no further change during the follow-up interval.

Discussion
The current study evaluated the efficacy of a manualized individual therapy program (Hope et al., 2000, 2006). Data from this study indicate that the Managing Social Anxiety program was

efficacious. At posttreatment, clients who received treatment showed significantly greater improvement in their social anxiety symptoms and were more likely to be classified as treatment responders than clients who were assigned to the DT condition. Furthermore, clients who received treatment showed significant reduction in disorder-related disability and a trend toward improvement in quality of life compared to clients who were assigned to the DT condition. Large effect sizes were the rule in these analyses. Of the clients from whom we were able to collect follow-up data, gains were maintained for at least 3 months.

This study is not without limitations. First, it was carried out by the group who authored the treatment manual being studied. However, potential biases were reduced by employing a control group matched on time and using raters uninformed about condition assignment to assess change over the course of treatment. Second, treatment was carried out by postdoctoral fellows and doctoral candidates under the supervision of Ph.D.-level clinicians who are experts in social anxiety (including two of the authors of the manual) and thus provides no information about how clients would respond to the program when treated by clinicians in the community, and research on that topic is warranted. Clinicians in the community likely have more general experience than many of the clinicians in the current study, but they may have less expertise in the treatment of clients with social anxiety disorder or in the specific behaviors required of the therapist in this protocol. This concern is partially addressed by the availability of a therapist guide as a supplement to this treatment program. Third, our sample was relatively small, particularly for the evaluation of maintenance of gains. Despite the small sample, however, group differences appeared to be robust. Fourth, site-by-treatment-condition interactions were generally not an issue, with only one (ADIS clinician's severity rating) significant; however, the effects of site (e.g., related to age and ethnicity) and site-by-treatment-condition interactions could not be fully evaluated. Finally, the treatment program was compared to a wait-list control group. Therefore, we cannot comment on how this treatment program compares to other active treatments like medication, a control psychotherapy (like the educational supportive therapy used in Heimberg et al., 1990; 1998), or another psychotherapy like Acceptance and Commitment Therapy (see Eifert & Forsyth, 2005).

Our hope is that this study will spur future research. Flowing from the limitations just noted, future studies should include larger samples (particularly to ensure better follow-up data) and

comparison to more sophisticated control conditions and active treatments. Most importantly, we need to study the effectiveness of this treatment under less controlled conditions in the community and ultimately disseminate it to mental health professionals for treatment of clients with social anxiety disorder, as this was the purpose for which this protocol was developed.

It is also important to examine the efficacy of the treatment when used by clients as a self-help manual. It would be interesting to study the efficacy of the client workbook with variable amounts of therapist involvement (e.g., no therapist involvement/self-help, periodic therapist assistance by phone/email, and therapist guided as in the current study). A study of this nature could involve randomly assigning clients to a treatment condition or could take a stepped-care approach in which all clients begin with no therapist involvement, but then receive increasing therapist involvement if their symptoms do not improve after varying time periods (a similar study was done in clients with obsessive-compulsive disorder; see Tolin et al., 2007; Tolin, Diefenbach, Maltby, & Hannan, 2005). Rapee, Abbott, Baillie, and Gaston (2007) recently demonstrated better response to a self-help program for social anxiety disorder when therapist assistance was a part of the program.

To summarize, an individual treatment program based on an efficacious and effective group therapy for social anxiety disorder was shown to be more efficacious than no treatment in reducing the symptoms and impairment associated with this chronic disorder. Treatment gains appear to be durable for at least 3 months posttreatment, although further evaluation is required with larger samples. Given that individual treatment is much more feasible than group treatment in most clinical settings, the wide availability of this treatment protocol should help facilitate dissemination of this evidence-based treatment. Future research should further examine the utility of this treatment program, particularly as it pertains to dissemination to community clinicians.

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