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Preliminary Psychometric Evaluation of a New Self-Efficacy Scale and Its Relationship to Treatment Outcome in Social Anxiety Disorder

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The concept of self-efficacy as applied to individuals with social anxiety disorder (SAD) represents a person's confidence in being able to convey a favorable impression to others. The current study investigated the psychometric properties and clinical usefulness of a new measure called the Self-Efficacy for Social Situations (SESS) Scale. Results provide preliminary evidence for the reliability and validity of the SESS in a clinical sample of individuals with SAD. Pre- to posttreatment change in self-efficacy was a significant and independent predictor of change in social anxiety symptoms. Implications for treatment are discussed.

KEY WORDS: self-efficacy; social phobia; social anxiety; psychometric study; cognitive behavior therapy.

INTRODUCTION

The concept of self-efficacy was first formally introduced by Bandura (1977): "An efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes" (p. 79). In other words, self-efficacy represents an individual's confidence in being able to successfully perform a specific behavior. Therefore, self-efficacy is situation specific and can vary considerably depending on the context. For example, a student's self-efficacy for academic testing situations can be quite different from his/her athletic confidence. In addition, Bandura made a distinction between *efficacy* expectations (i.e., self-efficacy) and *outcome* expectations. Whereas self-efficacy signifies people's beliefs that they have the requisite skills to accomplish the task at hand, outcome expectations pertain to individuals' judgments that their behaviors will actually produce the desired outcome if carried out. Since Bandura introduced the term, numerous researchers have found self-efficacy to be related to a wide range of clinical problems, including phobias, addiction, depression,

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social skills, assertiveness, stress, smoking, heath, pain control, and athletic and academic performance (see Pajares, 1997, for a review).

Self-Efficacy and Social Anxiety

Leary and Atherton (1986) describe Bandura's concept of self-efficacy as it relates to social phobia or social anxiety disorder (SAD): "self-presentational efficacy expectancy is the subjective probability of behaving in a manner to convey a particular impression" (p. 257). According to the *DSM-IV* (American Psychiatric Association, 1994), SAD involves a marked fear of negative evaluation by others in one or more social or performance situations. Therefore, Leary and Atherton view self-efficacy in the context of social anxiety as pertaining to the belief that individuals will be able to present themselves in a favorable light in order to prevent negative evaluation by others. In addition, the authors identify "self-presentational outcome expectancies" as the belief that individuals will create a favorable impression if performing a particular behavior. Both of these concepts, self-presentational efficacy expectations and self-presentational outcome expectancies, are deemed important factors in a person's confidence in social situations.

Research has established a moderate inverse relationship between social anxiety and self-efficacy (Leary & Atherton, 1986). In general, correlations between self-efficacy and anxiety range from −.30 to −.66 (Schwarzer & Jerusalem, 1992), with similar results found for social anxiety in particular. For example, Maddux, Norton, and Leary (1988) asked participants to imagine themselves in several social situations and rate their self-efficacy and anxiety. They found that efficacy expectations correlated −.49 with participants' ratings of their expected anxiety and −.65 with a dispositional measure of social anxiety in the social scenarios. Furthermore, in a child sample of third-, fourth-, and fifth-graders, Wheeler and Ladd (1982) found a correlation of −.41 between self-efficacy and anxiety about peer interactions.

Self-Efficacy and Self-Focus

Schwarzer and Jerusalem (1992) provide an explanation linking self-efficacy to social anxiety based on degree of self-focus. Self-focus, in the form of public self-awareness, occurs when individuals believe that they are being observed and evaluated by others. In other words, self-focus involves a preoccupation with self-image. Those with low self-efficacy exhibit high public self-awareness, making them dwell on their deficiencies, envision failures, and become preoccupied with anticipated adverse consequences.

High levels of self-focus are characteristic of socially anxious individuals. For example, Stopa and Clark (1993) asked individuals with SAD, anxious controls, and nonpatient controls to talk with a confederate in a role play scenario and record their thoughts. Individuals with SAD had more negative *self-evaluative* thoughts than the other groups; however, there was not a difference between the groups in the number of thoughts of *evaluation by others*. This suggests that the thoughts of socially anxious individuals are not "data driven," but represent an automatic program activated in social situations and indicate a high degree of self-focus. Even

though the SAD participants performed poorer than controls on the role play task, their self-ratings of competency were lower than observer ratings, representing their lower self-efficacy for social situations. Maffie et al. (1999) replicated the findings that socially anxious individuals had more negative self-evaluative thoughts relative to thoughts concerning evaluation by others, and also rated their performance lower than observers' ratings.

In a study specifically assessing self-efficacy and social anxiety, Mahone, Bruch, and Heimberg (1993) tested the hypothesis that social anxiety results from low self-efficacy to create a favorable impression. Undergraduate men completed a thought-listing protocol after viewing a picture of an attractive confederate. Following the thought listing, the men engaged in a 5-min conversation with the attractive female. Self-efficacy was assessed using a single-item Likert scale self-rating indicating degree of confidence in making a favorable impression in the conversation. Self-efficacy ratings were collected at five points during the conversation. Using hierarchical regression, the researchers found that the percentage of negative self-evaluative thoughts was inversely related to self-efficacy ratings collected prior to and early during the conversation. In addition, self-efficacy was correlated with subjective anxiety ratings at the end of the conversation. Interestingly, positive thoughts about the confederate did not predict self-efficacy or subjective anxiety level. Mahone et al. concluded that social anxiety may be related to an underlying negative self-schema that biases perceptions of performance in social situations and results in low self-efficacy.

Implications for Self-Efficacy in the Treatment of SAD

The low self-presentational efficacy associated with social anxiety may hold important implications for the treatment of SAD. Leary and Atherton (1986) point out that psychotherapy for social anxiety may work to increase self-efficacy in social situations. For example, social skills training has been shown to be effective in reducing social anxiety (Stravynski, Marks, & Yule, 1982; Taylor, 1996; Wlazlo, Schroeder-Hartwig, Hand, Kaiser, & Münchau, 1990). Social skills training provides explicit instruction on how to perform more successfully in social situations, which may increase self-efficacy. In addition, anxiety arousal in social situations can lower self-efficacy by acting as a cue for individuals to believe that they are not dealing effectively with the situation. Efficacious treatments for SAD, such as cognitive–behavior therapy (CBT), educate clients about the origins of anxiety reactions and teach techniques for decreasing anxiety (e.g., cognitive restructuring; Chambless & Hope, 1996; Heimberg, 1991; Heimberg & Juster, 1995; Turner, Beidel, Cooley, Woody, & Messer, 1994). Finally, Bandura (1977) notes that performance accomplishments produce the most dependable increases in self-efficacy. CBT incorporates homework assignments for patients to complete between sessions to help them practice positive social interactions that may lead to increased confidence and self-efficacy for social situations. Role play exercises practiced in session serve a similar function. Leary and Atherton suggest that positive-biased role plays, in which the therapist ensures a positive outcome for the client through the social interaction, may be particularly important to incorporate in treatment.

Although no research has investigated self-efficacy and treatment outcome in socially anxious individuals, Zoellner, Echiverri, and Craske (2000) explored factors related to the successful treatment in individuals with spider phobias. Prior to completing a behavioral approach task (BAT) of a spider, participants rated their self-efficacy or perceived ability to perform each task. After completing the BAT, participants were given two sessions of in vivo exposure therapy and then repeated the BAT. The researchers found that self-efficacy was not related to general memory, memory for the phobic stimulus, or memory for anxious responses during the BAT. However, self-efficacy pretreatment was related to better behavioral performance posttreatment. Interestingly, self-efficacy was not related to subjective anxiety level in this study. Consistent with Leary and Atherton's theory (Leary & Atherton, 1986), Zoellner et al.'s treatment may have provided opportunities for performance accomplishments and the management of the anxiety responses through exposure, acting to increase self-efficacy for the BAT.

Measuring Self-Efficacy in SAD

Previous research investigating self-efficacy and social anxiety did so by simply asking participants how well they thought they would do in a situation based on a Likert scale rating. Becker (1988) recommends that any self-efficacy scale must be specific to the particular task or situation being investigated and should include statements about specific behaviors pertaining to the situation. There currently exist no psychometrically sound instruments to study self-efficacy in socially anxious individuals.

Representing one of the few measures of self-efficacy that may be at least peripherally applicable to socially anxious individuals, Sherer et al. (1982) developed a scale that yielded two factors: general and social. The measure showed some evidence of reliability and validity, and was moderately associated with interpersonal competency in undergraduates. In addition, scores on the social self-efficacy subscale were inversely related to number of times fired and jobs quit in a sample of inpatients being treated for alcohol abuse.

However, the Sherer et al. (1982) study is characterized by several methodological weaknesses that limit its usefulness as a measure of self-efficacy related to SAD. For example, the authors state that the goal of the study was "to develop a measure of self-efficacy that is not tied to specific situations or behavior" (p. 664). However, specificity is one of the essential characteristics of self-efficacy scales (Bandura, 1977; Becker, 1988). Furthermore, the "social subscale" was derived post hoc from interpretation of the factor analysis results. Also, the strength of the correlations between the Sherer self-efficacy scale and various personality measures was generally low in magnitude. Finally, the authors did not examine the relationship between their self-efficacy scale and any other validated measure of self-efficacy, making it is impossible to know if their scale possesses specificity for assessing self-efficacy.

Moe and Zeiss (1982) developed a self-report measure called the Self-Efficacy Scale for Social Skills (SEQSS) for use with depressed individuals. For each of 12 social situations, respondents indicate which of 12 different attributes (e.g., "be humorous" or "be assertive") they "can do" and then rate their percentage of confidence

in performing the action. Moe and Zeiss report good internal consistency and test-retest reliability in an undergraduate sample. Also, the SEQSS correlated moderately with measures of social anxiety and other measures of self-efficacy. Regarding predictive validity, answers on the SEQSS corresponded to skills that participants chose to perform in a subsequent task. However, this preliminary study is not without limitations. For example, the authors did not examine how their scale compared to other validated self-efficacy scales. Without such a comparison, it is impossible to know if the SEQSS is measuring self-efficacy specifically or different constructs.

The aforementioned scales were the only measures found in our review of the literature that had some empirical support for their use. There are several compelling reasons for the development of a new self-efficacy scale addressing social anxiety concerns. First, the Moe and Zeiss (1982) and the Sherer et al. (1982) scales were not designed specifically for those with SAD, nor have they been examined in a clinical sample. Another limitation is that the SEQSS is only designed to measure social skills, and not other clinically and centrally relevant features of SAD (i.e., social situations). Current controversy exists as to whether individuals with social phobia actually exhibit social skills deficits (see Stravynski & Amado, 2001, for a review). In contrast, the Sherer et al. scale was designed to assess general self-efficacy, whereas most researchers assert that self-efficacy scales should be designed more specifically. Furthermore, the SEQSS is cumbersome for clinical and even research purposes because it requires respondents to answer a total of 144 questions. Only the original validation studies exist examining the psychometric properties of the both the SEQSS and the Sherer et al. scale. The Sherer et al. study provides only cursory empirical support for the measure due to its methodological limitations. Therefore, the value of these scales as measures of self-efficacy related to SAD is unknown, and there are multiple reasons to suspect that they are limited in this regard.

Rationale for the Present Study

In summary, numerous researchers have found that self-efficacy is moderately correlated with social anxiety (Leary & Atherton, 1986) and may be related most strongly with a self-focus bias in socially anxious individuals (Mahone et al., 1993). In addition, self-efficacy appears to have important implications for treatment outcome in individuals with phobias (Zoellner et al., 2000). No measure has been validated with respect to the assessment of self-efficacy in a clinical sample of socially anxious individuals. Two measures were identified with only cursory relations to self-efficacy for social situations in individuals with social phobia, but they hold several limitations that support the need for a newly developed measure for this purpose.

In the present study, participants with SAD performed a behavioral role play task of social situations before and after treatment with CBT, at which times self-efficacy, social anxiety, depression, subjective anxiety, and social skills were assessed. The aim of the study was to examine the relationship between self-efficacy for social situations and treatment outcome in a clinical sample of socially anxious individuals. The psychometric properties of a newly developed measure, the Self-Efficacy for Social Situations Scale, was investigated and used to assess self-efficacy in the study. Preliminary research indicates that self-efficacy may be an important factor in the

treatment of anxiety disorders that deserves further attention. To our knowledge, this study was the first to investigate change in self-efficacy as it relates to the treatment of SAD.

METHOD

Participants

Participants were 131 adults (male = 49%; female = 51%) recruited from a large metropolitan area via public announcements, flyers, and referrals from other mental health providers as part of treatment outcome studies for SAD. Participants ranged in age from 18 to 59 ($M = 32.57$; $SD = 10.29$). The sample were predominantly Caucasian (65%) and African American (22%), with the remaining either Hispanic (7%) or Asian (6%). Sixty-six percent of the sample were single, with the remaining 44% married, divorced, or widowed. Regarding education, 9% had a high school diploma or less, 37% completed some college, and the remaining 54% had obtained a college or professional degree. Sixteen percent were unemployed, 70% were working either full- or part-time, and the remaining 14% were students. Approximately 40% of participants had a comorbid Axis I diagnosis, typically Major Depressive Disorder. Also, approximately 70% of the sample also met criteria for Avoidant Personality Disorder, indicating a relatively severe group. Finally, approximately 15% were stabilized on psychotropic medication (typically antidepressants) when entering the trial.

Self-Report Questionnaires

Beck Depression Inventory (BDI). The BDI is a 21-item self-report instrument for measuring the symptoms of depression in adults and adolescents 13 years and older (Beck & Steer, 1987). The BDI is widely used and numerous studies have demonstrated its reliability and validity for assessing depression in clinical and nonclinical samples (see Beck, Steer, & Garbin, 1988, for a review).

Fear Questionnaire (FQ). The FQ (Marks & Mathews, 1979) is a 15-item scale designed to assess avoidance behaviors associated with social phobia, agoraphobia, and blood–injury phobia. The FQ has evidence of high test-retest reliability, good internal consistency, and good discriminant validity (Cox, Parker, & Swinson, 1996).

Liebowitz Social Anxiety Scale (LSAS). The LSAS (Liebowitz, 1987) is a 24-item scale designed to assess fear and avoidance of social situations separately. The LSAS has been commonly used as an assessment instrument in pharmacological treatment studies of SAD and has been shown to have adequate psychometric properties (Liebowitz et al., 1988). The LSAS was used as a self-report measure in the current study, although originally designed as a clinician-administered measure. It has been shown to possess adequate psychometric properties as a self-report measure (Fresco et al., 2001).

Brief Version of the Fear of Negative Evaluation Scale (Brief FNE). The Brief FNE (Leary, 1983) is a 12-item measure designed to assess fear of negative evaluations by others, based upon the original 30 items from the FNE (Watson & Friend,

1969). The Brief FNE was theoretically derived to assess levels of apprehension and expectation of evaluative situations. The Brief FNE correlated highly ($r = .96$) with the original FNE and demonstrated good test-retest reliability, internal consistency, and concurrent validity (Leary, 1983; Saluck, Herbert, Rheingold, & Harwell, 2000).

Social Phobia Anxiety Inventory (SPAI). The SPAI (Turner, Beidel, Dancu, & Stanley, 1989) is an empirically-derived 45-item scale that assesses the clinical features of social phobia. The SPAI contains two subscales: a 32-item Social Phobia subscale and a 13-item Agoraphobia subscale. The Social Phobia subscale (SPAI-SP) was used in analyses because it is a better index of social anxiety symptoms than the difference subscale score (Herbert, Bellack, & Hope, 1991). The SPAI has been shown to have good test-retest reliability, internal consistency, discriminant validity, and concurrent and external validity (Beidel, Turner, Stanley, & Dancu, 1989; Herbert et al., 1991).

Sheehan Disability Scale (SDS). The SDS is a self-report measure of impairment due to a psychiatric illness (Leon, Olfson, Portera, Farber, & Sheehan, 1997). Participants rate their impairment from symptoms in family, work, and social areas based on a 10-point Likert scale format. The SDS has high internal consistency and good construct validity. It also has evidence of criterion-related validity for impairment associated with psychiatric disorders (Leon, Shear, Portera, & Klerman, 1992).

General Self-Efficacy Scale (GSE). The GSE is a 10-item self-report measure that was designed to assess general self-efficacy (Schwarzer & Jerusalem, 1989). Although self-efficacy is commonly understood to be domain-specific (Bandura, 1977), general self-efficacy refers to global confidence across a wide range of situations. The GSE has evidence of good internal consistency, test-retest reliability, and construct validity (Schwarzer, Babler, Kwiatek, Schroder, & Xin Zhang, 1997). Also, it has been adapted into several languages, including German, Spanish, and Chinese. This scale was chosen for inclusion in the study because it possesses several advantages compared to the SEQSS (Moe & Zeiss, 1982) or the Sherer et al. (1982) scale including stronger evidence of validity and reliability and greater ease of administration.

Self-Efficacy for Social Situations Scale (SESS). The SESS is a new 9-item self-report measure designed to assess self-efficacy for social situations in socially anxious people (see Appendix). Participants rate each item on a Likert scale format from 1 = *Not at All Confident* (or *Not at All Bothersome* or *Not at All Possible*) to 10 = *Very Confident* (or *Very Bothersome* or *Very Possible*). "Bothersome" items are reverse scored and higher numbers indicate higher self-efficacy for social situations. The SESS was developed to assess three components of self-efficacy suggested from research: self-efficacy for coping skills (questions 1–3), or the belief that one possesses the skills necessary to succeed in a feared situation (Bandura, 1991); self-efficacy for cognitive control (questions 4–6), or the belief that one will be able to control bothersome thoughts and worries (Bandura, 1991; Clark & de Sliva, 1985; Kent & Gibbons, 1987); and self-efficacy for affective control (questions 5–9), or the belief that one will be able to control one's nervousness in a feared situation (Arch, 1992). Arch demonstrated the relationship between these three components and anxiety arousal.

In terms of scale development, a total of 15 items were originally generated. The construct validity of each item was assessed by having a group of eight expert clinical researchers who specialize in the treatment of anxiety disorders evaluate each item as to its relevance to the construct of self-efficacy for social situations. The experts also

provided feedback on the clarity and readability of items. The nine items that were rated as being most central to the construct were retained, and minor modifications to several items were made based on the reviewers' feedback. Hartfield et al. (1997) presented pilot data concerning the preliminary psychometric properties and scale development of the SESS. Participants were 10 adults who were diagnosed with SAD (generalized type) using the Structured Clinical Interview for *DSM-IV* (SCID; First, Spitzer, Gibbon, & Williams, 1995). The SESS was administered prior to the completion of three structured role play scenarios. Participants also completed the SPAI. Some evidence was found for an inverse relationship between self-efficacy and social phobia, although low power was an issue.

Behavioral Assessments

Role Play Tests (RPTs). RPTs are commonly used in the behavioral assessment of social anxiety (Herbert, Rheingold, & Brandsma, 2001). Participants completed three 3-min standardized role plays of social situations: (1) a dyadic role play involving a simulated interaction with a stranger; (2) a triadic role play involving an interaction with two strangers; and (3) an impromptu speech. Videotapes of the RPTs from a random subsample of participants were rated by trained observers, blind to assessment time point, on quality of verbal content, nonverbal content, and paralinguistic features using 5-point Likert scales. Interrater reliability for social skills ratings was moderately strong ($\kappa = .72$).

Subjective Units of Distress Scale (SUDS). Participants rated their subjective anxiety about the RPT according to the SUDS (Wolpe & Lazarus, 1969). SUDS ratings ranged from 0 to 100, with higher numbers indicating increased anxiety. Participants were asked to rate their level of anxiety pre- and postrole play, as well as to report on their highest level of anxiety during the task.

Self-Ratings of Performance. Participants rated their perceptions of the overall quality of their performance after each role play on a 5-point Likert scale based on the following anchors: 1 = *Extremely Poorly*, 3 = *Average*, and 5 = *Extremely Well*.

Procedure

Participants were initially screened over the phone for appropriateness and then interviewed in person using the SCID-I/P (First et al., 1995). The social phobia section of the Anxiety Disorder Interview Schedule for *DSM-IV* (Brown, Di Nardo, & Barlow, 1994) was administered to increase reliability of diagnosis. Also, the Avoidant Personality Disorder section of the SCID-II for DSM-IV Personality Disorders (First, Spitzer, Gibbon, Williams, & Benjamin, 1994) was administered. Interviews were conducted by doctoral students in clinical psychology who were trained to proficiency and reliability in diagnosis. Weekly supervision was conducted by the second author, who is a licensed clinical psychologist with considerable experience in the assessment and treatment of SAD. Tapes of interviews were periodically reviewed for accuracy of social phobia diagnosis. If interviewers had questions as to the diagnostic status of a participant, a review of the case was conducted in a group "case conference" format with a final decision reached though consensus.

Criteria for inclusion/exclusion in the study were primary diagnosis of SAD (generalized subtype); no diagnosis of Mental Retardation, Pervasive Developmental Disorder, Organic Mental Disorder, or current Substance Dependence (within the past 6 months); no acute suicide potential; no untreated medical condition that might confuse the diagnosis of an anxiety disorder; no previous trial of behavior or CBT for SAD. A diagnosis of SAD, generalized type was given if participants reported significant fear and avoidance in three or more social areas. Primacy was assessed through determining that social anxiety concerns occurred first historically and caused the most impairment currently.

The sample consisted of individuals who were treated for SAD with CBT across four different treatment outcome studies. Treatment was delivered by advanced clinical psychology doctoral students with 1–4 years experience in the protocol who were trained and supervised by the second author. One study is published (Herbert, Rheingold, & Goldstein, 2002) and investigated the efficacy of a shortened version (6 weeks) of CBT delivered in a group format. Two studies are completed and are currently under review that investigated standard (12 sessions in 12 weeks) versus extended (12 sessions in 18 weeks) CBT delivered in an individual format (Herbert, Rheingold, Gaudiano, & Harwell, 2003), and CBT delivered in a group format with and without the addition of social skills training (Herbert, Gaudiano, et al., 2003). Please refer to these studies for a more detailed description of the sample and procedures used. Data collection in the final study is currently underway and is investigating the efficacy of 6 versus 12 weeks of CBT delivered individually. The number of participants included in the current analyses from the previously mentioned studies are 9, 25, 63, and 34, respectively. Results from each of these studies are consistent with one another and with the broader literature on CBT for SAD, indicating large effect size gains pre- to posttreatment that are maintained at follow-up. The data for the current study were treated as a single sample because the inclusion/exclusion criteria were the same for each of the aforementioned studies.

As mentioned, the treatments delivered were either individual or group versions of CBT. All treatments were based on the work of Heimberg (1991; also see Heimberg & Becker, 2002, for a comprehensive review). In all the studies, a modified treatment protocol was used that included social skills training as part of the treatment (Foa, Herbert, & Bellack, 1995; Franklin, Jaycox, & Foa, 1999). CBT for social phobia consists of psychoeducation about the disorder, cognitive restructuring for dysfunctional thoughts about social situations, in session role plays of feared social situations, and weekly homework assignments. The social skills protocol was composed of learning about the relationship between social skills and social anxiety, modeling specific behaviors, practicing skills in session during role plays, and practicing skills outside of session.

Prior to treatment, participants completed the RPTs, which consisted of three social interactions with confederates. Confederates were trained to interact with participants in the role plays based on standardized procedures. For example, confederates could only ask participants an open-ended question if the participant was silent for 7 or more seconds. Participants completed the SESS and GSE (counter-balanced) prior to completing the RPTs. SUDS ratings were recorded before and after each role play. Participants completed the self-ratings of their performance after each role

play. Following the RPTs but prior to treatment, the other self-report questionnaires (e.g., SPAI, BDI, etc.) were completed. Treatment consisted of several variations of manualized CBT for SAD (see Herbert, Rheingold, et al., 2003; Herbert, Rheingold, & Goldstein, 2002, for a more detailed description). At posttreatment, participants completed the same RPTs, questionnaires, and assessment procedures as before.

RESULTS[3]

Factor Analysis

A t test revealed no significant difference between pretest scores of men and women on the SESS ($p > .05$); therefore, all following analyses were conducted on the entire sample. A principle components factor analysis was conducted on pretest SESS scores to examine construct validity. For the total sample ($n = 131$), the mean SESS score was 34.58 ($SD = 10.43$). The Kaiser–Meyer–Olkin Measure of Sampling Adequacy was .81 and the Bartlett Test of Sphericity was significant ($\chi^2 = 347.67$, $p < .001$). Because the sampling adequacy is above .50 and the Bartlett test is significant, conducting a factor analysis on the overall correlation matrix was acceptable. The Varimax-rotated factor loadings and eigenvalues are shown in Table I. For the examination of the factor loadings, .60 was set a priori as the cutoff limit. It is generally recommended that loadings greater than .30 be considered as worthy of interpretation (Bryant & Yarnold, 1995). We chose the more stringent criterion of .60 to reduce Type I error (Stevens, 1986). Item 6 did not meet the criteria set and loaded moderately on Factors 1 and 2. However, the item loaded highest on Factor 1 and was included in it because its content was most applicable to that of Factor 1 in contrast to Factor 2. The factor analysis yielded three components that were named according to their underlying structure: Cognitive-Affective Control (Factor 1), Social Coping Skills (Factor 2), and Subjective Distress (Factor 3). The results demonstrated that the self-efficacy for social skills may be distinguishable from self-efficacy for cognitive and affective control. Reverse scored questions (i.e., Items 2, 6, and 8), representing how much individuals were distressed by low self-efficacy, loaded on Factor 3.

Reliability

Internal consistency for the scale as a whole according to Chronbach's alpha was .81 ($n = 131$), indicating adequate interitem reliability. Internal consistency for the

[3]Sample sizes vary in some of the following analyses because data were collected over several different treatment outcome studies investigating the efficacy of CBT for SAD. Specifically, the following data were only collected on a subsample of participants: social skills, general self-efficacy, and posttreatment self-efficacy measurements. Therefore, results should be interpreted with some caution because these subsets may not be representative of the entire sample. To test the comparability of the samples, chi-square tests were conducted on each subsample's demographic characteristics, including gender, ethnicity, education, and marital status. The main sample was comprised of significantly more participants who completed a college degree as compared to those who only had some college for the social skills and general self-efficacy subsamples (all $ps < .05$). No other significant differences were found. Also, independent-samples t tests were conducted on each subsample's pretest SPAI-SP and SESS scores. No significant differences were found. Therefore, the subsamples appear to be generally comparable.

Table I. Principle Components Factor Analysis (Varimax Rotation) of the SESS

Items	Factor 1 (cognitive-affective control)	Factor 2 (social coping skills)	Factor 3 (subjective distress)
1. Confidence in possessing adequate coping skills	.25	**.80**	.24
2. Distress associated with deficits in coping skills	−.23	.50	**.69**
3. Impact of coping skills on performance	.23	**.79**	−.01
4. Confidence in handling negative cognitions	**.73**	.28	.01
5. Distress associated with negative cognitions	.29	.12	**.76**
6. Impact of negative cognitions on performance	**.57**	.53	.21
7. Confidence in handling anxiety	**.74**	.01	.21
8. Distress associated with anxiety	.43	−.13	**.71**
9. Impact of anxiety on performance	**.60**	.36	.12
Eigenvalues	3.69	1.19	1.07
% of Variance accounted for	41.01	13.25	11.88

Note. SESS = Self-Efficacy for Social Situations Scale. Bolded loadings represent items that comprise each factor. Please refer to Appendix to review the actual questions.

individual factors was as follows: Factor 1 = .75; Factor 2 = .70; and Factor 3 = .63. Reliability coefficients of .6 or above are recommended for basic research purposes (Nunnally, 1978). Although three factors were identified, it should be noted that several items loaded moderately on multiple scales. Also, each factor is comprised of only a few items. The scale was designed to include questions related to theoretically important aspects of self-efficacy, but these constructs were not meant to be separated into different subscales. Therefore, the SESS total score was used in subsequent analyses. In other words, the factor analysis was meant to provide evidence for construct validity because the SESS was designed to tap several quasi-distinct but related components of self-efficacy for social situations.

Correlation Coefficients

Table II shows the means and standard deviations for all pre test measures. Table III shows the correlations between the SESS and the self-report measures. Table IV shows the correlations between the SESS and the behavioral assessment measures. Because of the number of individual correlations conducted, a Bonferroni corrected alpha level was set at .003 to reduce Type I error.[4]

The SESS completed prior to the role plays was significantly correlated to average self-ratings of performance ($p < .001$) and average SUDS ratings ($p < .001$) across the three RPTs, demonstrating predictive validity. Regarding convergent validity, the SESS was moderately correlated with the SPAI social phobia subscale

[4]Bonferroni corrected alpha formula: $\alpha_B = \alpha / k$, where $\alpha = .05$ and $k =$ number of comparisons calculated.

Table II. Means (and *SD*) of Pretest Self-Report and Role Play Test Scored

Measures	Mean (*SD*)
Self-report	
Self-Efficacy for Social Situations Scale	34.58 (10.43)
General Self-Efficacy Scale	27.30 (4.07)
Social Phobia and Anxiety Inventory—Social Phobia subscale	136.30 (27.33)
Liebowitz Social Anxiety Scale	
Total Fear subscale	40.59 (11.75)
Total Avoidance subscale	36.30 (13.59)
Fear Questionnaire	
Social Phobia subscale	20.16 (8.06)
Agoraphobia subscale	6.46 (7.67)
Blood–Injury Phobia subscale	7.47 (6.84)
Sheehan Disability Scale	
Social subscale	7.50 (2.40)
Work subscale	5.78 (2.96)
Family subscale	4.02 (3.02)
Beck Depression Inventory	13.34 (9.73)
Role play tests	
Subjective Units of Distress Scale (SUDS)	57.17 (18.52)
Performance Ratings	
Self-Ratings of Performance	2.34 (0.79)
Observer Ratings of Social Skills	2.65 (0.58)

Note. SUDS and Performance Ratings based on average scores across the three role plays tests.

(SPAI-SP), brief FNE, FQ Social Phobia and Agoraphobia subscales, LSAS Fear and Avoidance subscales, and GSE at pretreatment (all *ps* < .001). Regarding discriminant validity, the SESS was not significantly correlated with the BDI or the FQ Blood–Injury subscale (*ps* > .01).

The SESS was significantly correlated with the FQ Agoraphobia subscale, which may appear to undermine evidence for discriminant validity. However, examination

Table III. Pearson *r* Correlation Coefficients for Self-Report Inventories and the SESS

	SESS	*n*
General Self-Efficacy Scale	.42*	55
Social Phobia and Anxiety Inventory—Social Phobia subscale	−.47*	97
Brief Fear of Negative Evaluation Scale	−.36*	106
Liebowitz Social Anxiety Scale		
Total Fear subscale	−.38*	99
Total Avoidance subscale	−.39*	99
Fear Questionnaire		
Social Phobia subscale	−.38*	107
Agoraphobia subscale	−.35*	107
Blood–Injury Phobia subscale	−.17	106
Sheehan Disability Scale		
Social subscale	−.30*	107
Family subscale	−.37*	107
Work subscale	−.12	107
Beck Depression Inventory	−.24	106

Note. SESS = Self-Efficacy for Social Situations Scale. * $p < .001$; Bonferonni corrected alpha level was set at .003 to reduce Type I error.

Table IV. Pearson *r* Correlation Coefficients for Behavioral Assessment Measures and SESS

	SESS	*n*
Average SUDS	−.30*	117
Average Self-Ratings of Performance	.31*	117
Average Observer Ratings of Social Skills	.08	45

Note. SESS = Self-Efficacy for Social Situations Scale; SUDS = Subjective Units of Distress. * $p < .001$; significant with alpha set at .003. Averages based on results of all three role play tests.

of the actual items that comprise the subscale may explain this result. Most FQ Agoraphobia subscale items also are applicable to those with social anxiety concerns. For example, an individual with social phobia may endorse avoidance on items such as "Walking alone in busy streets" or "Traveling alone by bus or coach" because of the fear of negative evaluation from others in these situations, and not because of fear of having a panic attack or being unable to escape.

Also, the SESS was significantly correlated with the SDS Social Impairment and Family subscales ($p < .001$) but not on the Work subscale ($p > .01$), indicating that self-efficacy was associated with impairment from social anxiety in some areas.

Treatment Outcome

Dependent samples *t* tests were conducted to investigate changes pre- to posttreatment in self-efficacy and social anxiety. Results revealed that SPAI-SP scores significantly decreased pre- ($M = 140.53$; $SD = 29.19$) to posttreatment ($M = 99.86$; $SD = 36.74$), $t(48) = 7.78$, $p < .001$. Also, SESS scores significantly increased pre- ($M = 34.28$; $SD = 9.83$) to posttreatment ($M = 47.67$; $SD = 15.71$), indicating that self-efficacy for social situation increased following treatment, $t(17) = -3.84$, $p < .001$. However, no significant difference was found between GES scores before and after treatment ($p > .05$), indicating that general self-efficacy did not increase. Effect sizes were large when computed for pre- to posttreatment changes in the SPAI-SP ($d = 1.23$; $n = 49$) and SESS ($d = 0.90$; $n = 18$) scores, indicating clinically meaningful decreases in social anxiety and increases in self-efficacy following treatment.

A hierarchical multiple regression analysis was conducted to determine if pre- to posttreatment changes in self-efficacy predicted changes in social anxiety. The change on the Brief FNE was included as an independent variable because fear of negative evaluation has been found to be a significant predictor of treatment outcome (Mattick & Peters, 1988; Mattick, Peters, & Clarke, 1989). Therefore, the change on the Brief FNE was entered first, followed by the change in SESS. The pre- to posttreatment change on the SPAI-SP was used as the dependent variable. The SPAI was chosen because it is one of the most comprehensive and well-validated measures of social anxiety. It also was used as the primary outcome variable in the treatment outcome studies conducted with this sample. Both change on the Brief FNE and the SESS were significant predictors of change on the SPAI-SP in the final model, $F(2, 9) = 20.18$, $p < .001$, indicating that change in self-efficacy for social situations was a unique predictor of treatment gains, even after controlling for changes in fear of negative evaluation (see Table V).

Table V. Hierarchical Multiple Regression Predicting Pre- to Posttreatment SPAI-SP Change Scores Based on Entering Pre- to Posttreatment Brief FNE and Then SESS Change Scores: Final Model

Variables	Coefficients		t	p
	Unstandardized	Standardized		
1. Brief FNE change	1.58	0.48	2.98	.015*
2. SESS change	−0.87	−0.58	−3.58	.006*

Note. SPAI-SP = Social Phobia and Anxiety Inventory—Social Phobia Subscale; Brief FNE = Fear of Negative Evaluation Scale, Brief Version; SESS = Self-Efficacy for Social Situations Scale. * $p < .05$, $n = 12$, $R^2 = .82$.

DISCUSSION

In general, the results revealed good reliability and validity for the SESS in individuals with SAD. Providing evidence of construct validity, a preliminary factor analysis indicated that the SESS appears to be composed of at least three components: cognitive-affective control, social coping skills, and subjective distress. The results suggest that self-efficacy for social skills can be separated from self-efficacy for cognitive-affective symptoms. However, because the scale contains only nine items total, internal consistency of each factor was only moderate. Therefore, it is recommended that the SESS total score be used. Future research should continue to explore these and other possible components of self-efficacy in socially anxious individuals.

The SESS also demonstrated moderate correlations with other measures of social anxiety and self-efficacy but not with depression or blood–injury phobia, providing evidence of convergence and discrimination. One would expect a valid self-efficacy scale to correlate only modestly with measures of social phobia, suggesting significant but not complete overlap with symptom measures. That the SESS failed to correlate with measures of depression or blood–injury phobia suggests that it may be specifically applicable to social anxiety concerns as opposed to those with other anxiety or mood problems. The correlation between the SESS and FQ Agoraphobia subscale may be explained because many of the questions from the latter also appear to tap into social anxiety concerns.

Furthermore, SESS scores prior to the role plays of social situations were associated with participants' ratings of their performance and subjective distress afterward. A failure to find a relationship between observer ratings of social skills and the SESS mirrors previous findings indicating that socially anxious individuals may not be "data-driven" in the evaluation of their behaviors (Rapee & Lim, 1992). For example, Stopa and Cark (1993) found that individuals' cognitions were more strongly related to their own perceptions of performance than to objective ratings of their performance. This is supported by the results from the present study showing that self-ratings but not observer ratings of performance were correlated with the SESS.

Finally, large effect size changes in self-efficacy for social situations were demonstrated following cognitive–behavioral treatment of SAD, which paralleled reductions in social anxiety. Bandura (1977) suggests that the most effective way to increase self-efficacy is to provide situations in which individuals can successfully practice skills to improve confidence. The treatment that participants received emphasized role playing of feared social situations and taught skills to cope with anxiety in these

situations. Zoellner et al. (2000) also found increases in self-efficacy and decreases in anxiety in participants with spider phobias following brief exposure treatment. A significant increase was not observed for general self-efficacy following treatment in the present study, suggesting the sensitivity of the SESS in detecting change in self-efficacy in socially anxious individuals. A hierarchical multiple regression analysis revealed that pre- to posttreatment changes in self-efficacy for social situations was a significant predictor of change in social anxiety symptoms, beyond that accounted for by changes in fear of negative evaluation. These results support the findings of Mattick and Peters (1988) and Mattick et al. (1989) who found change in fear of negative evaluation to be an important predictor of treatment success. Further research is needed to determine whether self-efficacy is an important mediator of treatment response to cognitive-behavioral therapies for SAD.

In general, the results provide preliminary support of the reliability and validity of the SESS as a measure of self-efficacy in individuals with clinical SAD. No measure of self-efficacy has been developed for or tested in this population. Future research is needed to evaluate the SESS in other populations, including nonclinical controls and individuals with other forms of psychopathology, in order to determine the scale's specificity to SAD. Furthermore, now that the SESS has been shown to be psychometrically sound and to measure treatment outcome better than a validated measure of general self-efficacy, it would be useful to compare directly the SESS to other related measures, in particular the SEQSS (Moe & Zeiss, 1982). The SESS is provided in the Appendix so that other researchers can continue to explore these issues. Further research is currently underway examining the psychometric properties of the SESS in a sample of adolescents with SAD and in normal adult controls.

APPENDIX: SELF-EFFICACY FOR SOCIAL SITUATIONS SCALE

Scale for Items 1, 4, 7

1	2	3	4	5	6	7	8	9	10
Not at all Confident			*Somewhat Confident*					*Very Confident*	

Scale for Items 2, 5, 8

1	2	3	4	5	6	7	8	9	10
Not at all Bothersome			*Somewhat Bothersome*					*Very Bothersome*	

Scale for Items 3, 6, 9

1	2	3	4	5	6	7	8	9	10
Not at all Possible			*Somewhat Possible*					*Very Possible*	

1. One reason some people have difficulties in certain social situations is because they don't believe they have the skills necessary to do a good job. How confident are you that you have the basic skills to perform well in social situations? _____

2. How much do you think that any shortcomings you may have in social skills will bother you in social situations? _____

3. Is it possible for you to perform well in social situations in spite of any weaknesses you may have in social skills? _____

4. One reason that some people may have difficulties in certain social situations is because they are bothered by thoughts and worries that enter their mind. How well are you able to handle your thoughts and worries during social situations? _____

5. How much do you think your thoughts and worries bother you during social situations? _____

6. Is it possible for you to perform well in social situations without dismissing bothersome thoughts and worries from your mind? _____

7. One reason some people may have difficulties in certain social situations is because they are bothered by their nervousness. How well are you able to handle your nervousness during social situations? _____

8. How much does your nervousness bother you during social situations? _____

9. Is it possible for you to perform well during social situations without directly doing something about your nervousness? _____

Total _____

Note. Items 2, 5, and 8 are reverse scored.

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REFERENCES

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

Arch, E. C. (1992). Affective control efficacy as a factor in willingness to participate in a public performance situation. *Psychological Reports*, *71,* 1247–1250.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1991). Self-efficacy conception of anxiety. In R. Schwarzer & R. A. Wicklund (Eds.), *Anxiety and self-focused attention* (pp. 89–110). New York: Harwood Academic..

Beck, A. T., & Steer, R. A. (1987). *Manual for the Beck Depression Inventory*. San Antonio, TX: Psychological Corporation.

Beck, A. T., Steer, R. A., & Garbin, R. A. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, *8,* 77–100.

Becker, R. A. (1988). Self-efficacy scale. In M. Hersen & A. S. Bellack (Eds.), *Dictionary of behavioral assessment techniques* (pp. 397–398). New York: Pergamon.

Beidel, D. C., Turner, S. M., Stanley, M. A., & Dancu, C. V. (1989). The Social Phobia and Anxiety Inventory: Concurrent and external validity. *Behavior Therapy*, *20,* 417–427.

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

Bryant, F. B., & Yarnold, P. R. (1995). Principal-components analysis and exploratory and confirmatory factor analysis. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (pp. 99–136). Washington, DC: American Psychological Association.

Chambless, D. L., & Hope, D. A. (1996). Cognitive approaches to the psychopathology and treatment of social phobia. In P. M. Salkovskis (Ed.), *Frontiers of cognitive therapy* (pp. 345–382). New York: Guilford.

Clark, D. A., & de Sliva, P. (1985). The nature of depressive and anxious thoughts: Distinct or uniform phenomena? *Behavior Research and Therapy*, *23,* 383–393.

Cox, B. J., Parker, J. D. A., & Swinson, R. P. (1996). Confirmatory factor analysis of the Fear Questionnaire with social phobia patients. *British Journal of Psychiatry*, *168,* 497–499.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1995). *Structured Clinical Interview for Axis I DSM-IV Disorders—Patient Edition* (SCID-I/P, version 2.0). New York: New York State Psychiatric Institute, Biometrics Research Department.

First, M. B., Spitzer, R. L., Gibbon, M., Williams, J. B. W., & Benjamin, L. (1994). *Structured Clinical Interview for DSM-IV Axis II Personality Disorders* (SCID-II, version 2.0). New York: New York State Psychiatric Institute, Biometrics Research Department.

Foa, E. B., Herbert, J. D., & Bellack, A. S. (1995). *Behavior therapy manual for social phobia*. Unpublished manuscript, Medical College of Pennsylvania, Philadelphia, PA.

Franklin, M. E., Jaycox, L. H., & Foa, E. B. (1999). Social phobia: Social skills training. In M. Hersen & A. Bellack (Eds.), *Handbook of comparative interventions for adult disorders* (2nd ed., pp. 317–339). New York: Wiley.

Fresco, D. M., Coles, M. E., Heimberg, R. G., Liebowitz, M. R., Hami, S., Stein, M. B., et al. (2001). The Liebowitz Social Anxiety Scale: A comparison of the psychometric properties of self-report and clinician-administered formats. *Psychological Medicine*, *31,* 1025–1035.

Hartfield, C. R., Herbert, J. D., Goldstein, S. G., Kadish, D. A., Nordman, J. E., & Maffie, K. (1997, November). *Self-efficacy in social phobia: A work in progress*. Paper presented at the annual meeting of the Association for Advancement of Behavior Therapy, Miami, FL.

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

Heimberg, R. G., & Becker, R. E. (2002). *Cognitive–behavioral group therapy for social phobia: Basic mechanisms and clinical change strategies*. New York: Guilford.

Heimberg, R. G., & Juster, H. R. (1995). Cognitive–behavioral treatments: Literature review. In R. G. Heimberg, M. R. Liebowitz, D. A. Hope, & F. R. Schneier (Eds.), *Social phobia: Diagnosis, assessment, and treatment* (pp. 261–309). New York: Guilford.

Herbert, J. D., Bellack, A. S., & Hope, D. A. (1991). Concurrent validity of the Social Phobia and Anxiety Inventory. *Journal of Psychopathology and Behavioral Assessment*, *14,* 357–368.

Herbert, J. D., Gaudiano, B. A., Rheingold, A. A., Harwell, V. D., Dalrymple, K. L., & Nolan, B. M. (2003). *Social skills training augments the efficacy of cognitive behavior group therapy for Social Anxiety Disorder*. Manuscript submitted for publication.

Herbert, J. D., Rheingold, A. A., & Brandsma, L. L. (2001). Assessment of social anxiety and social phobia. In S. G. Hofmann & P. M. DiBartolo (Eds.), *From social anxiety to social phobia: Multiple perspectives* (pp. 20–45). Boston: Allyn & Bacon.

Herbert, J. D., Rheingold, A. A., Gaudiano, B. A., & Harwell, V. D. (2003). *Standard versus extended cognitive behavior therapy for Social Anxiety Disorder: A randomized-controlled trial*. Manuscript submitted for publication.

Herbert, J. D., Rheingold, A. A., & Goldstein, S. G. (2002). Brief cognitive behavioral group therapy for Social Anxiety Disorder. *Cognitive and Behavioral Practice*, *9,* 1–8.

Kent, G., & Gibbons, R. (1987). Self-efficacy and the control of anxious cognitions. *Journal of Behavior Therapy and Experimental Psychiatry*, *18,* 33–40.

Leary, M. R. (1983). A brief version of the Fear of Negative Evaluation Scale. *Personality and Social Psychology Bulletin*, *9,* 371–375.

Leary, M. R., & Atherton, S. C. (1986). Self-efficacy, social anxiety, and inhibition in interpersonal encounters. *Journal of Social and Clinical Psychology*, *4,* 256–267.

Leon, A. C., Olfson, M., Portera, L., Farbert, L., & Sheehan, D. V. (1997). Assessing psychiatric impairment in primary care with the Sheehan Disability Scale. *International Journal of Psychiatry in Medicine*, *27,* 93–105.

Leon, A. C., Shear, M. K., Portera, L.,& Klerman, G. L. (1992). Assessing impairment in patients with panic disorder: The Sheehan Disability Scale. *Social Psychiatry and Psychiatric Epidemiology*, *27,* 78–82.

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

Liebowitz, M. R., Gorman, J. M., Fyer, A. J., Campeas, R., Levin, A. P., Sandberg, D., et al. (1988). Pharmacotherapy of social phobia: An interim report of a placebo-controlled comparison of phenelzine and atenolol. *Journal of Clinical Psychiatry*, *49,* 252–257.

Maddux, J. E., Norton, L. W., & Leary, M. R. (1988). Cognitive components of social anxiety: An integration of self-presentational theory and self-efficacy research. *Journal of Social and Clinical Psychology*, *6,* 180–190.

Maffie, K., Herbert, J. D., Rheingold, A., Dalrymple, K., Goldstein, S., Greenberg, R., et al. (1999). *Cognition and social skills in adult social phobia.* Paper presented at the annual meeting of the Association for Advancement of Behavior Therapy, Toronto, Canada.

Mahone, E. M., Bruch, M. A., & Heimberg, R. G. (1993). Focus of attention and social anxiety: The role of negative self-thoughts and perceived positive attributes of the other. *Cognitive Therapy and Research*, *17,* 209–224.

Marks, I. M., & Mathews, A. M. (1979). Brief standard rating for phobic patients. *Behaviour Research and Therapy*, *17,* 263–267.

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

Mattick, R. P., Peters, L., & Clarke, J. C. (1989). Exposure and cognitive restructuring for social phobia: A controlled study. *Behavior Therapy*, *20,* 3–23.

Moe, K. O., & Zeiss, A. M. (1982). Measuring self-efficacy expectations for social skills: A methodological inquiry. *Cognitive Therapy and Research*, *6,* 191–205.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Pajares, F. (1997). Current directions in self-efficacy research. In M. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 10, pp. 1–49). Greenwich, CT: JAI Press.

Rapee, R. M., & Lim, L. (1992). Discrepancy between self and observer ratings of performance in social phobics. *Journal of Abnormal Psychology*, *101,* 727–731.

Saluck, R. G., Herbert, J. D., Rheingold, A. A., & Harwell, V. (2000, November). *Validity of the brief and full versions of the FNE scales.* Paper presented at the meeting of the Association for Advancement of Behavior Therapy, New Orleans.

Schwarzer, R., Babler, J., Kwiatek, P., Schroder, K., & Xin Zhang, J. (1997). The assessment of optimistic self-beliefs: Comparison of the German, Spanish, and Chinese versions of the General Self-Efficacy Scale. *Applied Psychology: An International Review*, *46,* 68–88.

Schwarzer, R., & Jerusalem, M. (1989). Assessment of performance-related and general control and competence beliefs. In G. Krampen (Ed.), *Diagnostik von Attributionem and Kontrolluberzeugungen* [German] (pp. 127–133). Gottingen, Germany: Hogrefe.

Schwarzer, R., & Jerusalem, M. (1992). Advances in anxiety theory: A cognitive process approach. In K. A. Hagtvet & T. B. Johnsen (Eds.), *Advances in test anxiety research* (Vol. 7, pp. 2–17). Amsterdam, The Netherlands: Swets & Zeitliger.

Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The Self-Efficacy Scale: Construction and validation. *Psychological Reports*, *51,* 663–671.

Stevens, J. P. (1986). *Applied multivariate statistics for the social sciences*. Hillsdale, NJ: Erlbaum.

Stopa, L., & Clark, D. M. (1993). Cognitive processes in social phobia. *Behaviour Research and Therapy*, *31,* 255–267.

Stravynski, A., & Amado, D. (2001). Social phobia as a deficit in social skills. In S. G. Hofmann & P. M. DiBartolo (Eds.), *From social anxiety to social phobia: Multiple perspectives* (pp. 107–129). Boston: Allyn & Bacon.

Stravynski, A., Marks, I., & Yule, W. (1982). Social skills problems in neurotic outpatients: Social skills training with and without cognitive modification. *Archives of General Psychiatry*, *39,* 1378–1385.

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

Turner, S. M., Beidel, D. C., Cooley, M. R., Woody, S. R., & Messer, S. C. (1994). A multicomponent behavioral treatment of social phobia: Social Effectiveness Therapy. *Behaviour Research and Therapy*, *32,* 381–390.

Turner, S. M., Beidel, D. C., Dancu, C. V., & Stanley, M. A. (1989). An empirically derived inventory to measure social fears and anxiety: The Social Phobia and Anxiety Inventory. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, *1,* 35–40.

Watson, J., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology*, *33,* 448–457.

Wheeler, V. A., & Ladd, G. W. (1982). Assessment of children's self-efficacy for social interactions with peers. *Developmental Psychology*, *18,* 795–805.

Wlazlo, Z., Schroeder-Hartwig, K., Hand, I., Kaiser, G., & Münchau, N. (1990). Exposure in vivo vs. social skills training for social phobia: Long-term outcome and differential effects. *Behaviour Research and Therapy*, *28,* 181–193.

Wolpe, J., & Lazarus, A. A. (1969). *Behavior therapy techniques*. New York: Pergamon.

Zoellner, L. A., Echiverri, A., & Craske, M. G. (2000). Processing of phobic stimuli and its relationship to outcome. *Behaviour Research and Therapy*, *38,* 921–931.