2001

Specificity of the Social Interaction Self-Statement Test in Social Phobia

Carolyn Becker
Trinity University, cbecker@trinity.edu

Nicole Namour

Claudia Zayfert

Mark T. Hegel

Specificity of the Social Interaction Self-Statement Test in Social Phobia

Carolyn Black Becker, Nicole Namour, Claudia Zayfert, Mark T. Hegel

Cognitions have a central role in many theories of social phobia (e.g., Clark & Wells, 1995; Rapee & Heimberg, 1997) and are generally hypothesized to change as a result of successful treatment. Despite this, analyses of cognitions in social phobia treatment studies have been relatively limited (Heimberg, 1994). One reason for this has been the inadequacy of cognitive assessment techniques (Dodge, Hope, Heimberg, & Becker, 1988).

The Social Interaction Self-Statement Test (SISST; Glass, Merluzzi, Biever, & Larsen, 1982) is a 30-item questionnaire that consists of 15 positive (facilitative) and 15 negative (inhibitory) self-statements. The questionnaire, which consists of two subscales, was originally designed to test self-statements generated during a heterosexual role-play interaction. The SISST has been evaluated using several different sets of instructions and there is good evidence for its reliability and validity (Glass & Arnkoff, 1997), yet further validation studies are needed (Glass & Arn-koff, 1997).

Using the original instructions, Glass et al. (1982) demonstrated the reliability and concurrent validity of the SISST in two samples of anxious undergraduates. Zweig and Brown (1985) subsequently found that the measure was reliable and valid when it was completed following an imaginal interaction. More recently, Osman, Markway, and Osman (1992) reported updated psychometric data that support use of the SISST with imaginal administration.

The SISST has also been evaluated in several clinical samples including hetero-geneous psychiatric outpatients and clinically anxious community volunteers (Mer-luzzi, Burgio, & Glass, 1984; Glass & Furlong, 1990). While data support the clinical use of the SISST (Bruch, Mattia, Heimberg, & Holt, 1993), surprisingly, only two studies (Dodge et al., 1988; Yao et al., 1998) have specifically evaluated the validity of the SISST using a social phobia sample. Dodge et al. (1988) administered the SISST to 28 patients awaiting treatment for social phobia. In general, the negative scale, but not the positive scale, demonstrated good concurrent validity. Dodge et al. also found that the negative subscale discriminated between patients subtyped as social-interaction phobic versus patients subtyped as public-speaking phobic. More recently, Yao et al. (1998) evaluated a French version of the SISST in a sample of 95 social phobia patients and 87 nonclinical controls. Both the negative and positive subscales discriminated between social phobia and control participants.

Despite the above findings, some evidence suggests that the SISST may assess cognitions that are not specific to social phobia. Osman et al. (1992) found that negative self-statements were associated

with general psychological distress. This finding is consistent with other studies (e.g., Dodge et al., 1988), and Osman et al. suggest that this association may cast doubt on the specificity of the negative subscale. Bruch et al. (1993) found that dysphoric social phobics reported more negative and fewer positive self-statements than nondysphoric social phobia pa- tients. These results raise further questions regarding the cognitive specificity of social phobia and the SISST.

Glass and Arnkoff (1994, 1997) emphasized the importance of determining whether the SISST discriminates between different disorders. While SISST scores are related to social anxiety in general, no study has determined if elevated SISST scores are specific to social phobia or common to all clinical anxiety disorders.

The purpose of the present study was further to explore the specificity of the SISST in a large, clinically relevant sample by determining whether the SISST discriminates between treatment-seeking patients with social phobia versus patients with other anxiety disorders. SISST scores were also compared with scores from the Beck Anxiety Inventory (BAI) and the Beck Depression Inventory (BDI).

METHOD

Participants

Participants were 317 patients drawn from a sample of outpatients consecutively referred to an Anxiety Disorders Service of a tertiary care center. Forty patients were dropped from the sample due to lack of SISST data, resulting in a final sample of 277 patients. The sample consisted of 126 social phobia patients and 151 patients diagnosed with other anxiety disorders.

Diagnostic Interview

Participants were diagnosed with a modified version of the Anxiety Disorders Interview Schedule-Revised (ADIS-R; DiNardo & Barlow, 1988), a structured clinical interview designed to provide comprehensive assessment of DSM-III-R anxiety and related disorders. Modifications were made to the ADIS-R in order to assess DSM-IV criteria and to increase standardization. The initial modifications were made prior to the release of the ADIS-IV (Brown, DiNardo & Barlow, 1994) and were limited in nature. None of the main probe questions were altered, so as to limit the impact of these changes on diagnostic reliability. Due to the clinical nature of our setting, repeated checks for interrater reliability were not possible. Thus, the second set of changes consisted in standardizing follow-up probe questions and decision rules regarding diagnosis. These questions and decision rules were developed by consensus.

Licensed clinical psychologists and postdoctoral psychology fellows conducted all interviews. Interviewers met weekly to review the symptoms and diagnoses of each participant and to check for consistency in ADIS-R administration. Consensus diagnoses were established in the case of disagreements. Principal diagnosis was established by determining which diagnosis was associated with the highest level of distress and functional impairment.

Measures

Prior to the initial evaluation, participants were sent a packet of self-report questionnaires that included the SISST and were asked to bring their completed questionnaires to the evaluation.

Instructions for the SISST were similar to those used by Dodge et al. (1988) in that participants were instructed to rate how frequently they may have experienced a thought before, during, and after social interactions. Answers were rated on a scale from 1 (hardly ever) to 5 (very often).

In addition to the SISST, participants completed the BAI (Beck, Epstein, Brown & Steer, 1988) and the BDI (Beck, Rush, Shaw, & Emery, 1979).

RESULTS Preliminary

Analysis

Mean age, gender distribution, comorbidity, and BAI and BDI scores are presented in Table I. Patients were designated as ''social phobia'' if they met criteria for social phobia, either principal (n = 21) or comorbid (n = 105). Since there were no differences in SISST scores between patients diagnosed with principal

Table I. Demographic Information and BAI and BDI Scores

	Total sample		Social phobia		No social phobia	
	M	(*SD*)	*M*	(*SD*)	*M*	(*SD*)
Age (years)	39.6	(12.92)	38.4	(11.89)	40.6	(13.67)
Percentage female	66.8		64.3		69.5	
Number of comorbid Dx	2.2	(1.75)	3.1	(1.85)	1.4	(1.21)
BAI	22.22	(13.52)	25.00	(13.68)	19.93	(13.00)
BDI	19.81	(11.64)	23.10	(11.52)	17.06	(11.05)

Note: BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory.

(SISST Negative M = 50.76, SD = 11.69; Positive M = 34.67, SD = 10.60) versus comorbid social phobia (SISST Negative M = 49.86, SD = 11.77; Positive M = 35.63, SD = 9.90), all patients with a social phobia diagnosis were treated as a single group.

There were no significant differences in age or gender between the social phobia and no-social phobia groups. Chi-square analysis revealed a significant difference in gender distribution, $x_2(7, N = 277) = 23.31$, $p < .01$, between principal diagnoses. With the exception of principal social phobia, all principal diagnoses had a higher prevalence of women. There were, however, no significant differences between men and women on SISST scores.

The social phobia group had more comorbid diagnoses than the no-social phobia group, $t(273) = 9.20$, $p < .0001$. Also, the social phobia group showed higher BAI, $t(270) = 3.13$, $p < .005$, and BDI scores, $t(261) = 4.32$, $p < .0001$. Further analyses suggested that all three of these findings were due to the merging of principal and comorbid social phobia patients into one group. Because our clinic has developed a local reputation for the treatment of panic disorder (PD), posttraumatic stress disorder

(PTSD) and obsessive-compulsive disorder (OCD), many of our social phobia patients are initially referred for the treatment of other anxiety disor- ders and typically present with severe psychopathology. Patients diagnosed with comorbid social phobia had significantly more comorbid diagnoses than those diag- nosed with principal social phobia, $t(123) = 4.13$, $p < .0001$, and higher BAI, $t(121) = 3.05$, $p < .01$, and BDI scores, $t(118) = 2.86$, $p < .01$. Further analyses revealed, however, that when comorbidity was covaried, BAI and BDI did not differ between groups. This was true for both comparisons between principal and comorbid social phobia ($n = 126$) and between social phobia and no social phobia ($n = 277$). Despite this finding, number of comorbid diagnoses and BAI and BDI scores were used as covariates in all subsequent analyses.

Given the findings of Osman et al. (1992), we examined partial correlations between the positive and negative SISST scales with the BAI and BDI, controlling for BDI and BAI, respectively. The BAI correlated with the SISST negative scale, $pr(256) = .17$, $p < .01$, whereas the BDI significantly correlated with both the negative, $pr(256) = .45$, $p<.0001$, and positive, $pr(247) = -.33$, $p < .0001$, subscales.

Main Results

Mean SISST negative and positive scores for social phobia, no social phobia, and the two most common principal diagnoses are presented in Table II. Results

Table II. Mean Social Interaction Self-Statement Test (SISST) Scores by Diagnosis

Diagnosis (n)	Negative SISST		Positive SISST	
	M	(SD)	M	(SD)
Social phobia (126)	50.01	(11.71)	35.47	(9.99)
No social phobia-total (151)	35.52	(12.28)[b]	43.43	(10.30)[b]
Principal PD (46)	32.83	(11.54)[b]	42.64	(11.26)[a]
Principal PTSD (40)	41.25	(13.13)[b]	42.77	(9.34)[b]

Note: PD, Panic disorder; PTSD, posttraumatic stress disorder. Superscripts indicate groups that differ significantly from the social phobia group.
[a] $p < .05$, [b] $p < .0001$.

of separate one-way analyses of covariance (ANCOVA), with total comorbidity, BAI, and BDI covaried, revealed that both the negative and positive scales differed significantly between the social phobia and no-social phobia groups. Patients in the social phobia group scored significantly higher on the negative scale, $F(1,249) = 20.89$, $p < .0001$, and significantly lower on the positive scale, $F(1,258) = 51.12$, $p < .0001$.

In order further to explore the relationship between diagnoses and SISST scores, the one-way ANCOVAS were repeated comparing social phobia to principal PD and PTSD. These two groups were selected because they were the largest subgroups in the no-social phobia group. Results were significant for both the negative, $F(2,199) = 19.96$, $p < .0001$, and positive scales, $F(2,191) = 7.85$, $p < .001$. We hypothesized that social phobia patients would score higher on the negative and lower on the positive scale as compared to patients with PTSD and PD. Simple contrast analyses comparing

social phobia to the other two groups supported this hypothesis. Social phobia patients scored significantly higher on the negative scale and significantly lower on the positive scale, p < .01.

DISCUSSION

In terms of sample size, the present study represents the largest clinical exami- nation of the SISST and provides further support for its use in clinical populations. Both the positive and negative scales discriminated patients with social phobia from those with other anxiety disorders, a comparison not reported in the literature. Our findings are consistent with previous studies (e.g., Dodge et al., 1988; Turner, Beidel, Cooley, Woody, & Messer, 1994) in which social phobia patients endorsed more negative and fewer positive self-statements than were observed in both nonclinical samples (e.g., Glass et al., 1982; Osman et al., 1992). In the present study, social phobia patients also endorsed significantly more negative and fewer positive state- ments than non-social phobia anxiety patients. As a group, non-social phobia anxiety patients endorsed negative and positive self-statements to an extent similar to nonclinical college samples (e.g., Osman et al., 1992).

Previous studies have found a relationship between the negative scale and other measures of psychological distress, particularly depression (Bruch et al., 1993; Dodge et al., 1988; Osman et al., 1992). Consistent with these studies, we found a small, but significant relationship between the negative scale and BAI scores. The relationship between the BDI and both subscales, however, was more noteworthy.

Previous studies have generally not found a significant relationship between the positive scale and other measures. Bruch et al. (1993), however, found that high dysphoric social phobia patients had fewer positive thoughts than nondysphoric social phobics on two measures, although the difference was not significant. These results are consistent with the correlation found in the present study. Thus, although the SISST discriminated between social phobia and other anxiety disorders even when general distress (i.e., BAI and BDI) was covaried, the correlation between the SISST and the BDI raises further questions regarding the interaction of de- pressed mood and social self-statements.

There are several strengths and weaknesses of the present study. This study represents the largest clinical study of the SISST. In addition, since data were collected from patients presenting to a ''real-world'' clinic, these findings may generalize to other clinical settings. Yet, the naturalistic setting of this study is also a limitation, as our clinic treats a severe and highly comorbid population. As a result, comorbidity and overall anxiety/depression were higher in the social phobia group. While this may limit the generalizability of the findings to less severe popula- tions, it is important to study the SISST across the full range of psychopathology. Finally, this study lacks a measure of social phobia severity or other measures of cognition that may have enhanced interpretation of findings. In particular, the absence of another measure of negative cognition prevents us from truly determining if the social phobia patients scored higher on the SISST because it is specific to social anxiety cognition versus negative cognition in general.

The SISST appears to show specificity in that it discriminates between social phobia and other anxiety disorders. The present study provides further support for its use as a measure of social anxiety in

clinical samples. Further research is needed to explore the relationship between social anxiety and negative mood.

REFERENCES

Beck, A. T., Epstein, N., Brown, B., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. Journal of Consulting and Clinical Psychology, 56, 893–897.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). Cognitive therapy of depression: A treatment manual. New York: Guilford Press.

Brown, T. A., DiNardo, P. A., & Barlow, D. H. (1994). Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV). San Antonio, TX: Psychological Corporation.

Bruch, M. A., Mattia, J. I., Heimberg, R. G., & Holt, C. S. (1993). Cognitive specificity in social anxiety and depression: Supporting evidence and qualifications due to affective confounding. Cognitive Therapy and Research, 17, 1–21.

Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. G. Heimberg, M. R.

Liebowitz, D. A. Hope & F. R. Schneier (Eds.), Social phobia: Diagnosis, assessment, and treatment (pp. 69–93). New York: Guilford Press.

Di Nardo, P. A., & Barlow, D. H. (1988). Anxiety Disorders Interview Schedule-Revised (ADIS-R). Albany, NY: Phobia and Anxiety Disorders Clinic, State University of New York.

Dodge, C. S., Hope, D. A., Heimberg, R. G., & Becker, R. E. (1988). Evaluation of the social interaction self-statement test with a social phobic population. Cognitive Therapy and Research, 12, 211–222.

Glass, C. R., & Arnkoff, D. B. (1994). Validity issues in self-statement measures of social phobia and social anxiety. Behaviour Research and Therapy, 32, 255–267.

Glass, C. R., & Arnkoff, D. B. (1997). Questionnaire methods of cognitive self-statement assessment. Journal of Consulting and Clinical Psychology, 65, 911–927.

Glass, C. R., & Furlong, M. (1990). Cognitive assessment of social anxiety: Affective and behavioral correlates. Cognitive Therapy and Research, 14, 365–384.

Glass, C. R., Merluzzi, T. V., Biever, J. L, & Larsen, K. H. (1982). Cognitive assessment of social anxiety: Development and validation of a self-statement questionnaire. Cognitive Therapy and Research, 6, 37–55.

Heimberg, R. G. (1994). Cognitive assessment strategies and the measurement of outcome of treatment for social phobia. Behaviour Research and Therapy, 32, 269–280.

Merluzzi, T. V., Burgio, K. L., & Glass, C. R. (1984). Cognition and psychopathology: An analysis of social introversion and self-statements. Journal of Consulting and Clinical Psychology, 52, 1102–1103.

Osman, A., Markway, K., & Osman, J. (1992). Psychometric properties of the social interaction, self-statement test in a college sample. Psychological Reports, 71, 1171–1177.

Rapee, R. M., & Heimberg, R. G. (1997). A cognitive–behavioral model of anxiety in social phobia. Behaviour Research and Therapy, 35, 741–756.

Turner, S. M., Beidel, D. C., Cooley, M. R., Woody, S. R., & Messer, S. C. (1994). A multicomponent behavioral treatment for social phobia: Social effectiveness therapy. Behaviour Research and Ther- apy, 32, 381–390.

Yao, S., Cottraux, J., Mollard, E., Robbe-Grillet, P., Albuisson, E., & Dechassey, M. (1998). The French version of the social interaction self-statement test: A validation and sensitivity study in social phobics. Behavioural and Cognitive Psychotherapy, 26, 247–259.

Zweig, D. R., & Brown, D. S. (1985). Psychometric evaluation of a written stimulus presentation format for the social interaction self statement test. Cognitive Therapy and Research, 9, 285–195.