

Diagnostic Subtype, Avoidant Personality Disorder, and Efficacy of Cognitive–Behavioral Group Therapy for Social Phobia¹

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Increasing recognition of the heterogeneity of social phobia has led to the development of various subtyping classification schemes and controversy over the boundary between social phobia and avoidant personality disorder (APD). This study investigated the utility of one subtyping system by comparing efficacy of cognitive–behavioral group therapy for generalized social phobia (fears in all major situational domains) and nongeneralized social phobia (fears in multiple domains but at least one unaffected domain). Overall, most subjects improved in treatment, with generalized and nongeneralized social phobics making similar gains. However, because generalized social phobics were more impaired prior to treatment, they continued to be more impaired after treatment on some measures. A second hypothesis that social phobics with APD would respond more poorly to treatment than social phobics without APD was not supported. This study adds to the growing evidence that social phobia and

¹Completion of this manuscript was supported in part by grant number MH 48751 from the National Institute of Mental Health to the first author. The authors wish to thank Alan S. Bellack for his support in the completion of this study and Jack Blanchard, Eileen Wade, and Abby Michalski for serving as cotherapists. Portions of this study were presented at the annual meeting of the Association for the Advancement of Behavior Therapy, San Francisco, 1990.

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APD, as defined by DSM-III-R, may not be conceptually distinct. Clinical and conceptual implications and directions for future research are discussed.

KEY WORDS: social phobia; avoidant personality disorder; cognitive-behavioral treatment.

The expansion of research on social phobia over the last decade has highlighted the heterogeneity of individuals who meet diagnostic criteria for social phobia according to the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* and its revision (DSM-III; DSM-III-R; American Psychiatric Association, 1980, 1987). In an attempt to address this heterogeneity, researchers have proposed various forms of diagnostic subtypes for social phobia. For example, Öst, Jerremalm, and Johansson (1981) classified social phobics as "behavioral reactors" (behavioral disruption without cardiac acceleration) or "physiological reactors" (cardiac acceleration without behavioral disruption) on the basis of their performance in a roleplay. In later work, physiological reactors were contrasted with "cognitive reactors" who reported excessive irrational thoughts (Jerremalm, Jansson, & Öst, 1986; Mersch, Emmelkamp, Bogels, & van der Sleen, 1989). Attempts to use these subtypes to match clients to treatment modalities (e.g., behavioral reactors with social skills interventions) have met with modest success (see Hope, Holt, and Heimberg, 1993, for a recent review). In contrast, McNeil and colleagues have used a more situationally based subtyping scheme by distinguishing social phobics with primarily public speaking fears from other social phobics (e.g., Boone, Lewin, McNeil, & Kahle, 1989; McNeil et al., 1995). The drafters of DSM have taken a somewhat different approach to addressing the heterogeneity among social phobics.

In DSM-III, social phobia was described as a fear of being evaluated negatively in relatively circumscribed performance and interpersonal situations such as public speaking or eating and drinking in the presence of others. As research progressed, it rapidly became apparent that more pervasive fears of being negatively evaluated were more typical than circumscribed fears (Heimberg, Hope, Dodge, & Becker, 1990; Turner, Beidel, Dancu, & Keys, 1986). Recognition of this fact resulted in the inclusion in DSM-III-R of a *generalized* subtype of social phobia to be assigned when an individual fears "most social situations." Unfortunately, research on the DSM-III-R subtyping scheme has been limited by the lack of specificity as to what constitutes "most" social situations (Heimberg, Holt, Schneier, Spitzer, & Liebowitz, 1993; Holt, Heimberg, & Hope, 1992; Turner, Beidel, & Townsley, 1992).

Generalized and Nongeneralized Social Phobia

Heimberg, Holt, et al. (1993) attempted to clarify the boundaries of generalized social phobia by proposing a three-part subtyping system that includes "generalized," "nongeneralized," and "discrete" subtypes (hereafter referred to as the "Heimberg subtyping system" for simplicity). The generalized subtype is reserved for social phobics with fears across virtually all domains of contingent and noncontingent social interaction (conversations, public speaking, performing under observation, assertiveness situations, etc.). Individuals with fears in multiple domains, but who report minimal fear in at least one domain, are classified as "nongeneralized." Individuals with fear in only one or two circumscribed situations (e.g., public speaking, scriptophobia) are classified as "discrete" social phobics by Heimberg, Holt, et al.

It is important to note that the Heimberg system was not designed to subdivide social phobia on the basis of severity of the disorder, but rather on the range of situations in which social evaluative fears are apparent. For example, a discrete social phobic may be highly fearful and nearly always avoid writing in the presence of others. Exposure to the feared situation may evoke intense physiological arousal, narrow attentional focus, and elicit a debilitating internal dialogue. Depending on the regularity with which a particular individual needs to write in the presence of others, this fear may cause greater or lesser impairment in role functioning. In contrast, a generalized social phobic may experience relatively mild levels of fear and avoid only occasionally but, by definition, the fear and avoidance are associated with a broad range of situations. By behavioral, physiological, subjective, and cognitive indices, this generalized social phobic's fear is less severe than the fear experienced by the scriptophobic described above. There may be only modest impairment in role functioning as well. Thus, the Heimberg subtyping scheme was designed to classify social phobics on a qualitative dimension—range of problematic situations—rather than simply as "mild," "moderate," and "severe" forms of the disorder. It seems likely, however, that there will be at least a modest positive correlation between extent of generalization and impairment in role functioning because greater impairment is likely as more domains of an individual's life are affected. Whether the Heimberg subtypes *actually* differ qualitatively as hypothesized remains to be seen.

Two studies have compared generalized and nongeneralized social phobics as defined by Heimberg, Holt et al. (1993). Neither study included the discrete subtype because only one subject meeting this definition (a public speaking phobic) was found in the two samples. In the first study (Herbert, Hope, & Bellack, 1992), generalized social phobics were more

likely to be male, received a greater number of secondary Axis I and II diagnoses, and were judged by clinicians to be more impaired overall than nongeneralized social phobics. Data derived from roleplayed interactions and an impromptu speech test revealed that generalized social phobics reported more subjective distress in both situations and had demonstrated poorer social skills in the interactions than nongeneralized social phobics. The two subtypes did not differ on social skill ratings for the impromptu speech. Surprisingly, there were no subtype differences in subjects' age or on various self-report measures of social and nonsocial anxiety, depression, or an index of overall psychopathology.

In the second study (Holt et al., 1992), clinicians judged generalized social phobics to be more impaired overall, more socially anxious, and more likely to avoid social situations compared to nongeneralized social phobics. The generalized subtype was associated with more extreme scores on various self-report measures of social anxiety, fear of negative evaluation, and depression. Generalized social phobics also had an earlier age of onset of the disorder than nongeneralized social phobics. The two groups did not differ in age or subjective anxiety during an individualized behavioral test. The latter point is not surprising given that the behavioral test was designed to elicit a similar anxiety level across subjects.

The two studies cited above offer modest support for the Heimberg subtyping system. Three potentially relevant variables distinguished the two subtypes but were only assessed in one of the two studies. The generalized group reported an earlier age of onset (Holt et al., 1992), exhibited poorer social skills in roleplayed social interactions, and received more concomitant Axis I and II diagnoses (Herbert et al., 1992) than the nongeneralized group. Other variables, such as self-reported depression and gender ratio, distinguished the subtypes in one study but failed to do so in the other study. Neither study found age differences between the subtypes. As expected, both studies found that generalized social phobics were consistently rated as more impaired overall than nongeneralized social phobics. Further research is needed to reconcile the discrepant findings.

Treatment-related variables offer another potential source of information about the validity of diagnostic subtypes such as the Heimberg classifications. For example, differential response to the standard treatments for social phobia would offer evidence that the Heimberg subtyping scheme categorizes social phobics into subgroups that have some clinical utility. Because cognitive-behavioral interventions tend to be problem-focused, it seems likely that generalized social phobics might respond more poorly to such treatments than nongeneralized or discrete social phobics. The nongeneralized and discrete subtypes' fears are more narrowly defined, so their feared situations could be addressed more intensely in the same

amount of time relative to generalized social phobics' more pervasive fears. In order to test this hypothesis, the present study investigated whether nongeneralized and generalized social phobics differed in their response to cognitive-behavioral treatment.

Avoidant Personality Disorder

In addition to introducing the notion of a subtype of social phobia, DSM-III-R eliminated the hierarchical structure of the previous edition and allowed comorbid diagnoses of social phobia and avoidant personality disorder (APD). At the same time, changes in the APD criteria have resulted in substantial overlap between the criteria for APD and social phobia, as noted by various investigators (e.g., Herbert et al., 1992; Turner et al., 1992). In four recent studies, the percentage of social phobics who received an additional diagnosis of APD ranged from 22.1% to 70% (Herbert et al., 1992; Holt et al., 1992; Schneier, Spitzer, Gibbon, Fyer, & Liebowitz, 1991; Turner et al., 1992). Despite the lack of agreement on the comorbidity rate of social phobia and APD, all these authors concluded that APD features are common among social phobics, particularly among those with more generalized fears. However, there is little evidence that APD, as it is currently defined in DSM-III-R, represents anything more than a more severe variant of social phobia. For example, there are consistent findings that social phobics with APD are more impaired by social anxiety than social phobics without APD (Herbert et al., 1992; Holt et al., 1992; Turner et al., 1992). Unlike previous conceptualizations of APD (Turner et al., 1986), the presence or absence of the DSM-III-R APD diagnosis does not appear to be related to social skills (Herbert et al., 1992; Turner et al., 1992). Furthermore, Widiger (1992) concluded that there is no evidence of the existence of individuals who would merit a diagnosis of APD but not meet criteria for social phobia. On the other hand, social phobics with APD may be more likely to have a secondary diagnosis of a depressive disorder than social phobics without APD (Holt et al., 1992)—a finding that supports a conceptual distinction between APD and social phobia. One important potential variable, however, remains largely unexplored. Social phobics with and without APD may differ in their response to psychosocial or pharmacological treatment.

As noted by Heimberg (1989), various researchers and theorists have argued that APD may be more difficult to treat than social phobia (Heimberg, Dodge, & Becker, 1987; Turner, 1987). Such a position is consistent with clinical lore that personality disorders require longer, more intensive interventions than nonpsychotic Axis I disorders. However, the

limited research available suggests this may not be the case for APD. Reich, Noyes, and Yates (1989) reported that most symptoms of APD endorsed by a sample of social phobics were successfully treated with short-term trial of alprazolam. Also, effective cognitive-behavioral treatments for APD use procedures quite similar to those used for social phobia, albeit of greater intensity in some cases (Alden, 1989; Renneberg, Goldstein, Phillips, & Chambless, 1990). No one has examined whether social phobia complicated by APD is more difficult to treat than uncomplicated social phobia.

The current study explored two issues. First, it was hypothesized that individuals with generalized social phobia would respond more poorly to treatment than individuals with nongeneralized social phobia. If this hypothesis were supported, it would bolster evidence of the utility of the Heimberg subtyping system. Second, it was hypothesized that social phobics with comorbid APD would respond more poorly to treatment than social phobics without APD. If this hypothesis were supported, it would help validate the DSM-III-R conceptualization of social phobia and APD as distinct, but frequently comorbid, disorders.

METHOD

Subjects

Subjects were solicited through community media announcements offering free non-medication treatment for extreme shyness and social anxiety in exchange for participation in research. Forty-nine of the first 90 people who telephoned passed initial screening criteria and were interviewed using Parts 1 and 2 of the Structured Clinical Interview for DSM-III-R (Spitzer, Williams, Gibbon, & First, 1990). Subjects were also administered the social phobia section of the Anxiety Disorders Interview Schedule—Revised (ADIS-R; DiNardo & Barlow, 1988). Twenty-eight individuals received a primary diagnosis of social phobia according to DSM-III-R criteria and met the other inclusion criteria described below. No subjects met criteria for APD without meeting criteria for social phobia. Five potential subjects declined participation, leaving 23 subjects who received treatment.

In addition to a primary DSM-III-R diagnosis of social phobia, avoidant personality disorder, or both, other inclusion criteria included (a) age between 18 and 55 years; (b) no history of schizophrenia, bipolar disorder, organic brain syndrome, mental retardation, or substance dependence (other Axis I or II disorders were allowed when the principal diagnosis of social phobia or avoidant personality disorder was judged to be primary to and of greater severity than the secondary diagnosis); (c) no severe medi-

cal condition that might confuse the diagnosis of an anxiety disorder; (d) no current use of psychotropic medication.

Sample Demographics. The mean age of the sample was 36 years. The sample included 12 women and 11 men. Fifty-four percent of the sample had never married and nearly 80% had attended at least some college. One subject was African-American and the remainder were Caucasian.

Avoidant Personality Disorder and Social Phobia Subtype. Fourteen subjects received an Axis II diagnosis of APD. Using the criteria outlined by Heimberg, Holt, and colleagues (1993) and described above, diagnostic interviewers classified 14 subjects as *generalized* social phobics (fears in virtually all domains of social situations) and nine subjects as *nongeneralized* social phobics (fears in multiple domains, but no or minimal fears in at least one domain). Interrater reliability derived from audiotapes of the diagnostic interviews was 100% for APD and 92% for social phobia subtype.

APD diagnosis and social phobia subtype were unrelated, $\chi^2(1, N = 23) < 1$. Four subjects were classified as nongeneralized with APD, 10 were generalized with APD, five were nongeneralized without APD, and four were generalized without APD.

Treatment

All subjects received Heimberg's (1991) cognitive-behavioral group therapy (CBGT) for social phobia. CBGT consists of 12 weekly 2- to 2½-hour sessions with five to seven clients and two therapists. CBGT integrates cognitive restructuring, roleplayed exposures to feared situations within the therapy group, and weekly homework assignments for *in vivo* exposure. (For further detail on CBGT procedures see Heimberg, 1991; Hope & Heimberg, 1993a, 1993b). Previous research has demonstrated that CBGT is more effective than a waiting list (Hope, Heimberg, & Bruch, 1995) or a credible attention-control treatment (Heimberg, Dodge et al., 1990) and about as effective as pharmacotherapy (Gelernter et al., 1991; Heimberg & Liebowitz, 1992). Treatment gains appear to be maintained over long-term follow-up (Heimberg, Salzman, Holt, & Blendell, 1993).

All therapists were trained by the first author, who had extensive experience with the treatment protocol. Training consisted of several hours of didactic material, and roleplayed therapy sessions. Adherence to the treatment procedures was maintained through weekly meetings between the first and second authors, who served together as cotherapists for one group and separately as one of the therapists (with another individual) for each of the other groups. All groups were conducted within approximately an 8-month period.

Assessment Measures

Self-Report Questionnaires. Measures reported here are derived from a large questionnaire battery assessing various aspects of social phobia and related psychopathology. For the present study, social anxiety and avoidance behavior were assessed with the Social Phobia subscale of the Social Phobia and Anxiety Inventory (SPAI; Turner, Beidel, Dancu, & Stanley, 1989), the Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969), and the Social Phobia Subscale of the Fear Questionnaire (FQ; Marks & Mathews, 1979).

Behavioral Assessment. Subjects completed two 3-min roleplayed social interactions and a 3-min impromptu speech. The first interaction involved a conversation with a new neighbor. In the second interaction, the subject talked with two co-workers he or she had just met in a new work setting. Subjects were given 1 min to prepare a 3-min speech on one of four topics presented by the experimenter. Research assistants who served as interaction partners and audience members received extensive training to respond consistently across subjects and to portray a friendly, but reserved, demeanor. Order of administration for the roleplays and speech was counterbalanced across subjects.

Subjects utilized the Subjective Units of Discomfort Scale (SUDS; Wolpe & Lazarus, 1966) to report their subjective anxiety in the roleplays and speech. Subjects gave one SUDS rating before each roleplay or the speech. After the roleplay or speech, they reported their peak and current SUDS rating. This procedure yielded nine SUDS ratings—before, peak, and after each roleplay and the speech.

Trained raters who were blind to assessment point and subjects' diagnostic status made social skills ratings of videotapes of the roleplays and speech. A 5-point Likert scale rating of overall social skill was used for these analyses. Interrater reliability for this measure was calculated as an interclass correlation coefficient ($ICC = 0.58$). (See Herbert et al., 1992 for further detail about the behavioral assessment.)

Interview Rating of Improvement. Following treatment, all subjects were interviewed by a trained clinician who had no knowledge of their subtype, their APD diagnostic status, or their progress in group. On the basis of this interview, clinicians made ratings based on the Clinical Global Impressions Scale (National Institute of Mental Health, 1985) as a measure of clinically significant change. All interviewers were familiar with the typical presenting features of social phobia and reviewed the social phobic situations listed in the ADIS-R (DiNardo & Barlow, 1988) with subjects. Subjects were asked to describe the extent of their fear and avoidance in each situation and to describe what change, if any, had occurred during

the treatment period. Interviewers also asked subjects to describe the reasons they sought treatment and the extent to which they had met their treatment goals. Subjects were classified as (0) no improvement or deterioration; (1) mildly improved, definitely in need of further treatment; (2) significant improvement but some remaining difficulties, may not need further treatment; or (3) strong improvement, unlikely to need any further treatment.

Procedure

Subjects completed the self-report questionnaires and the behavioral assessment before and after group treatment. Subjects were assigned to particular treatment groups on the basis of several variables including time of entry into the study and availability for scheduled session times. As recommended by Heimberg (1991), groups were balanced for gender and severity of fears. Approximately 1 year after treatment, everyone who had completed treatment was recontacted and offered \$10 to complete the self-report questionnaire battery again. Eighty percent of subjects participated in this 1-year follow-up.

RESULTS

In order to help protect against Type I errors, when feasible, analyses on individual variables were conducted only after significant multivariate analyses on conceptually related groups of variables. Alpha level was not adjusted below .05 to avoid excessively increasing the risk of Type II errors given the small n and, consequently, low statistical power.

Treatment Dropouts

Three subjects (13%), all generalized subtype, two with APD, failed to complete treatment. This number was too small to allow statistical comparisons between subjects who did and did not complete treatment, but there is no evidence dropouts differed systematically from other subjects. This left nine nongeneralized and 11 generalized social phobics who completed treatment. Twelve of these subjects received an Axis II diagnosis of APD.

Social Phobia Subtype Comparisons

Self-Report Questionnaires. A 2 (Generalized vs. Nongeneralized Social Phobia Subtype) \times 2 (Pretreatment vs. Posttreatment) repeated-measures MANOVA with the three measures of social phobia (FNE and the Social Phobia subscales of the FQ and the SPAI) revealed a significant main effect for assessment point, $F(3, 16) = 6.75, p < .004$, Wilks's lambda = .44. Neither the main effect for social phobia subtype, $F(3, 16) < 1$, Wilk's lambda = .85, nor the subtype by assessment point interaction, $F(3, 16) = 1.91$, n.s., Wilk's lambda = .74, were significant. Univariate analyses indicated that subjects demonstrated significant improvement on all three measures (all $p < .012$). Means and standard deviations appear in Table I.

Social Skill and Subjective Anxiety. A 2 (Social Phobia Subtype) \times 2 (Pretreatment vs. Posttreatment) \times 3 (Dyadic Interaction vs. Triadic Interaction vs. Speech) repeated-measures ANOVA with overall social skill ratings as the dependent variables found significant main effect for subtype, $F(1, 18) = 13.96, p < .002$, and assessment point, $F(1, 18) = 24.61, p < .001$. No other main effects or interactions approached significance (all $p > .10$). As shown in Table I, nongeneralized social phobics were rated as more socially skilled than generalized social phobics, and subjects' social skills generally improved with treatment.

Three separate 2 (Social Phobia Subtype) \times 2 (Pretreatment vs. Posttreatment) \times 3 (SUDS Probe Before vs. Highest vs. After Behavior Test) repeated-measures ANOVAs were conducted on SUDS ratings for each behavioral test. These revealed that nongeneralized social phobics ($M = 42.2, SD = 9.4$) reported less anxiety in the dyadic interaction than generalized social phobics ($M = 53.6, SD = 7.5$), $F(1, 18) = 9.23, p < .007$. The main effect for assessment point was also significant (pretreatment $M = 53.9, SD = 15.0$; posttreatment $M = 43.1, SD = 12.0$), $F(1, 18) = 6.37, p < .021$. Nongeneralized social phobics ($M = 42.6, SD = 10.6$) also reported less subjective anxiety compared to the generalized subtype ($M = 56.0, SD = 7.6$) in the triadic interaction, $F(1, 18) = 10.77, p < .004$.

Subjects' anxiety during the speech followed a somewhat different pattern compared to the interactions. Overall, subjects gave lower SUDS ratings at posttreatment ($M = 48.4, SD = 15.4$) compared to the pretreatment assessment ($M = 67.9, SD = 17.0$), $F(1, 18) = 23.64, p < .001$, with no difference between subtypes, $F(1, 18) = 1.16$, n.s. In both the interactions and the speech, SUDS varied significantly during the roleplay or speech (all $p < .001$). Duncan's tests revealed the same pattern in each situation. As expected, peak SUDS ratings were significantly higher than ratings made immediately before or after the roleplays or speech ($p < .01$).

Table I. Pretreatment and Posttreatment Means and Standard Deviations by Social Phobia Subtype and APD Status^a

	Social phobia subtype						APD status				
	Nongeneralized		Generalized		No APD		APD				
	M	SD	M	SD	M	SD	M	SD	M	SD	
SPAI—Social Phobia ^b											
Pretreatment	126.4	35.7	139.1	34.7	115.9	37.3	145.0	28.9			
Posttreatment	88.0	34.4	98.6	32.4	91.1	17.1	95.7	40.9			
FNE ^b											
Pretreatment	22.9	9.0	25.2	5.8	21.8	9.1	25.8	5.6			
Posttreatment	14.1	10.0	21.2	8.3	18.4	9.4	17.8	10.1			
FQ—Social Phobia ^b											
Pretreatment	16.8	7.6	22.2	5.9	17.1	6.8	21.5	7.0			
Posttreatment	12.6	11.1	15.3	4.5	13.9	7.4	14.2	8.7			
Overall social skills ^{b,c}											
Pretreatment	3.1	0.71	2.5	0.60	2.9	0.40	2.7	0.86			
Posttreatment	4.0	0.48	3.0	0.53	3.7	0.50	3.3	0.84			

^aAPD = Avoidant Personality Disorder, SPAI = Social Phobia and Anxiety Inventory, FNE = Fear of Negative Evaluation Scale, FQ = Fear Questionnaire. Social skill ratings are collapsed across assessment situation.

^b*p* < .05 for main effect for assessment point.

^c*p* < .05 for main effect for social phobia subtype.

All other main effects and interactions involving SUDS as a dependent variable failed to approach significance (all $p > .07$).

Overall Improvement. Examination of the independent interviewer ratings of subjects at posttreatment revealed the following: One nongeneralized (11%) but no generalized social phobics were rated as 0 (unimproved or deteriorated); no nongeneralized and two generalized (18%) were rated as 1 (mildly improved); two nongeneralized (22%) and seven generalized (64%) were rated as 2 (significantly improved); and six nongeneralized (67%) and two generalized (18%) were rated as 3 (full remission). Thus, 85% of subjects made clinically significant gains according to independent interviewers. Because of the small numbers in some cells, ratings of 0, 1, and 2 were collapsed to create a 2 (Full Remission vs. Partial or No Improvement) \times 2 (Nongeneralized vs. Generalized Subtype) contingency table. According to Fisher's Exact Test, there was a nonsignificant trend for generalized social phobics to be less improved, $p < .06$. In order to determine whether the failure to achieve conventional levels of statistical significance could be attributable to insufficient power, power calculations were completed. These calculations revealed that power was low (.38) for this analysis due to the small sample size as hypothesized. However, given the rather large effect size, it would have required only 15 subjects per cell to achieve power of .80, the level recommended by Cohen (1977).

Avoidant Personality Disorder Comparisons

A parallel set of analyses were conducted with presence or absence of an Axis II diagnosis of APD replacing social phobia subtype as an independent variable. Because the effect for assessment point (pre- to post-treatment change) and SUDS probe occasion are redundant with the above analyses, they will not be reported again. Only the main effects for APD and the APD by assessment point and APD by SUDS probe interactions will be described below. Means and standard deviations for questionnaires and social skill ratings appear in Table I.

Self-Report Questionnaires. Neither the main effect for APD, $F(1, 18) = 1.40$, n.s., nor the APD by assessment point interaction, $F(1, 18) = 2.60$, n.s., were significant in a 2 (Presence vs. Absence of APD) \times 2 (Pretreatment vs. Posttreatment) repeated-measures MANOVA with FNE and the Social Phobia subscales of the FQ and of the SPAI as dependent variables.

Social Skill and Subjective Anxiety. A 2 (Presence vs. Absence of APD) \times 2 (Pretreatment vs. Posttreatment) \times 3 (Dyadic Interaction vs. Triadic Interaction vs. Speech) repeated-measures ANOVA with overall social skills ratings as the dependent variables found no significant main effects or in-

teractions (all $F < 1$). As described above for subtype, three separate 2 (Presence vs. Absence of APD) \times 2 (Pretreatment vs. Posttreatment) \times 3 (SUDS Probe Before vs. Highest vs. After Behavioral Test) repeated-measures ANOVAs were conducted on SUDS ratings for each behavioral test. There was only one significant effect involving APD. Social phobics with APD ($M = 53.0$, $SD = 9.6$) reported more overall subjective distress in the dyadic interaction than non-APD social phobics ($M = 41.6$, $SD = 7.6$), $F(1, 18) = 8.77$, $p < .008$. There was a similar trend for the triadic interaction ($p < .06$). All other main effects and interactions failed to approach significance or were redundant with the subtype analyses.

Overall Improvement. Examination of independent interviewer ratings of overall treatment response revealed the following: Of the subjects with APD, one (8%) was rated as 0 (unimproved or deteriorated); one (8%) was rated as 1 (mildly improved); five (42%) were rated as 2 (significantly improved); and five (42%) were rated as 3 (full remission). For subjects without APD the ratings were one (13%) mildly improved, four (50%) significantly improved, and three (38%) fully improved. No non-APD subject was rated as unimproved or deteriorated. Collapsing across ratings of 0, 1, and 2 to create a 2 (Full Remission vs. Partial or No Improvement) \times 2 (Presence vs. Absence of APD) analysis, APD status and treatment response were unrelated ($p < .90$).

Follow-Up Analyses

Of the 20 subjects who completed treatment, 16 (80%) provided follow-up data on the self-report questionnaires approximately 1 year after treatment ended. Of the four subjects who did not complete the follow-up assessment, two were generalized social phobics with APD diagnoses who received global improvement ratings of 2 (significant improvement) at post-treatment. The third subject was classified as a nongeneralized social phobic with APD who had been rated as 0 (unimproved or deteriorated). The final subject was a nongeneralized social phobic without APD who had received a rating of 3 (strong improvement) at the end of treatment.

Because of the small number of subjects, repeated-measures MANOVAs with the self-report measures as dependent variables were conducted to compare pretreatment and follow-up data, without inclusion of the post-treatment data. Otherwise, the data analytic strategy was identical to that described for the pre- to posttreatment comparisons. These analyses revealed that subjects continued to be significantly improved relative to pretreatment ($p < .014$). No other main effects or interactions involving social phobia subtype or APD were significant.

DISCUSSION

This study explored whether social phobia subtype or an additional diagnosis of APD were related to the efficacy of cognitive-behavioral treatment for social phobia. Although there was evidence on several measures that generalized social phobics continued to be more impaired than nongeneralized social phobics immediately after treatment, there was no evidence of *differential* treatment response for the two subtypes. There was little support for the hypothesis that an Axis II diagnosis of APD would be associated with poor treatment response. Overall, most subjects made clinically significant improvement over the course of treatment and appear to have maintained those gains up to a year later.

Before further discussion, two limitations of the present study must be acknowledged. First, only a small number of subjects participated in the study. Thus, low statistical power may have contributed to the failure to find more differences between groups. This is particularly problematic with the analysis of the follow-up data. Second, only self-report questionnaires were available at the 12-month follow-up. Since differences related to subtype and APD arose only on measures derived from the behavioral test, this study may underestimate the relationship between long-term treatment outcome and subtype or APD status.

Overall Improvement

Eighty-five percent of the subjects made clinically significant gains in treatment according to independent interviewers. At least half of those subjects were judged to be unlikely to need any further treatment for their social fears. This improvement was evident across a broad range of self-report and behavioral measures. Subjects' scores on the FNE and Social Phobia subscales of the SPAI and the FQ demonstrated gains from pre- to posttreatment and pretreatment to follow-up. Raters judged overall social skill to be improved and subjects' reported less anxiety, regardless of assessment situation.

Social Phobia Subtype

There is no evidence that the cognitive-behavioral treatment was effective for one subtype but not for the other, a finding which would have supported qualitative differences between generalized and nongeneralized social phobics. The overall high proportion of subjects who improved and the lack of significant interactions between assessment point and subtype

indicate that both generalized and nongeneralized social phobics responded positively to the psychosocial intervention. However, it appears that some initial differences between generalized and nongeneralized social phobics were maintained at posttreatment. As described above, generalized social phobics were more anxious in the social interactions and demonstrated poorer skill overall regardless of assessment point. Despite the fact that most subjects improved, there was a strong trend for fewer generalized social phobics to be judged fully remitted compared to their nongeneralized counterparts. As noted above, power analyses revealed that this trend would have achieved conventional levels of significance with only a moderate increase in sample size. It appears that, because generalized subjects tended to be more impaired initially, they were more impaired at the end of treatment despite similar levels of improvement. Therefore, these data suggest that, although generalized social phobics responded to CBGT, they may be less likely to be fully remitted at the end of the standard 12 weeks. It seems likely that the broader range of feared situations may require longer or more intensive courses of CBGT.

Avoidant Personality Disorder

These data offer little support for the utility of APD as a predictor of treatment response. There was only one significant effect and one nonsignificant trend involving APD. Social phobics with APD appear to experience more subjective distress in roleplayed social interactions than social phobics without APD, collapsing across assessment point. Of particular note is that fact that both social phobics with and without APD made similar improvement on social skill measures in a treatment that did not include explicit training in social skills. An inspection of the means in Table I reveals that the failure to find meaningful differences on other variables is unlikely to be related to insufficient statistical power because the posttreatment group means tend to be similar. In fact, power calculations for the interviewer rating of improvement revealed that it would have required an enormous sample size ($N > 1400$) to achieve conventional levels of statistical significance. It seems unlikely that such small effects would have any clinical relevance.

This study adds to the growing evidence that, as defined by DSM-III-R, avoidant personality disorder adds little explanatory value to the more broadly defined diagnosis of social phobia. Turner and colleagues (e.g., Turner et al., 1992) have argued that the DSM-III definition of APD had greater utility, noting in particular an association between APD as defined by DSM-III and poor social skills (Turner et al., 1986). In the current

study, there is no evidence of such an association. However, it is worth noting that even using DSM-III criteria, exposure-based interventions are as effective as (and in some cases more effective than) social skill training for individuals diagnosed with APD (Alden & Capreol, 1993).

Our clinical experience suggests that there are a small number of social phobics who are substantially more hypersensitive to rejection than other social phobics. In fact, often it is difficult for them to engage in standard cognitive-behavioral treatments. If assessment techniques could be developed to identify these individuals prior to treatment, it would have great clinical utility and may help define an important nosological distinction. However, it remains unclear whether such a subgroup should be identified as a subtype or would warrant a separate diagnostic category, and if so, whether it belonged on Axis I or Axis II of the DSM.

Conclusion

Diagnostic classification systems are used to identify groups of individuals who are similar to one another but different from other individuals on important dimensions. For example, panic disorder and social phobia are both classified as anxiety disorders but differ in terms of presenting signs and symptoms, family history, age of onset, and a variety of other behavioral, physiological, and cognitive features. The two disorders also respond to separate psychosocial and pharmacological interventions (Barlow, 1988). Where the line is drawn to distinguish between two disorders may be informed by research but is always somewhat arbitrary. Certainly, the standard for separating between subtypes of a single disorder is less rigorous (e.g., requires fewer distinctions) than the standard for classifying two distinct disorders.

Using this logic, there is some limited support for the utility of the social phobia subtype classification scheme proposed by Heimberg, Holt, and colleagues (1993) that differentiates social phobics based on the range of feared situations. These results and previous research (Herbert et al., 1992; Holt et al., 1992) indicate that, relative to their nongeneralized counterparts, generalized social phobics have an earlier age of onset, exhibit poor social skills, have more concomitant Axis I and II diagnoses, and may require a longer course of cognitive-behavioral treatment. Because discrete social phobics, the third category in the Heimberg system, were not available in sufficient numbers, future research is needed to investigate all aspects of the tripartite system. Future research should also compare the Heimberg subtypes to those defined by other researchers (e.g., Jerremalm et al., 1986; Turner et al., 1992) using a variety of treatment approaches.

This study adds to the previous body of research (e.g., Herbert et al., 1992; Holt et al., 1992; Turner et al., 1992) that failed to support the validity of the DSM-III-R definition of APD as a separate nosological entity from social phobia. A review of the draft criteria for DSM-IV (Task Force on DSM-IV, 1993) revealed that six of the seven APD criteria are substantially different from DSM-III-R. Whether these changes will help clarify the boundary between generalized social phobia and APD remains to be seen.

Finally, this study contributes to the growing literature on the efficacy of Heimberg's cognitive-behavioral group therapy for social phobia. Although not all social phobics improved, most made clinically significant gains in short-term group therapy. Future research should investigate changes in the treatment, such as adding a skills training component (Herbert et al., 1993), to make it more effective for the most impaired individuals.

REFERENCES

- Alden, L. E. (1989). Short-term structured treatment for avoidant personality disorder. *Journal of Consulting and Clinical Psychology, 57*, 756-764.
- Alden, L. E., & Capreol, M. J. (1993). Avoidant personality disorder: Interpersonal problems as predictors of treatment response. *Behavior Therapy, 24*, 357-376.
- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington DC: Author.
- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington DC: Author.
- Barlow, D. H. (1988). *Anxiety and its disorders: The nature and treatment of anxiety and panic*. New York: Guilford Press.
- Boone, M. L., Lewin, M. R., McNeil, D. W., & Kahle, A. L. (1989, November). *Differentiating circumscribed speech anxiety and generalized social anxiety using psychophysiological and cognitive methods*. Paper presented at the annual meeting of the Association for the Advancement of Behavior Therapy, Washington, DC.
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences* (4th ed.). New York: Academic Press.
- DiNardo, P., & Barlow, D. H. (1988). *The Anxiety Disorders Interview Schedule—revised*. Albany, NY: Graywind Publications.
- Gelernter, C. S., Uhde, T. W., Cimboic, P., Arnkoff, D. B., Vittone, B. J., Tancer, M. E., & Bartko, J. J. (1991). Cognitive-behavioral and pharmacological treatment of social phobia. *Archives of General Psychiatry, 48*, 938-945.
- Heimberg, R. G. (1989). Cognitive and behavioral treatment for social phobia: A critical analysis. *Clinical Psychology Review, 9*, 107-128.
- Heimberg, R. G. (1991). *A manual for conducting cognitive-behavioral group therapy for social phobia* (2nd ed.). Unpublished manuscript available from the Center for Stress and Anxiety Disorders, Pine West Plaza, Bldg. 4, Washington Avenue Extension, Albany, NY 12205.
- Heimberg, R. G., Dodge, C. S., & Becker, R. E. (1987). Social phobia. In L. Michelson & M. L. Ascher (Eds.), *Anxiety and stress disorders* (pp. 280-309). New York: Guilford Press.
- Heimberg, R. G., Dodge, C. S., Hope, D. A., Kennedy, C. R., Zollo, L., & Becker, R. E. (1990). Cognitive behavioral group treatment for social phobia: Comparison with a credible placebo control. *Cognitive Therapy and Research, 14*, 1-23.

- Heimberg, R. G., Holt, C. S., Schneier, F. R., Spitzer, R. L., & Liebowitz, M. L. (1993). The issue of subtypes in the diagnosis of social phobia. *Journal of Anxiety Disorders, 7*, 249-270.
- Heimberg, R. G., Hope, D. A., Dodge, C. S., & Becker, R. E. (1990). DSM-III-R subtypes of social phobia: Comparison of generalized social phobics and public speaking phobics. *Journal of Nervous and Mental Disease, 187*, 172-179.
- Heimberg, R. G., & Liebowitz, M. R. (1992, April). *A multi-center comparison of the efficacy of phenelzine and cognitive-behavioral group treatment for social phobia*. Paper presented at the 12th National Conference on Anxiety Disorders, Houston.
- Heimberg, R. G., Salzman, D., Holt, C. S., & Blendell, K. (1993). Cognitive-behavioral group treatment for social phobia: Effectiveness at five-year follow-up. *Cognitive Therapy and Research, 17*, 325-340.
- Herbert, J. D., Franklin, M. E., Perry, K. J., Foa, E. B., DiSavino, P., & Hope, D. A. (1993, November). *Cognitive-behavioral group therapy with and without social skills training in the treatment of generalized social phobia*. Paper presented at the annual meeting of the Association for the Advancement of Behavior Therapy, Atlanta.
- Herbert, J. D., Hope, D. A., & Bellack, A. S. (1992). Validity of the distinction between generalized social phobia and avoidant personality disorder. *Journal of Abnormal Psychology, 101*, 332-339.
- Holt, C. S., Heimberg, R. G., & Hope, D. A. (1992). Avoidant personality disorder and the generalized subtype of social phobia. *Journal of Abnormal Psychology, 101*, 318-325.
- Hope, D. A., & Heimberg, R. G. (1993a). Social phobia. In C. G. Last & M. Hersen (Eds.), *Adult behavior therapy casebook* (pp. 125-138). New York: Plenum Press.
- Hope, D. A., & Heimberg, R. G. (1993b). Social phobia and social anxiety. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders* (pp. 99-136). Guilford Press.
- Hope, D. A., Heimberg, R. G., & Bruch, M. A. (1995). Dismantling cognitive-behavioral group therapy for social phobia. *Behaviour Research and Therapy, 33*, 1-14.
- Hope, D. A., Holt, C. S., & Heimberg, R. G. (1993). Social phobia. In T. R. Giles (Ed.), *Handbook of effective psychotherapy*. New York: Plenum Press.
- Jerremalm, A., Jansson, L., & Öst, L.-G. (1986). Cognitive and physiological reactivity and the effects of different behavioral methods in the treatment of social phobia. *Behaviour Research and Therapy, 24*, 171-180.
- Marks, I. M., & Mathews, A. M. (1979). Brief standard self-rating scale for phobic patients. *Behaviour Research and Therapy, 17*, 263-267.
- McNeil, D. W., Ries, B. J., Taylor, L. J., Boone, M. L., Carter, L. E., Turk, C. L., & Lewin, M. R. (1995). Comparison of social phobia subtypes using Stroop tests. *Journal of Anxiety Disorders, 9*, 47-57.
- Mersch, P. P., Emmelkamp, P. M. G., Bogels, S. M., & van der Sleen, J. (1989). Social phobia: Individual response patterns and the effects of behavioral and cognitive interventions. *Behaviour Research and Therapy, 27*, 421-434.
- National Institute of Mental Health (1985). Clinical Global Impressions Scale. *Psychopharmacology Bulletin, 21*, 839-843.
- Öst, L.-G., Jerremalm, A., & Johansson, J. (1981). Individual response patterns and the effects of different behavioral methods in the treatment of social phobia. *Behaviour Research and Therapy, 19*, 1-16.
- Reich, J., Noyes, R., Jr., & Yates, W. (1989). Alprazolam treatment of avoidant personality traits in social phobic patients. *Journal of Clinical Psychiatry, 50*, 91-95.
- Renneberg, B., Goldstein, A. M., Phillips, D., & Chambless, D. L. (1990). Intensive behavioral group treatment of avoidant personality disorder. *Behavior Therapy, 21*, 363-377.
- Schneier, F. R., Spitzer, R. L., Gibbon, D., Fyer, A., & Liebowitz, M. R. (1991). The relationship of social phobia subtypes and avoidant personality disorder. *Comprehensive Psychiatry, 32*, 1-5.
- Spitzer, R. L., Williams, J. B. W., Gibbon, M., & First, M. B. (1990). *Structured Clinical Interview for DSM-III-R*. Washington, DC: American Psychiatric Press.
- Task Force on DSM-IV. (1993). *DSM-IV draft criteria: 3/1/93*. Washington DC: American Psychiatric Association.

- Turner, R. M. (1987). The effects of personality disorder diagnosis on the outcome of social anxiety symptom reduction. *Journal of Personality Disorders, 1*, 136-143.
- Turner, S. M., Beidel, D. C., Dancu, C. V., & Keys, D. J. (1986). Psychopathology of social phobia and comparison to avoidant personality disorder. *Journal of Abnormal Psychology, 95*, 389-394.
- 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 Anxiety Inventory. *Psychological Assessment, 1*, 35-40.
- Turner, S. M., Beidel, D. C., & Townsley, R. M. (1992). Social phobia: A comparison of specific and generalized subtypes and avoidant personality disorder. *Journal of Abnormal Psychology, 101*, 326-331.
- Watson, D., & Friend, R. (1969). Measurement of social evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*, 448-457.
- Widiger, T. A. (1992). Generalized social phobia versus avoidant personality disorder: A commentary on three studies. *Journal of Abnormal Psychology, 101*, 340-343.
- Wolpe, J., & Lazarus, A. A. (1966). *Behavior therapy techniques*. New York: Pergamon Press.