

# CONTROVERSIAL ISSUES IN BEHAVIOR MODIFICATION

Editors

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ASPECTS OF SOCIAL ANXIETY AND SITUATIONAL SPECIFICITY IN  
PSYCHIATRIC PATIENTS

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ABSTRACT

Autonomic, cognitive and behavior performance was investigated in two groups of high and low socially anxious psychiatric patients. Both groups of subjects were exposed to two different naturalistic roleplay situations, viz. refusing a request and initiating a conversation. High and low socially anxious psychiatric patients appeared to differ in expected distress, positive and negative self-evaluations, duration of speech, response latency, number of responses, duration of gaze, quality of gaze and voice volume. The reaction pattern of socially anxious psychiatric patients appears to be primarily characterised by a high degree of self-involvement, expressing itself in negative expectations about the personal role in the interaction, and in a reduced orientation towards others.

The differences in aspects of social anxiety observed in our study between the two experimental situations support the hypothesis of stimulus specificity, postulated by Eisler e.a. (1975) in relation to social behavior. Implications of the results for the assessment and treatment of social anxiety are discussed.

## INTRODUCTION

In recent years, social anxiety, in analogy with phobic anxieties (e.g. Lang, 1968), has been seen as a complex response, consisting of physiological, cognitive and behavioral aspects. Research concerning separate response systems has focused up till now on high and low socially anxious students and normal subjects. The data from this research indicate that high socially anxious subjects can be differentiated from low socially anxious ones: 1) in physiological reactivity (Beidel, Turner & Dancu, 1985; Gambrill & Richey, 1975; Schwarz & Gottman, 1976); 2) in cognitive processes such as the amount of reported subjective distress, negative self-evaluations and off-task thoughts (Schwartz & Gottmann, 1976; Alden & Cappe, 1981; Heimberg, Chiauuzi, Becker & Madrazo-Peterson, 1983; LaVome, Robinson & Calhoun, 1984) and 3) in behavioral performance (Pitcher & Meikle, 1980; Romano & Bellack, 1980; Trower, 1980; Bruch, 1981; McFall, Winnet, Bordewick & Bornstein, 1982). It is questionable, however, whether the results, obtained with normal subjects, can be generalised to psychiatric patients (e.g. Emmeikamp, Mersch & Vissia, 1984).

From the literature on assessment it appears that behavior is to a large extent situationally specific (Cautela & Upper, 1976; Haynes, 1979; Kazdin, 1979). This is also the case for social anxiety. But so far, research in this area has only been concerned with normal subjects or student populations (e.g. Bourque & Ladouceur, 1979; Pitcher & Meikle, 1980; Talbert, Lawrence & Nelson, 1980; Hopkins, Krawitz & Bellack, 1981; Nelson, Hayes, Felton & Jarrett, 1985). Situational specificity has been investigated in situations where sex,

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familiarity with the confederate, and elicited positive or negative assertions were varied. In studies on psychiatric patients, the situations led to differences in overt behaviors (Eisler, Hersen, Miller & Blanchard, 1975) as well as in covert behaviors and physiological reactivity (Hersen, Bellack & Turner, 1978). Up till now no studies have been carried out with psychiatric patients in which the three aspects of social anxiety--arousal, cognition and overt behavior--were investigated in different social situations.

The primary aim of the present study is to investigate differences in arousal, cognitive strategies and behavioral performance between high and low socially anxious psychiatric patients in two social situations. The second purpose is to explore the differences in arousal, cognition and behavioral performance between two different social situations.

#### METHOD

##### Subjects

The subjects were 47 inpatients and outpatients of the Psychiatric University Hospital in Utrecht, the Netherlands. The group consisted of 25 men and 22 women with a mean age of 35 years ( $sd = 10.9$  ranging from 20 to 56). The patients were recruited on a voluntary basis. Patients with the following DSM-III-classifications were excluded from the sample: Organic Mental Disorders, Substance Use Disorders, Schizophrenic Disorders and Psychotic Disorders. The subjects were divided in to 23 high (HSA) and 24 low (LSA) social anxiety scorers, by means of their median score on a Dutch social anxiety inventory (IOA; Van Dam-Baggen & Kraaimaat, 1986c, 1987). The 35 items of the IOA refer to specific social responses, such as giving criticism, expressing opinions, giving compliments, initiating social interactions and stating positive self-assertions. Every item was judged on anxiety on a 5-point Likert scale. Both groups differed significantly as far as the total score of anxiety was concerned (HSA:  $M = 116.7$ ,  $sd = 14.6$ ; LSA:  $M = 71.3$ ,  $sd = 18.6$ ). Age, sex and educational level did not differ between groups ( $t$ - and Chi-square-tests).

##### Procedure

The subjects were exposed to two naturalistic roleplayed social situations with a confederate, viz. refusing a request and initiating a conversation. In the refusal situation the confederate asked the subjects to subscribe to a Nature Fund, on unreasonable financial terms. The confederate was instructed to recruit the subject as a new member and to terminate his efforts only in case of a direct refusal. In the conversation situation the subjects were instructed to initiate a conversation with an unfamiliar person in a waiting room. In this situation the confederate was instructed to reinforce the subject's efforts without taking any initiatives himself. The set-ups described differed also with respect to the sex of the confederate: male in the refusal situation and female in the conversation-situation. The sex of the subjects and the order of the situations were systematically varied over the two groups of high and low socially anxious subjects. In the design originally planned, it was also intended to vary the sex of the confederate over the situations. Unforeseen staff reductions forced us to abandon this plan.

#### Measures

**Subjective distress.** Two weeks previous to the experiment, the expected subjective distress in conversation and refusal situations was established, by means of a self report inventory, type S-R inventory (HEC, De Haan, 1982). During the experiment, immediately after each roleplay encounter, the subjects reported on a five-point scale the distress experienced during roleplay.

**Autonomic reactivity.** During the two experimental situations, as well as during a rest period, heart rate (HR) and skin conductance level (SCL) and spontaneous fluctuations in skin conductance (SPFL) were continuously recorded. Heart rate frequency was calculated by measuring the R-peak intervals in msec, and converting these to heart rate per minute. For skin conductance two measurements were taken: a. skin conductance level, and b. spontaneous fluctuations per time unit. Each fluctuation equal to or greater than 0.02 micromho was regarded as a spontaneous fluctuation. Autonomic reactivity scores for these physiological measures were obtained by subtracting the mean rate of the first minute of the rest period from the mean rate of the first minute of both experimental situations. The temperature in the experimental room was held as constant as possible.

**Cognitions.** After each roleplay, subjects indicated on a questionnaire (after Zatz & Chassin, 1983) whether any of the following cognitive responses had occurred: positive self-evaluations, negative self-evaluations, on-task thoughts and off-task thoughts. For each response, two items were included in the inventory.

**Overt behavior.** Overt behavior was continuously recorded during the experimental sessions by means of a video recorder. Independent judges, unfamiliar with the experimental design and the assignment to the experimental groups, scored the following subject behaviors from the video and audiotapes (e.g. Trower, 1980; Monti, Boice, Fingeret, Zwick, Koiko, Munroe & Grunbergen, 1984; Van Dam-Baggen & Kraaimaat, 1986b): a. duration of speech: the total amount of time the subject spoke during his first five reactions (in sec/min), b. response latency: mean time lapse (in seconds) between the first five reactions of the confederate and the subject's responses, c. number of verbal responses: the total amount of clauses from the subject (per minute),

d. duration of gaze: the total amount of time the subject's gaze was directed at the confederate's face during the first five interactions of subject and confederate (in seconds and minutes),

e. adjustment of gaze: adjusting the gaze to the interaction between subject and confederate (7 point scale ranging from 1=looking away to 7=adjusted direct gaze),

f. intonation: the amount of variance in intonation, and the way in which it was adjusted to the verbal response (7 point scale ranging from 1=monotonous/not adjusted to 7=varied/adjusted),

g. volume of vocalisation: the loudness of the voice in relation to the situation (7 point scale ranging from 1=inaudible to 7=sufficiently loud),

h. the content of the subject's verbal response was rated by use of the literally written-out texts of the experimental situations:

- refusal: directness and concreteness of the way in which the subject refuses membership in the Nature Fund (7 point scale ranging from 1=complying to 7=clearly refusing),
- initiating a conversation: the nature and variation of interventions employed by the subject during initiation and continuation of the discourse (7 point scale ranging from 1=keeping silent to 7=employing various interven-

tions). Twenty-five percent of the video tapes were rescored at random by second raters. The inter-rater reliability coefficient (PM-correlations) for each of the variables was: duration of speech .99, response latency .95, number of clauses .98, duration of gaze .78, intonation .66 and voice volume .79. The situational content was rated by means of 7-point scales by a therapist experienced in the application of social skills therapies. After a time interval of two weeks, each situation was rated again by the same judge: the inter-rater reliability coefficient (PM-correlation) was .91 for refusal and .94 for initiating a conversation.

Hypotheses

Concerning the comparison of the socially anxious groups it was expected that high socially anxious psychiatric patients compared with low socially anxious ones would show:

- a. more expected and more experienced distress and higher rates of autonomic reactivity,
- b. more negative, and fewer positive self-evaluations, less on-task and more off-task cognitions and
- c. shorter duration of speech, longer response latencies, fewer verbal reactions, less direct gaze, lower quality of gaze, lower speech volume, more inadequate intonation and less competent verbal content.

It was hypothesized that the subjects did differ in their autonomic, cognitive and behavioral reactions to the refusal and the conversation situation. The direction of the differences was explored.

RESULTS

Autonomic reactivity and subjective distress

Table 1 shows the mean values and standard deviations of subjective distress and autonomic reactivity of both experimental groups (HSA and LSA) for both situations (conversation and refusal).

Table 1: Means and standard deviations of subjective distress and autonomic reactivity.

	HSA				LSA			
	REFUSAL		CONVERSATION		REFUSAL		CONVERSATION	
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
EXPECT.DISTRESS	11.5	2.7	11.6	2.5	8.5	2.6	8.9	3.2
EXPER.DISTRESS	2.2	.7	2.7	.9	2.1	.7	2.4	1.2
HR (BEAT/M)	8.3	5.8	8.5	6.3	12.4	9.9	11.7	10.7
SCL (MICROMHO)	.7	.8	.6	.6	.6	.4	.8	.6
SPFL	8.8	5.4	7.1	5.4	8.1	3.5	8.5	3.2

The differences between socially anxious groups and situations were tested by means of 2x2 factorial analyses of variance, with repeated measures on one factor (Winer, 1971). Table 2 represents the results of the analyses of variance between groups and situations for measures of subjective distress and autonomic reactivity (HR, SCL and SPFL).

Table 2: Results of the analyses of variance of measures of subjective distress and autonomic reactivity.

VARIABLE	GROUPS (A)		SITUATIONS (B)				AXB	
	MS	F	MS	F		MS	F	
				MS	F			
EXPECT.DISTRESS	194.52	16.93**	1.25	.33	.49	.13		
EXPER.DISTRESS	1.29	1.09	3.50	7.12**	.43	.88		
HR	310.22	2.40	2.20	.13	4.07	.24		
SCL	.01	.02	.01	.06	.28	1.45		
SPFL	2.98	.10	8.37	.88	26.15	2.76		

\*\* P < .01  
 DF = 1 FOR GROUPS, SITUATIONS AND INTERACTIONS  
 DF = 45 FOR ERROR BETWEEN AND WITHIN GROUPS

High socially anxious psychiatric patients reported significantly more expected distress than low socially anxious patients. No inter-group differences were observed, however, in experienced distress and autonomic reactivity. Apparently, high socially anxious patients are characterized by distress they expect to feel in social situations, but neither by distress actually experienced nor by autonomic reactivity in the social situation itself. As far as the differences between situations are concerned, the conversation situation leads to significantly more experienced distress than the refusal situation. There were, however, no differences in expected distress and autonomic reactivity. These divergent findings in expected and experienced distress might be due to the measurement procedure (an S-R inventory versus a 5-point discomfort scale) as well as to situational differences (the nature of the task and the sex of the confederate). None of the anxiety measures showed a significant interaction between level of social anxiety and situation.

Cognitions

Table 3 shows the mean values and standard deviations of cognitive behaviors of the two groups (HSA and LSA) for both situations (refusal and conversation). In table 4 the results of the analyses of variance between groups and situations with respect to the cognitive measures are presented. (table 4) High socially anxious psychiatric patients appeared to differ significantly from low socially anxious patients with respect to positive and negative self-evaluations, as was expected. It became evident that social anxiety is associated with a high level of negative self-evaluative behavior and few positive self-evaluations. Contrary to studies with normal subjects, no diffe-

rences between groups were observed as far as on-task and off-task thoughts were concerned.

Table 3: Means and standard deviations of cognitive behaviors.

	HSA				LSA			
	REFUSAL		CONVERSATION		REFUSAL		CONVERSATION	
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
POS. EVALUATION	1.3	.9	.4	.8	1.7	.6	1.1	.8
NEG. EVALUATION	.8	.9	1.5	.8	.4	.6	.7	.9
ON-TASK THOUGHT	1.7	.6	1.5	.6	1.5	.7	1.6	.5
OFF-TASK THOUGHT	1.0	.7	1.2	.5	.9	.9	1.2	.8

The two situations differed significantly in the amount of positive and negative self-evaluations and in the amount of off-task thoughts. There were more positive and less negative self-evaluations in the refusal situation than in the conversation situation, as well as less off-task thoughts. The situations did not differ with respect to on-task thoughts. The observed differences between situations in self-evaluative thoughts correspond to the differences in experienced distress. The differences between situations in off-task thoughts might be ascribed to the structure of the tasks. The refusal situation, by its greater amount of initiating behavior on the part of the confederate, allows for less cognitive avoidance than the conversation situation, in which the confederate employs a more passive strategy.

Table 4: Results of the analyses of variance of cognitive measures.

VARIABLE	GROUPS (A)		SITUATIONS (B)		AxB	
	MS	F	MS	F	MS	F
	POS-EVALUATION	7.08	8.41**	12.40	29.02**	.48
NEG-EVALUATION	8.75	10.84**	5.70	13.31**	.60	1.39
ON-TASK THOUGHT	.11	.22	3.08	1.34	.68	2.97
OFF-TASK THOUGHT	.10	.13	1.27	6.27*	.08	.40

\* P < .05  
\*\* P < .01

No significant interaction between the level of social anxiety and situation was found for any of the cognitive measures.

#### Overt behaviors

In table 5 the mean values and standard deviations of overt behaviors of both groups (HSA and LSA) for both situations (refusal and conversation) are presented.

Table 5: Means and standard deviations of overt behaviors.

	HSA				LSA			
	REFUSAL		CONVERSATION		REFUSAL		CONVERSATION	
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
SPEECH DURATION	19.4	10.8	9.7	9.8	21.9	11.1	19.0	12.0
RESP. LATENCY	1.2	.8	35.6	31.4	.8	.4	11.0	23.5
NUMBER CLAUSES	5.9	2.8	3.3	2.8	5.9	3.0	5.8	2.7
DURATION GAZE	21.8	9.0	11.5	9.0	26.2	11.9	32.7	14.8
ADJUSTING GAZE	4.0	1.2	2.2	1.2	4.5	1.2	3.9	1.4
VOICE VOLUME	4.7	1.9	4.0	1.9	6.0	1.5	5.8	1.4
INTONATION	3.5	1.6	3.2	2.0	4.2	1.9	4.2	1.8
CONTENT	5.3	1.6	3.7	2.3	4.5	1.8	5.9	1.2

Table 6 represents the results of the analyses of variance between groups and situations for overt behavior.

Table 6: Results of the analyses of variance of measures of overt behavior.

VARIABLE	GROUPS (A)		SITUATIONS (B)		AxB	
	MS	F	MS	F	MS	F
	SPEECH DURAT.	810.14	4.74*	933.35	13.42**	276.12
RESP. LATENCY	3694.29	9.55**	11683.87	30.99**	3454.85	9.16**
NUMBER CLAUSES	38.92	4.29*	41.88	6.21*	37.31	5.53*
DURATION GAZE	3857.49	23.51**	80.45	.81	1649.45	16.51**
ADJUSTING GAZE	27.38	14.11**	31.67	26.33**	7.84	6.51*
VOICE VOLUME	57.81	13.90**	5.25	3.65	1.17	.81
INTONATION	17.39	3.55	.71	.36	.71	.36
CONTENT	10.41	3.18	.21	.07	50.77	16.71**

\* P < .05  
\*\* P < .01

The table indicates a significant difference for the majority of overt behaviors. The differences observed are in the expected direction: high socially anxious psychiatric patients in comparison to low socially anxious ones spoke more softly and for a shorter length of time; they waited longer before uttering a verbal reaction, employed fewer verbal responses, showed less direct gaze towards the confederate, while their gaze, if present, was less adjusted to the situation. The groups did not differ in appropriateness of their response contents, nor in the adjusting of intonation to the situation. These results support the hypothesis that social anxiety is related to a reduced amount of overt social skills.

Between experimental situations the following differences became apparent. Compared to the conversation situation, in the refusal situation duration of speech was longer, speech latency was shorter, there was a greater number of verbal responses and the gaze was more adjusted to the situation. There were

no inter-situational differences in duration of gaze, appropriateness of content, voice volume and intonation.

For response latency, number of responses, duration of gaze, response content and adjustment of gaze, significant interaction values were observed between level of social anxiety and situation. In the conversation set-up, high socially anxious psychiatric patients displayed less overt behavior than in the refusal set-up. This would indicate that the inhibiting influence of social anxiety on overt behavior may be enhanced, depending on the nature of the situation.

#### DISCUSSION

Social anxiety in psychiatric patients is characterized by anticipation of distress, negative self-evaluations and less overt behavior directed towards others. The differences reported in other studies between high and low socially anxious normal subjects (see amongst others Beidel e.a., 1985, Heimberg e.a., 1983, LaVome e.a. 1984, McFall e.a. 1982) were only partially observed in our study on psychiatric patients. High and low socially anxious psychiatric patients appeared to differ in expected distress, positive and negative self-evaluations, duration of speech, response latency, number of responses, duration of gaze, adjustment of gaze and voice volume. Noteworthy is the fact that the two groups did not differ in actually experienced distress, autonomic reactivity and behavioral content. The question of whether high socially anxious individuals have less social skills at their disposal cannot be answered within the design of this study. The reaction pattern of socially anxious psychiatric patients appears to be primarily characterized by a high degree of self-involvement, which is expressed in negative expectations about the personal role in the interaction, and in a reduced orientation towards others. This particular reaction pattern appears to be enhanced in situations in which the interaction is dependent on personal initiative. The differences in aspects of social anxiety observed in our study between the two experimental situations support the hypothesis of stimulus specificity postulated by Eisler et al. (1975) in relation to social behavior. The question of which situational features contributed to the differences observed between the subject's sex and situation only revealed a significant interaction for response latency. The effect of the confederate's sex cannot be investigated in this experimental design. This implies that the differences between both situations could be due to the prescribed response style as well as to the sex of the confederate.

The results of this study have practical implications for the assessment and treatment of social anxiety. For the assessment of social anxiety in psychiatric patients, it is essential to take into account features like anticipation of distress, self-evaluation and overt behavior in the actual situation. Also various social situations should be considered in the assessment procedure. In the treatment of social anxiety, the method of gradual exposure is often applied to achieve a reduction of anxiety (e.g. Wolpe, 1958). Our results indicate that deconditioning of social anxiety in psychiatric patients is much less relevant than is generally assumed. Changing cognitions and/or overt behavior seem to be a great deal more appropriate. The application of only cognitive methods is contraindicated by the limited amount of overt behavioral changes finally achieved (e.g. Kazdin & Wilson, 1978; Ledwidge, 1978; Linehan e.a., 1979). In our opinion, practicing gradually more difficult situations and responses (overt and cognitive) remains more useful for acquiring and

enhancing a more adequate reaction pattern.

The data uncovered in this study may imply that the treatment of social anxiety in psychiatric patients should be directed at: a. diminishing the discrepancy between expected and experienced distress, for example by means of self-monitoring the distress actually experienced; b. reducing negative self-evaluations, which can be achieved by teaching the patients to set attainable goals and subgoals, to set realistic self-standards and to reward themselves in social situations; c. extending the range and quantity of available overt behaviors in social situations, in order to stimulate nonverbal and verbal expressions towards others. With the aforementioned approach an orientation toward others, expressing itself in internal as well as overt behavior, can be established (e.g. Van Dam-Baggen & Kraaimaat, 1986a).

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