The Development and Initial Validation of a Scale to Measure Social Fear

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One of the most widely held theories in the field of schizophrenia today is the diathesis-stress model. Paul Meehl was one of the first people to detail specifically such a model (Meehl, 1962, 1973). Meehl suggested that there existed a genetic predisposition for developing schizophrenia, which he termed schizotaxia. An individual possessing this disposition is labelled schizotypic, but only a portion of those who are schizotypic ever decompensate into clinical schizophrenia. If one accepts Meehl's model for schizophrenia, then the accurate identification of the schizotype becomes a major priority. Over the last few years, several scales have been developed to measure symptoms that Meehl (1964), among others, argue are signs of schizotypy. Scales for Physical and Social Anhedonia (Chapman, Chapman, & Raulin, 1976), Perceptual Aberration (Chapman, Chapman, & Raulin, 1978), Intense Ambivalence (Raulin, 1982), Somatic Symptoms, Magical Ideation and Nonconformity have already been developed and are now in the process of construct validation. This paper details the development of yet another scale--Social Fear.

It has been widely observed that the premorbid life of the schizophrenic patient is frequently characterized by social inadequacy and a dearth of interpersonal relationships. The term "interpersonal aversiveness" has been used to describe the discomfort that many schizophrenic patients experience in social situations. The importance of premorbid social development in predicting prognosis has been appreciated for at least three decades (Phillips, 1953), and recent data (Kessler,

1980) suggest that it may also indicate which schizophrenics possess a genetic predisposition for the disorder. Given these data, it seems apparent that measuring some aspect of social behavior might be a valid way to identify the schizotype in a general population.

We specifically focused on social fear because several writers have indicated that it is characteristic of the preschizophrenic. Hoch (1909) coined the highly evocative term "shut in" personality to characterize the withdrawn, seclusive, apathetic, and asocial traits found in the schizophrenic and preschizophrenic. Kraepelin (1919) described the early childhood personality of schizophrenics as consisting of quiet, shy, and retiring behavior, and an absence of friends. Bleuler (1919/1950) noted that preschizophrenics frequently manifested "character anomolies" including a tendency toward seclusion and withdrawal. Similar observations were made by Kasanin (1945), Langfeldt (1952), Phillips (1953), Meehl (1962, 1964), Lehmann (1967), and Will (1967). Several of these authors (Lehmann, 1967; Meehl, 1962; Will, 1967) gave social fear a prominent role in their particular theory of schizophrenia.

SCALE DEVELOPMENT

The first step in scale development was the preparation of an initial pool of items. A detailed description of Social Fear was given to eight different item writers who together produced an item pool of about 120 items. Item writers were instructed to construct items in a true/false format, to word items in an unambiguous mannner, to use simple sentence structures in active voice, to avoid negatives in the items (which can be very confusing in a true/false format instrument), and to word the items as specifically as possible to avoid acquiescence response set. To further reduce the effects of acquiescence response set, an effort was made to

balance the number of true-keyed and false-keyed items. Finally, given that the trait of social fear is not socially desirable, an effort was made to construct items in such a way as to play down the undesirable facets of the trait. Certain tactics were used to reduce social desirability, such as, for example, focusing on behaviors rather than feelings ("I stay away from people whenever possible.") and broadening the subject of the sentence ("Honest people will admit that socializing is a burden.").

Subjects and Procedure

Three separate samples of college students were used in the scale development. The first sample included 137 female and 173 males students. These subjects were given the initial pool of Social Fear items intermixed with items from a Social Desirability Scale (Crowne & Marlowe, 1964) an Acquiescence Scale (DY-3; Jackson & Messick, 1962), and an Infrequency Scale modeled after Jackson's (1974) Infrequency Scale from the Personality Research Form. Subjects were dropped from any analysis if they skipped more than four items or if their Infrequency score exceeded 2 (out of a possible 13). Item statistics were computed based on these data, and items were dropped, added, or rewritten based on the information provided by these statistics. Ideal items had high item-scale correlations and low correlations with the Social Desirability and Acquiescence Scales. We also wanted items with a relatively low frequency of endorsement reasoning that items endorsed by large numbers of students probably would not be measuring the social fear that would distinguish the schizotype from the non-schizotype. Although no absolute cutoffs on these item statistics were used during the scale development, items were generally considered acceptable if the item-scale correlation was greater than .30 and if the correlations with social desirability and acquiescence each accounted for less than half of the variance of the item-scale correlation. We were

generally shooting for a frequency of endorsement averaging about 15% and only very rarely would we accept items with endorsement frequencies exceeding 30%. Items were retained only if they were satisfactory for both sexes. The scale was revised on the basis of these data and given to a second sample of 105 female and 81 male students and the 36 best items were selected for inclusion in the final scale. This 36-item scale was then given to a third sample of 111 female and 76 male students which served as a cross-validation sample. The first slide shows the reliability and discriminant validity coefficients (correlations with social desirability and acquiescence) for the second and third sample (labelled Standardization and Cross-Validation samples, respectively). The final version of the scale contained 36 items and had an internal consistency reliability of .78 for men and .83 for women. Less than 20% of the variance for men and 4% for women was shared with the Social Desirability Scale and there was no shared variance with acquiescence for either sex in the cross-validation.

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Interview Validation

We intially validated the scale as a measure of social fear by briefly interviewing subjects who scored at various levels on the scale about various aspects of their social life. Ratings of the subject's social behavior which were derived from the interview were then compared with the subject's Social Fear Scale score.

Subjects

Subjects were selected from a pool of 300 college subjects (139 female, 161 male) who completed the 36 item Social Fear Scale and the Infre-

quency Scale. Subjects were selected randomly from each of three categories; the top 25% (high scorers), the middle 50% (middle scorers), and the bottom 25% (low scorers). Overall, 104 potential subjects were identified and contacted, 64 agreed to interviews, and 49 actually showed up for the interview. By prior design, we eliminated foreign students leaving a final sample of 44 subjects. This relatively poor overall response rate can be attributed to a high demand for subjects over the period the study was conducted and was comparable to the response rates and no-show rates of other laboratories using the same subject pool. The proportion of people who chose to participate was not significantly different across groups, $\chi^2(2) = 1.79$.

Procedure

Each subject was given a brief (10-20 minute) structured interview which dealt primarily with social situations. Questions about the subject's social life were intermixed with other questions so as to dilute the concentration of questions that might be stressful for the socially fearful individual. Each interview transcript was rated on two scales; a social fear scale and a sociability scale which were conceptualized as representing two extremes on a hypothetical social activity scale. On the one end of the scale was social fear and a tendency to restrict social activity. On the other end of the scale was sociability which focused on the active attempts of the subject to engage in social behavior. We had predicted that our Social Fear Scale would not only identify subjects who engaged in less social behavior, but also subjects who actively restricted their social activity. Each rating scale was behaviorally oriented and based on the subject's response to at least seven separate questions in the interview. These scales were independent of one another in that different

questions were used to gather the data for rating the subject on each scale. Interrater reliabilities for the two rating scales were .86 and .89. All interviews and ratings, including the interrater reliability ratings, were done by people blind to subject's scores on the Social Fear Scale.

Results

This next slide presents the mean scores for the social fear and sociability ratings based on the interview. The differences between groups on the social fear rating was highly significant, F (2,41) = 17.60, $p < .001$. The differences on the sociability scale were also significant, F (2,41) = 5.32, $p < .01$.

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Exploratory analyses were conducted assessing the individual factors that made up the total social fear and sociability ratings. From these analyses, it was clear that many different behavioral components contributed to the large differences noted in the three groups.

Relationship to Other Schizotypy Scales

In a second validational study, the Social Fear Scale was given to 98 male and 154 female college students together with items from the Physical Anhedonia, Perceptual Aberration, Intense Ambivalence, and Somatic Symptoms Scales and the Infrequency Scale used in the previous study. Subjects with high Infrequency scores were excluded from the analysis. This next slide shows the correlations between the Social Fear Scales and these other schizotypy scales for both male and female subjects. As you can see, consistent and substantial correlations between Social Fear and the other scales exist, with the exception of the Physical Anhedonia Scale, even

though the content of these scales shows virtually no conceptual overlap and the level of method variance is very low in all of the scales. The Physical Anhedonia Scale generally shows low, sometimes even negative correlations, with almost all of the schizotypy scales developed so far. These data are consistent with the hypothesis that Social Fear is yet another sign of the underlying taxonomy of schizotypy as originally hypothesized by Meehl.

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Implications and Conclusions

The data suggests that the Social Fear Scale is a reliable self-report measure that yields the same information about a subject's social behavior and feelings in approximately three minutes as a trained interviewer could elicit in 15 minutes. The scale shows good internal consistency reliability and, except for social desirability in males, excellent response set bias characteristics. The scale also shows the predicted relationship with other schizotypy scales. Of course, further validation must investigate actual behavior of subjects in social situations.

Several lines of research are now being pursued. The relationship of the Social Fear Scale to other previously developed schizotypy scales is being studied in a schizophrenic population. One would expect Social Fear to be strongly related to premorbid social development in schizophrenics, and we are gathering data on that issue as well. But the ultimate validation of this scale and the other schizotypy scales will be the demonstration that these scales identify subsets of the population who show increased risk for developing schizophrenia. This can only be accomplished

by a longitudinal investigation of individuals scoring highly on the schizotypy scales. Although that work has begun, results are many years away.

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Slide 1

Psychometric Properties of the Social Fear Scale

for both the Standardization and Cross-validation Samples

	Standardization Sample	Cross-validation Sample
	Male/Female	Male/Female
Sample Size	81/105	59/103
Coefficient Alpha	.86/.88	.78/.83
Correlation with Social Desirability	-.09/-.20	-.44/-.19
Correlation with Acquiescence	.16/.23	-.02/.00

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Interview Ratings of Social Fear and Sociability

in high, medium, and low scoring subjects.

	Social Fear Scale Score		
Interview Ratings	High Scorers (N = 14)	Medium Scorers (N = 12)	Low Scorers (N = 18)
Social Fear	5.07	3.25	1.44
Sociability	3.93	5.33	6.16

Slide 3

Correlation of Social Fear Scale

with Four Other Schizotypy Scales

	Males (N = 98)	Females (N = 154)
Physical Anhedonia	.16	.32
Perceptual Aberration	.58	.62
Intense Ambivalence	.62	.61
Somatic Symptoms	.52	.54