Stability of Schizotypic Signs in a Chronic Schizophrenic Population: A Preliminary Report.

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The construct validity of nine self-report measures of schizotypic signs was extended by evaluating the stability of the measures in a sample of chronic schizophrenics from a partial hospitalization program. In spite of fluctuations in the level of symptomotology, most scales showed excellent stability over a four-month and an eight-month period.

Meehl (1962, 1964) proposed one of the best known diathesis/stress models of schizophrenia in which he argued that a genetic factor (schizotaxia) was a necessary but not sufficient condition for the development of schizophrenia. He further argued that individuals with this predisposing factor would develop a distinctive personality organization (schizotypy), but only a portion would ever decompensate into schizophrenia. Meehl (1964) suggested that the schizotype could be identified by a series of signs -- stable characteristics of the individual which are apparent even in the fully compensated schizotype.

Self-report measures have been developed for many of the schizotypic signs described by Meehl including Physical and Social Anhedonia (Chapman, Chapman, & Raulin, 1976), Perceptual Aberration (Chapman, Chapman, & Raulin, 1978), Somatic Symptoms (Raulin, Chapman, & Chapman, 1978), Magical Ideation (Eckblad & Chapman, 1983), Intense Ambivalence (Raulin, 1984), Social Fear (Raulin & Wee, 1984), Rage (Raulin, 1982), Distrust (Raulin, 1982), and Cognitive Slippage (Miers & Raulin, 1984). Each of these scales was developed to have high reliability and minimal method variance. All of the published scales show a significantly higher mean score in schizophrenic groups when compared with a normal control group. Furthermore, college students who scored high on one or more of these scales display mild forms of a variety of symptoms found in schizophrenic populations (Adamski, Raulin & Colavecchia, 1983; Beckfield, 1985; Chapman, Chapman, Raulin & Edell, 1978; Chapman, Edell & Chapman, 1980; DePalma & Raulin, 1982; Eckblad & Chapman, 1983; Edell & Chapman, 1979; Friedland, Raulin, & Rourke, 1984; Fujioka & Chapman, 1984; Haberman, Chapman, Numbers & McFall, 1979; Martin & Chapman, 1982; Miller & Chapman, 1983; Numbers & Chapman, 1982; Raulin, 1984; Raulin, Van Slyck & Rourke, 1983; Simons, 1981, 1982; Simons, MacMillan & Ireland, 1982a, 1982b).

Test-retest reliability, which is available for several of the above scales in a normal sample, suggests that these traits are stable. However, there is no test-retest data available in a psychiatric population. Instability in these measures in a psychiatric population would threaten the construct validity of the scales. This study evaluated the test-retest reliability of screening versions (Raulin, VanSlyck, & Rourke, 1983) of these scales in a chronic schizophrenic population over periods of four and eight months.

Method

Subjects

Thirty-one outpatients with a hospital diagnosis of schizophrenia or schizoaffective disorder were sampled randomly from a partial hospitalization program at a VAMC. Eighteen other subjects refused to participate and six other subjects were dropped from the study because they were unable to complete the task or were hospitalized. The average age of this sample was 39.39 (s=11.46); the average education level was 12.29 (s=1.97); the average number of years since the first diagnosis of psychosis was 15.71 (s=10.79). All patients were male; 26 were caucasion and 5 were black; four were married. These patients were participating in a year-long study of the effects of stressors on symptomatology.

Procedures

Patients were tested three times: at baseline, a four-month followup, and an eight-month followup. At baseline, each patient was interviewed using the *Schedule for Affective Disorders and Schizophrenia - Lifetime Version* (*SADS-L*; Spitzer & Endicott, 1977) to verify the hospital diagnosis and to determine the current level of symptomatology. Each patient was rated on the *Global Assessment Scale* (GAS; Spitzer, Gibbon, & Endicott, 1976), a measure of current level of symptomatology, based on the data from the *SADS-L*. In addition, each patient was given a test protocol containing screening versions of the nine schizotypy scales listed in Table 1 (items intermixed).

Table 1
Brief Descriptions of the Schizotypy Scales

Physical Anhedonia - inability to experience physical pleasure

Perceptual Aberration - perceptual distortions especially of body image

Intense Ambivalence - strong simultaneous or rapidly fluctuating positive and negative feelings

Somatic Symptoms - a collection of symptoms thought to be indicative of subtle neurological dysfuntion

Social Fear - strong fear of people and/or social interactions

Magical Ideation - a general belief in causal connections between behavior and events which are objectively unrelated

Cognitive Slippage - a subtle form of thought disorder

Distrust - a strong distrust of the motives of other people

Rage - characterized by strong, periodic, uncontrolled, angry outbursts

All patients were retested after four months. Eight-month followup data were available for 25 patients. At each retest, each patient was interviewed using the *Psychiatric Evaluation Form* (Spitzer, Endicott, Mesnikoff, & Cohen, 1968) and was retested on the schizotypy scales.

A current *GAS* rating was made at each followup based on the information from the *Psychiatric Evaluation Form.*

Results

Table 2 presents the correlations for each of the schizotypy scales between baseline and (1) four-month followup, and (2) eight-month followup. Also presented in Table 2 are the correlations between baseline and the four-month followup for the subset of patients who showed at least a 10-point change (up or down) in their *GAS* rating over that period. This latter analysis is a stronger test of the hypothesis that these schizotypic signs are stable characteristics of the patients and independent of the symptom level.

All of the schizotypy scales showed test-retest reliability over four months which was significant at the .001 level. The average test-retest reliability was .70. Six scales showed test-retest reliabilities greater than .65. At eight months, all but one of the reliabilities were significant at the .001 level and six of the correlations exceeded .70. The average test-retest reliability over eight months was .69. In the sub-analysis of those individuals who showed at least a 10-point change in their *GAS* rating, all but two of the correlations were significant at the .001 level with an average test-retest reliability of .74.

Table 2
Test-retest Reliability for Several Schizotypy Scales

Scale	4-months (N=31)	8-months (N=25)	4-months@ (N=14)
Physical Anhedonia	.65***	.72***	.74***
Perceptual Aberration	.63***	.43*	.60**
Intense Ambivalence	.70***	.74***	.89***
Somatic Symptoms	.81***	.77***	.74***
Social Fear	.83***	.87***	.84***
Magical Ideation	.77***	.62***	.73***
Cognitive Slippage	.69***	.76***	.76***
Distrust	.56***	.60***	.87***
Rage	.61***	.70***	.48*

* $p < .05$; ** $p < .01$; *** $p < .001$; one-tail tests

@ This sub-analysis used only those subjects who showed at least a 10-point change in the GAS rating.

Discussion

These data support one aspect of the construct validity of the schizotypy scales evaluated -- the stability of the scales over time in a psychiatric population. Most of the scales (see Table 2) showed outstanding test-retest reliability which approached the levels of internal consistency reliability. Only three scales (Perceptual Aberration, Distrust, and Rage) showed test-retest reliability below .65 over a four month period. These results support the notion that a stable set of personality traits were measured. This in turn is consistent with Meehl's concept of schizotypy as a enduring personality dimension which may or may not develop into schizophrenia.

This present effort is the first test of stability of the schizotypy construct in a psychiatric population. Many of the scales have shown excellent stability in normal

populations, but the possibility has existed that serious psychopathology might alter the stability of these signs. Demonstrating that overall the signs are stable in a psychiatric population makes the measures much more valuable as research and possible diagnostic tools within psychiatric populations. It should be noted, however, that data from other research (Trigoboff, Raulin, Watson, Henderson, & Propper, 1987) raise questions about the diagnostic significance of these measures in terms of current DSM-III diagnoses. Decisions on the diagnostic significance of these measures will have to await further testing.

Of course, a number of construct validation questions remain. However, this current effort effectively addresses a critical construct validation issue of the personality concept of schizotypy, namely its reliability and stability.

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