DISCRIMINATION BETWEEN AND AMONG SCHIZOPHRENICS AND OTHER PATHOLOGIES USING A SPANISH VERSION OF THE WHITAKER INDEX OF SCHIZOPHRENIC THINKING

J. F. GODOY, M. FERNANDEZ, J. A. MUELA, G. ROLDAN and A. CATENA

Universidad de Granada, Spain

A. E. PUENTE

University of North Carolina at Wilmington

A Spanish version of Forms A and B of the Whitaker Index of Schizophrenic Thinking (WIST) was administered to 147 subjects of both sexes grouped into one of six categories: acute paranoid schizophrenic, acute nonparanoid schizophrenic, chronic paranoid schizophrenic, chronic nonparanoid schizophrenic, normal, and university student. Results revealed significant group differences; schizophrenics scored significantly higher. Further, chronic schizophrenics, regardless of the existence of paranoia, scored higher than acute subjects. In the second study, a heterogeneous group of schizophrenics was compared to heroin addicts and depressed subjects (total N = 93). Significant group differences again were noted; the schizophrenics scored higher than the two other clinical samples.

Schizophrenia continues to be one of the most complex and poorly understood of the mental disorders. The cardinal symptom of schizophrenia, altered thinking, provides a foundation to understand its complexities. Whitaker (1973) developed a test to measure schizophrenia thinking that analyzes illogical thinking and inappropriate judgment. This test, which has two forms (A and B), uses a multiple forced-choice format to assess altered thinking. There are three sections to this inventory: Similarities (9 items), Paired (9 items), and New Inventions (7 items). The total score is added to time taken to complete the test in order to arrive at an index. Since its publication the test has been used effectively to discriminate schizophrenics from a variety of other disorders in both the English and Spanish languages (Albon & Gilbert, 1973; Dobson & Neufeld, 1980; Fishkin, Lovallo, & Fishkin 1977; Newmark, Simpson, & Jones, 1978; Puente & Sanders, 1981). One of the pressing questions both about the efficacy of this instrument and the effects of culture and language on schizophrenic thinking is whether the WIST could be used effectively with non-English-speaking samples. Two studies have revealed results that support the efficacy of the instrument with other cultures and languages. These are Acevedo, Gonzalez, Puente, and Whitaker (1985) with Puerto Ricans, and Yaroush (1982) with Germans. However, in both studies, as in the others previously mentioned, several methodological limitations were present. Few studies used a variety of psychopathologies when comparing schizophrenics. For example, the Puente and Sanders (1981) study focused on differentiating schizophrenics with and without brain dysfunction. Secondly, the non-English studies used limited samples, especially of both normals and non schizophrenics. Further, questions persist as to whether culture may play a role in the schizophrenic symptomatology. Specifically, the Acevedo et al. (1985) study used Puerto Rican, Spanish-speaking subjects. The question remains whether such findings could be replicated with non-American Spanish speakers. To that end, the early Spanish version of this WIST was adapted to Spanish culture (e.g., specific words that did not make sense to continental Spanish culture, but did to Puerto Ricans, were changed accordingly).

STUDY 1

METHOD

Subjects

One hundred forty-seven subjects (males = 76; females = 71) from the Malaga province from southern Spain volunteered for the study. Volunteers ranged from 19 to 61 years of age, and all had obtained the equivalent of a sixth-grade education. All subjects read and understood both a consent form and the WIST. Basic socioeconomic data also were obtained. Schizophrenics, who were diagnosed according to DSM-III-R by psychiatrists, were inpatients at a university teaching hospital. Subjects were grouped according to chronicity; those who had been hospitalized more than 1 year were considered chronic, while those with no psychiatric admissions for the previous year, but who had been hospitalized recently, were considered acute. Paranoid vs. nonparanoid group identification was based on psychiatric interviews and diagnoses that employed DSM-III-R. Normals and students were recruited from the Universidad de Granada in Spain.

The following six groups were formed:

G1-Acute paranoid schizophrenics (n = 20)
G2-Acute nonparanoid schizophrenics (n = 10)
G3-Chronic paranoid schizophrenics (n = 19)
G4-Chronic nonparanoid schizophrenics (n = 16)
G5-Normals (n = 41)
G6-University students (n = 41)

Procedure

All subjects were administered individually the tests by trained university students/technicians. Subjects were administered Forms A and B in a counterbalanced order. During test completion, subjects were observed carefully to make sure that the tests were being completed according to instructions.

RESULTS

Initially, a chi square was completed between the clinical and normals to determine socioeconomic differences. No significant differences between patients and non-patients were obtained, which suggests that all groups were generally homogenous according to this variable.

Next, an analysis of variance (ANOVA) between groups on the index score of Form A revealed statistically significant differences, F5,141 = 23.11, p < .01. A post-hoc Newman-Keuls analysis between groups was accomplished using a .05 level of significance. Group 1 (acute paranoid schizophrenics) obtained lower scores (M = 28.80) than group 3 (chronic paranoid schizophrenics; M = 37.00) and group 4 (chronic nonparanoid schizophrenics; M = 41.16), but obtained higher scores than group 4 (chronic nonparanoid schizophrenics; M = 16.42) and group 6 (university students; M = 12.88). Group 2 (acute nonparanoid schizophrenics) scored below (M = 28.00) group 4, but higher than groups 5 and 6. Groups 3 and 4 obtained higher scores than groups 5 and 6.
Another ANOVA was completed on Form B yielding again significant statistical differences, \(F(5,100) = 14.17, p < .01\). Post-hoc Newman-Keuls analyses were completed between groups. Groups 1 \((M = 26.08)\), 2 \((M = 26.75)\), 3 \((M = 30.80)\), and 4 \((M = 34.60)\) obtained higher scores than the normals \((M = 12.85; \text{group } 6, M = 11.22)\).

**Discussion**

These results indicate that schizophrenics differed from normal controls and that intragroup differences were found when chronicity and paranoia were taken into account. However, robust differences were noted for chronicity, but not paranoia. For example, the difference between paranoid and nonparanoid acute schizophrenics on Form A was .8 and the difference between chronic paranoid and nonparanoid schizophrenics was 4.16, whereas the difference between acute vs. chronic schizophrenic, regardless of paranoia, was 10.58. Also, the differences noted in this study were similar to those obtained in the Puerto Rican sample (Acevedo et al., 1985), which suggests that when culture is manipulated but language is held constant, similar results are obtained. Further, the results in this study also resemble the data obtained from American samples. Hence, this study provides further evidence that neither language nor culture is a critical variable in the measurement of schizophrenic thinking.

**Study 2**

The results of the first study, regardless of their significance, still leave open the question of the efficacy of the instrument in differentiating schizophrenia from other clinical groups, especially those who have "cognitive" or thinking disorders. In order to test further the efficacy of the WIST, the original sample of schizophrenics was used in conjunction with depressives and heroin addicts.

**Method**

**Subjects**

The original sample of schizophrenics was used again. In addition, 28 hospitalized patients were added for comparison; these included 14 heroin addicts and 14 depressives. Subjects were all inpatients from the same hospital and were diagnosed in the same manner as in Study 1.

**Procedure**

The same procedure as in Study 1 was used in this study.

**Results**

A one-way ANOVA on Form A indices revealed between-group differences, \(F(2,90) = 3.93, p < .05\). Post-hoc Newman-Keuls analyses revealed significant differences only between schizophrenics \((M = 34.12)\) and depressives \((M = 27.50)\). No significant differences were noted on an ANOVA using Form B indices.

**Discussion**

These results suggest that differences between schizophrenics, regardless of type, and depressives exist, but not between heroin addicts and the other clinical groups. These differences are only found with Form A. This study suggests that Form A is more robust than Form B. These findings extend those of Acevedo et al. (1985), who found differences between schizophrenics and depressives. Hence, Study 2 provides further support for the efficacy of the WIST as a clinical tool in differential diagnosis. Further support also is found for the hypothesis that culture and language do not play a significant role in the measure of schizophrenic thinking and in the differential diagnosis of schizophrenia, especially between acute and chronic schizophrenics and schizophrenics from depressives and normals. However, the lack of differential efficacy of the WIST when schizophrenics were compared to heroin addicts is not well understood. It may be that the thinking processes of the addicts were so impaired as to resemble, at least when measured by the WIST, schizophrenic thinking.

Replication of these findings with a larger sample of depressives and heroin addicts appears appropriate. Also, it should be worthwhile to include other clinical groups that do not have clear cognitive deficits, such as anxious subjects. Finally, despite the fact that the WIST appears robust in two Spanish cultures, the addition of other Spanish-language cultures (e.g., South American) would add further validity to the hypothesis that neither language nor culture, when controlled for carefully, appears to play a significant role in schizophrenic thinking.

**References**


