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MMPI and Clinical Scales Compared

By F. G. STEPHENS and M. VALENTINE

Aims and Methods

The aim of the investigation was to compare rating scales for syndromes as given by a psychological test, the Minnesota Multiphasic Personality Inventory (MMPI), with those derived from a standardized psychiatric history (CAPRICE System). The first is dependent on information supplied directly by the patient, who answers a check-list; the second is based on a psychiatric interview and the completing of a codified case-history. The computerized form of the MMPI was employed (Fowler and Miller, 1969), and the scales selected were those corresponding with manifest anxiety (At scale); depression (D scale); phobias, obsessions and compulsions (Pt scale); and schizophrenia (Sc scale). The nearly corresponding scales derived from the CAPRICE System (Valentine, 1973) are the scales for Anxiety, Depression, Obsessional-Compulsive Disorder, and Psychosis.

In all, data were collected from 70 randomly selected patients who had completed the MMPI and also had a CAPRICE codified case-history. This group of 70 was unselected as regards MMPI validity, including 10 patients whose 'F scores' exceeded a standard score of 80; it was composed of 28 males and 42 females, mean age 33·3 years (S.D. 11·9). The mean male age was 37·5 (S.D. 13·7), the mean female age was 30·3 (S.D. 10·8); 37 were in-patients and 33 were out-patients.

Considering only those patients whose F scores did not exceed 80 and whose records accordingly could be regarded as valid, the total number fell to 60, 25 males and 35 females, mean age 34·8 years (S.D. 12·3). The mean male age was 39·7 (S.D. 13·9) and the mean female age 31·3 (S.D. 11·6); 29 were in-patients and 31 were out-patients.

The diagnoses of this group of 60 patients were made up as follows, the corresponding figures for the group of 70 patients being given afterwards in brackets—anxiety neurosis 21 (21), depressive neurosis 16 (20), affective and reactive psychoses 11 (11), personality disorder, alcoholism, drug dependence and psychosomatic disorder 7 (8), schizophrenia 4 (7), obsessional neurosis 1 (3).

Results and Discussion

In the group of 60 'valid MMPI' cases, there were significant associations of the CAPRICE scales for Depression, Anxiety and Psychosis with the MMPI scales for Depression, Manifest Anxiety and Schizophrenia respectively. The two sets of scales also showed significant associations in the total group of 70 patients, which included 10 MMPI records of doubtful validity because of high F scores; the table indicates the chi-squared values and the significance of these values.

Table I

Association of the CAPRICE clinical scales with scales derived from the automated MMPI, chi-squared method, 2 degrees of freedom

CAPRICE scale	MMPI scale	CAPRICE record and unselected MMPI (F score may exceed 80) N = 70 χ^2	CAPRICE record and selected MMPI (F score not more than 80) N = 60 χ^2
Depression ..	D	17·48 **	16·66 **
Anxiety ..	At	25·61 **	16·62 **
Obsessional-compulsive disorder ..	Pt	1·46 N.S.	0·57 N.S.
Psychosis ..	Sc	13·27 *	9·41 *

* Significant at $p < 0·01$ level.
** Significant at $p < 0·001$ level.
N.S. = Not significant.
Means and standard deviations for these groups, and also for a control group, are available on request.

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This suggests that when administered to patients capable of performing it the automated version of the MMPI may be returned as of doubtful validity in about 1 case in 7; however, these MMPI records are not necessarily valueless, though they must be interpreted with care. The 10 cases of doubtful validity were diagnosed as depressive neurosis (4), schizophrenia (3), obsessional neurosis (2) and personality disorder (1). In the sub-group composed of those 10 patients, the same CAPRICE and MMPI scales still showed positive associations, though these were not significant (p approximately 0·1 by Fisher's Exact Probability Test).

The CAPRICE scale for obsessional-compulsive disorder did not associate significantly with the MMPI Pt scale in the 60-patient, the 70-patient nor the 10-patient groups. Possible reasons are (1) the MMPI Pt scale is not a unitary scale for obsessional and compulsive features; it includes phobias, and indeed many of its items relate to phobic anxiety rather than to obsessional and compulsive disorders; and (2) the CAPRICE scale for obsessional-compulsive disorder has too few items and does not produce a normal distribution.

Summary

In a study involving 70 patients who completed the automated MMPI (personality test) and who also had a standardized psychiatric interview (CAPRICE system), there were significant or highly significant associations between the MMPI scales for Depression, Manifest Anxiety and Schizophrenia, and the nearly equivalent scales derived from the codified psychiatric interview. These associations held good whether the group was formed to include or exclude the encountered one-seventh of MMPI records of doubtful validity because of high F scores. In those records of doubtful validity there were positive but non-significant associations for the same three scales. The MMPI scale for phobias, obsessions and compulsions did not associate significantly with the clinical scale of obsessional-compulsive disorder in any of the groups.

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F. G. Stephens, M.B., M.R.C.S., D.P.M., *Clinical Assistant*,
M. Valentine, M.D., F.R.C.Psych., *Consultant Psychiatrist*,
Glenside Hospital, Bristol BS16 1DD

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