THE RELATIVE STABILITY OF PERSONALITY MEASURES COMPARED WITH DIAGNOSTIC MEASURES

By

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Introduction

In previous investigations (Foulds and Caine, 1958 and 1959) psychoneurotic subjects were classified in terms of the presenting syndrome (Hysteria or Dysthymia) and of the personality type (hysteroid or obsessive) as rated by psychiatrists. It was found that some psychological test measurements differentiated between Hysterics and Dysthymics regardless of personality type; whilst other measures differentiated between hysteroid and obsessive personalities regardless of diagnosis. The successful measures were not, however, identical for men and women. It was argued that one of the advantages of this double classificatory system should be that we would have one set of measures —the diagnostic—which should vary with the patient's clinical condition and another set—the personality measures—which should remain relatively constant.

The aims of the present investigation were two-fold: firstly, to repeat the study of symptom clusters and personality trait clusters with a new sample of psychoneurotic women; secondly, in the event of confirmatory findings, to test the prediction that personality measures would prove more invariable than diagnostic measures. Following from this and from the fact that Dysthymic women were more often considered to recover from their illness than Hysterics (Foulds and Caine, 1959), a subsidiary pair of predictions can be made. The first is that on re-test the diagnostic measures of the Dysthymics will change more than those of the Hysterics; the second is that hysteroid and obsessive patients will change equally little on the personality measures. Thus, Hysterics and Dysthymics should differ significantly on the diagnostic measures on first testing; but they should be indistinguishable on second testing after an interval of, say, one month. Hysteroid and obsessive subjects should, however, be significantly different on the personality measures at both first and second testing.

Replication Study

Subjects and their classification: Twenty-three successive admissions, diagnosed as psychoneurotic, were tested. To these were added 3 of the 4 Hysterics of obsessive personality who were not used in the earlier study. The fourth has subsequently been thought to be a Paranoid Schizophrenic. The final groupings were as follows: 8 hysteroid Hysterics (Hh); 5 obsessive Hysterics (Ho); 7 hysteroid Dysthymics (Dh) and 6 obsessive Dysthymics (Do.).

The 13 Hysterics had a mean age of 37·69 years (s.d. 10·73) and the 13 Dysthymics 36·46 (s.d. 9·56). The difference was not significant.

The 15 hysteroid patients had a mean age of 35·00 years (s.d. 8·72) and

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the 11 obsessive 39·91 (s.d. 11·27). Again the difference did not approach the 5 per cent. level of significance.

The tests: These were, of course, identical with those used in the earlier study—the Mill Hill Vocabulary Scale, the Progressive Matrices (1938), the Porteus Mazes, the Thematic Apperception Test, the Minnesota Multiphasic Personality Inventory, the Superiority-Inferiority Index and the Tapping Test.

The sole difference in administration was that Progressive Matrices was given without a time limit and without, rather than with, the patient being aware that the time taken was being recorded.

Scoring: In the earlier study the scores on each test were cut into quintile divisions. Those falling within the first quintile score −2 (the Dysthymic end in the case of the diagnostic measures, the obsessive end in the case of the personality measures) and so through to +2 at the Hysteric or hysteroid end. Subjects in the present study were scored in accordance with these tables based on the original sample.

Results: Table I shows the number of cases correctly identified. The percentages correctly identified in the original study were both 78; in this study they were both 77. The previous findings have, therefore, been confirmed.

TABLE I

Number and Percentage of Cases Correctly Identified as to Diagnostic and Personality Type

	8 Hh	5 Ho	7 Dh	6 Do	26 Total	Per cent.
Correct as to diagnostic type	6	3	6	5	20	77
Correct as to personality type	6	5	5	4	20	77

The numbers are too small to allow convincing cross-validation of each test. All of them, however, apart from the Tapping Test, classified correctly more subjects than they misclassified, the percentages ranging from 55 to 78. The earlier promise of the Tapping Test—based on less than the original total sample—was not fulfilled. The sixth personality measure—M.M.P.I.: Hy+Pd+Sc+Pt—was abandoned as cumbersome and adding nothing significant to the overall differentiation.

The change in administration of Progressive Matrices resulted in the reappearance of the Matrices : Vocabulary ratio differences (Foulds, 1956). The mean Mill Hill Vocabulary grade for the 13 Hysterics was 5·15 and the mean for Progressive Matrices 5·00; the corresponding figures for the 13 Dysthymics were 5·38 and 4·38. Whilst letting the patient know that she was being timed on the Matrices made no significant difference in the speed of work, it did apparently cause the Dysthymics to make more errors.

Tentative norms based on the 64 cases in the original study and the 26 cases in the present study are given in the Appendix. Quintile divisions are replaced by septile divisions.

RE-TEST STUDY

Subjects and their classification: Of the 23 successive admissions used in the replication study 19 were re-tested. The remaining 4 discharged themselves within 2 weeks of first testing. All 7 cases from the original study who had been re-tested were added. The final grouping was as follows: 8 Hh; 4 Ho; 6 Dh and 8 Do.

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Results: To test the first prediction—that the diagnostic measures would change, without specifying direction, more than the personality measures—the difference between each subject's first and second test performance on each test regardless of direction was calculated. The mean difference for the three diagnostic and five personality measures was then obtained for each subject and the latter subtracted from the former. The mean difference for the group was then calculated and the t-test for the significance of a single mean applied. Thus, to give a typical example, if a subject's score on "Maze Distraction" fell in the first quintile on first testing she would score −2; if, on second testing her score fell in the fourth quintile, she would score +1. The difference would then be 3. A complete example would be as follows:

	Mz dis.	TAT:T.W.	MMPI D–Hs		Diagnostic Score
1st test	−2	−1	−1	=	−4
2nd test	1	0	1	=	2
Difference	3	1	2	=	6
Mean difference ..				=	2·00

	Mz T.T.	Mz L.P.	MMPI Ex.	S–I	P.M.T.		Personality Score
1st test ..	1	0	−1	2	1	=	3
2nd test ..	2	0	0	2	2	=	6
Difference ..	1	0	1	0	1	=	3
Mean difference						=	0·60

The mean difference personality score of 0·60 is then subtracted from the mean difference diagnostic score of 2·00 for a final figure of +1·40. This might be expressed as $\frac{d_1-d_2}{3} - \frac{p_1-p_2}{5}$, where d is the diagnostic, p the personality measure, where 1 and 2 refer to 1st and 2nd testing and 3 and 5 to the number of tests making up the diagnostic and personality scores respectively. The mean difference score for the group was 0·652 (s.d. 1·137), t=2·92 and p is <·01. The first prediction that diagnostic measures would change more than would personality measures was, therefore, confirmed.

To test the second prediction mean diagnostic and personality scores were calculated for both groups on 1st and 2nd testing. These are shown in Table II, together with the t and p values.

TABLE II

Diagnostic and Personality Scores of Psychoneurotic Women

	Diagnostic Scores				Personality Scores			
	1st (d_1)		2nd (d_2)		1st (p_1)		2nd (p_2)	
	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.
12 Hysterics ..	3·08	3·73	2·25	2·56				
14 Dysthymics ..	−1·29	3·99	2·00	2·88				
14 Hysteroids ..					3·21	5·00	5·21	4·61
12 Obsessives ..					−3·58	4·59	0·67	5·21
t	3·04		0·22		3·57		2·26	
p	<·01		>·20		<·01		<·05	

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Hysterics differed from Dysthymics on the diagnostic score at the 1 per cent. level of significance; after 4·69 weeks (s.d. 1·98) they did not differ at all.

Hysteroid patients differed from obsessives on the personality score at the 1 per cent. level of significance; on re-testing they still differed, but only at the 5 per cent. level of significance. The second prediction was, therefore, confirmed. There was, however, a tendency for obsessives to change rather more than hysteroids. This was particularly so on the two speed measures, Maze total time and Matrices time. Practice effect, which would work against the predictions, was not allowed for, except in considering the percentage of cases correctly identified. Here the optimal cutting score lay between 2 and 3 for personality re-test score instead of between 0 and −1 as on the first test.

On the first diagnostic score 77 per cent. were correctly identified (75 per cent. of Hysterics and 79 per cent. of Dysthymics); on re-test only 54 per cent. were correctly identified (83 per cent. of Hysterics and 29 per cent. of Dysthymics). Within the present framework, Dysthymics have moved towards the Hysteric position. There is, however, some evidence that Hysterics behave more like normals than do Dysthymics—for example, in frequency of eyeblinks during conditioning (Franks, 1956a, b, 1957); on the E and N scales of the Maudsley Personality Inventory (Sigal *et al.*, 1958) and on the Mill Hill Vocabulatory : Progressive Matrices ratio (Foulds, 1956). This movement of the Dysthymics may, therefore, be towards normality. This is lent some support by the fact that the M.M.P.I.: Depression scores of Dysthymics drop significantly, as can be seen from Table III.

TABLE III

M.M.P.I.: Depression and Hypochondriasis Scales for Test–Re-test

	12 Hysterics				14 Dysthymics			
	Depression		Hypochondriasis		Depression		Hypochondriasis	
	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.
Test ..	71·50	17·83	71·33	18·72	79·07	14·89	64·71	10·19
Re-test	68·17	19·71	67·08	16·53	68·64	10·70	59·43	11·11
t ..					2·58			
p ..					<·05			

On the first personality score 81 per cent. were correctly identified (78 per cent. of hysteroids and 83 per cent. of obsessives); on re-test 69 per cent. were correctly identified (79 per cent. of hysteroids and 58 per cent. of obsessives).

SUMMARY

Previous results—indicating that certain test measures differentiated between Hysteric and Dysthymic women regardless of personality type, whilst others differentiated between hysteroid and obsessive personalities regardless of diagnostic type—were confirmed on a second sample.

It was predicted that (*i*) diagnostic measures would change more than personality measures; (*ii*) the diagnostic measures of Dysthymics would change more than those of Hysterics in such a way that (*a*) these groups would cease to be distinguishable on re-test; whereas (*b*) hysteroid and obsessive personalities would be distinguishable both on test and re-test. All these predictions were correct.

Those therapists who are, probably quite rightly, dissatisfied with the mere alleviation of symptoms may care to try to change some of the personality scores utilized here.

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Appendix

Mann Whitney U *for* $n_2 > 20$ *(2 tailed) for tests making up the diagnostic and personality scores*

	Hh : Dh z	Hh : Dh p	Hh : Do z	Hh : Do p	Dh : Do z	Dh : Do p
Maze distraction	2·27	·023	2·23	·026	0·10	·920
T.A.T.: Total Words ..	2·54	·011	1·38	·168	1·22	·222
M.M.P.I.: D–Hs	2·41	·016	2·34	·019	0·63	·529
Maze time	0·65	·516	2·14	·032	2·29	·022
Maze lifted pencils	0·23	·818	2·72	·007	2·64	·008
M.M.P.I.: Extrapunitive ..	0·52	·603	2·01	·044	1·60	·110
Superiority-Inferiority ..	0·66	·509	3·05	·002	1·86	·063
Matrices time	0·70	·484	2·80	·005	3·60	·0003

"*Diagnostic*" *Tests*

Maze Distraction		TAT: Total Words		M.M.P.I.: D-Hs	
+3	85 and over	+3	115 and over	+3	−4 and under
+2	77 to 84	+2	106 to 114	+2	−3 to +2
+1	71 to 76	+1	95 to 105	+1	3 to 6
0	68 to 70	0	83 to 94	0	7 to 12
−1	60 to 67	−1	72 to 82	−1	13 to 16
−2	51 to 59	−2	60 to 71	−2	17 to 21
−3	50 and under	−3	59 and under	−3	22 and over

"*Personality*" *Scores*

Maze Time		Maze Lifted Pencils		M.M.P.I. Extrapunitive		Superiority–Inferiority		Matrices Time	
+3	209 and under	+3	2 and under	+3	13 and over	+3	7 and over	+3	23 and under
+2	210 to 249	+2	3 to 5	+2	10 to 12	+2	5 to 6	+2	24 to 30
+1	250 to 296	+1	6 to 8	+1	8 to 9	+1	2 to 4	+1	31 to 37
0	297 to 339	0	9 to 11	0	6 to 7	0	1	0	38 to 50
−1	340 to 379	−1	12 to 14	−1	5	−1	0	−1	51 to 65
−2	380 to 499	−2	15 to 19	−2	3 to 4	−2	−1 to −2	−2	66 to 86
−3	500 and over	−3	20 and over	−3	2 and under	−3	−3 and under	−3	87 and over

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