

DEPRESSION AND PERSONALITY

By

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INTRODUCTION

It has been suggested (Foulds, 1961b) that a double classificatory scheme, which takes account of both the more unstable symptom variables and the rather more enduring and stable personality variables, should increase the reliability of the psychiatric diagnosis.

The task undertaken in the present experiment was to determine whether this double classificatory scheme was valid and useful within the depressive illnesses. More specifically, we wished to ascertain the degree to which a person's place on a hysteroid:obsessoid dimension of personality is independent of his place on a psychotic:neurotic scale of depressive illness.

Measurement of a hysteroid:obsessoid typology, worked out on normal and neurotic groups, may prove extremely difficult among non-paranoid schizophrenics because of the shattering effect of the illness on the basic personality. It is our hypothesis, however, that it can be measured among the pathologically integrated psychotics, such as the paranoid and depressive groups. Traits may nevertheless be more difficult to distinguish from symptomatology among these groups than among the neuroses, since the psychotic patient tends to over-emphasize particular aspects of the personality to the virtual exclusion of others which were equally prominent before the illness.

Although many writers, including Kraepelin, have drawn attention to the difference between pre-illness personality patterns and the more flagrant and transient symptomatology of illness, this question has received little attention in the systematic research on depression. Mayer-Gross *et al.* (1960) do state that "affective psychosis can occur in persons without a noticeably cycloid temperament". They go on to describe the "constitutional depressive", which, when they are not simply arguing backwards from factors which we would prefer to call symptoms, sounds not unlike our obsessoid personality type. Their "constitutional hypo-manic" is not unlike our hysteroid personality type. Yet it is never clear how the clinician is supposed to separate data used to make inferences about pre-illness personality from data involving criteria for diagnosis. Thus, "the depressive mood of the reactive patient is much more responsive to the immediate environment than an endogenous depression". It is evident that the data from which such an inference is derived may in practice as easily lead to the inference of the emotional lability of the hysteroid personality. There is a very common tendency in present systems of classification to apply different labels to the same trait when it appears in the company of a different complex of symptoms.

The present research, designed to disentangle certain aspects of depressive symptomatology from a hysteroid/obsessoid dimension of personality, was guided by the following specific hypotheses:

1. The first concerns the nature of the correlation to be expected between the psychotic depression scale and the hysteroid/obsessoid instrument.

Guildford (1934) has called attention to "the very troublesome situation found by those who construct tests of I-E" (Introversion-Extraversion) "and of 'neurotic tendency', a difficulty in keeping the two types of tests from correlating significantly with one another". This is a genuine difficulty; but it is important to keep in mind that even very high correlations between two measures administered on a single occasion reflect only the degree of covariance under those particular conditions. They may be found to go quite separate ways under different conditions, (thus Hyp. 3). It was thought to be very likely, for example, that a significant correlation might be found between the psychotic depressive scale (Me) and the hysteroid/obsessoid questionnaire (HOQ) on the initial testing before treatment. It should be negative, because psychotic depression in an obsessoid personality is probably a more likely occurrence than psychotic depression in a hysteroid personality; but it should also be fairly low, since it would seem from earlier work (Foulds, 1961b) that dysthymic neurotics divide rather evenly between hysteroid and obsessoid personalities.

2. The second set of hypotheses concern relationships between particular measures at the time of initial testing:

- (a) Certain test measures (specified below) will be more closely related to the diagnostic than to the personality dimension.
- (b) Certain test measures will be more closely related to the personality than to the diagnostic dimension.
- (c) Certain test measures in the battery will not be related to either diagnosis or personality.

3. The following predictions relate to results of re-testing:

- (a) Diagnostic measures will change significantly after treatment.
- (b) Personality measures will not change significantly.

PROCEDURE

Subjects: The subjects of the study were 37 women between the ages of 30 and 59, diagnosed by two psychiatrists as having illnesses falling within the "Depression" category. The sample contained 17 psychotic and 20 neurotic depressives. The psychotic group was made up of 10 manic-depressives, 1 involuntarily melancholic, 5 "other" psychotic depressives and 1 "uncertain whether psychotic or neurotic". Only one subject could be said to be severely retarded and she was testable. Previous research samples have usually contained a much higher proportion of such cases, which makes comparison with earlier work hazardous.

A minimum score of 14 on the Definitions half of the Mill Hill Vocabulary Scale was required. All patients in fact achieved this level; but 3 out of 40 successive admissions had to be excluded as untestable.

Of the 17 psychotic depressives, 16 were re-tested. Of the 20 neurotic depressives, 15 were re-tested.

Tests: Each patient was given the following tests: the Mill Hill Vocabulary Scale (Definitions); the Progressive Matrices (1947, Part I); the Runwell Symptom-Sign Inventory; the Tapping Scatter; the Extrapunitive-Intropunitive Scales; the Porteus Mazes and the Hysteroid-Obsessoid Questionnaire.

From these tests 14 measures were derived in all. These can be grouped according to whether they were expected to be predominantly diagnostic or predominantly personality measures or neither.

Diagnostic measures: Two measures—the Psychotic Depressive Scale (Me) and the Delusional Guilt Scale (DG)—should be more closely related to diagnosis than to personality.

The Runwell Symptom-Sign Inventory (RSSI), described more fully elsewhere (Foulds, 1962) consists of 103 items, based on questions asked by psychiatrists in clinical interviews. These items are grouped in 8 *a priori* scales—Anxiety; Neurotic Depression; Hypomania; Paranoid; Obsessional; Non-Paranoid Schizophrenia; Hysteria; and Psychotic Depression.

Thirty women in each of the following groups had previously been given the Inventory—Anxiety States, Paranoid Schizophrenics, Hysteroids, Neurotic and Psychotic Depressives. From these data was derived a 10-item scale (Me), which best differentiated Psychotic Depressives from the other four groups. The Runwell Symptom-Sign Inventory (RSSI) was given in the present study; but the empirically derived Me Scale was scored separately. The 10 items making up this Me Scale were:

- Ax 6: Are you afraid that you might be going insane?
- Dp 10: Do you ever seriously think of doing away with yourself?
- Me 1: Are you worried about having said things that have injured others?
- Me 2: Are you an unworthy person in your own eyes?
- Me 4: Are you a condemned person because of your sins?
- Me 5: Are you troubled by waking in the early hours and being unable to get to sleep again (without sleeping tablets)?
- Me 6: Because of things you have done wrong are people talking about you and criticising you?
- Me 8: Do you cause harm to people because of what you are?
- Me 9: Are you ever so “worked up” that you pace about the room wringing your hands?
- Me 10: Do you ever go to bed feeling you wouldn’t care if you never woke up again?

It can be seen that eight out of the ten items came from the *a priori* Psychotic Depression Scale (Me), one from Neurotic Depression Scale (Dp) and one from the Anxiety Scale (Ax). There were no items on which neurotic depressives significantly exceeded all other groups. This finding raises the possibility that neurotic depressives receive their label through diagnosis by exclusion. There may exist other symptoms which they possess with greater frequency than other diagnostic groups, but the list was rather extensive; it is more likely that the only group from which they differ in this way is a normal group.

With a cutting score between 4 and 5 on the RSSI Me Scale, 78 per cent. of depressives were allocated to the neurotic or psychotic categories in agreement with the clinical diagnosis in the earlier study. The scale was, therefore, included in the present investigation as the criterion diagnostic measure.

In a previous study (Foulds *et al.* 1960), the Delusional Guilt Scale was found to differentiate psychotic depressive women from neurotic depressive

women. Only the neurotics had been typed as obsessoid or hysteroid. Since they too differed somewhat, there may be a significant relationship with personality, but of a lower order than that with the criterion diagnostic measure.

Personality measures: Caine found that his Hysteroid-Obsessoid Questionnaire had a coefficient of association of .56 with observer ratings of the traits from which the questionnaire was constructed. The HOQ, therefore, served as the criterion personality measure.

The Extrapunitive-Intropunitive Scales are fully described in an earlier report (Foulds *et al.* 1960). They consist of items from the MMPI, which have been broken down into five sub-scales. Three scales were concerned with aspects of extrapuniteness—Acting-out hostility, Criticism of others and Projected delusional hostility; whilst two were concerned with aspects of intropuniteness—Self-criticism and Delusional guilt. Each of these scales has been found to contribute to the differentiation of certain diagnostic and personality groups. The total extrapunitive score was found to be related to personality type, but not to diagnostic type among neurotics (Foulds and Caine, 1958). Of the sub-scales only Acting-out hostility and Criticism of Others would be expected to relate to personality significantly.

The time taken to complete Progressive Matrices (1938) was found to relate significantly to personality type, but not to diagnostic type among neurotics (Foulds and Caine, 1958). In the present study the 12 items Progressive Matrices (1947, I) was substituted in the hope that this measure would serve as well as Progressive Matrices (1938). Diagnostic differences might be expected to emerge too, since retardation is a slowing up due to the effects of profound depression from a previous preferred speed of working.

The Porteus Mazes administration was as described in earlier experiments (Foulds, 1951). The scoring categories used were: Total Time (TT) and number of Lifted Pencils (LP). The modification used in a later experiment (Foulds, 1956) was again used, namely that all wrong channels were marked off with a red line. The intellectual problem was, therefore, reduced to a minimum.

Maze Total Time and Lifted Pencils were found to be related to personality type, but not to diagnostic type among neurotics (Foulds and Caine, 1958), when the unblocked mazes were used.

Measures related to neither diagnosis nor personality: The Mill Hill Vocabulary Scale (Definitions) were not expected to differentiate between diagnostic or personality groups.

Scores on Progressive Matrices (1947, I) were not expected to differentiate either way, since psychotic depressives do not generally show any marked intellectual impairment.

The Tapping Scatter Test was previously found not to differentiate significantly between psychotic depressives and dysthymics (Foulds, 1961a). The test was included for comparison with other groups to be collected later. In this test, subjects are asked to tap with a pencil as quickly as possible for 10 seconds. A transparent sheet, divided into 320 half-inch squares, is placed over the test record and the number of squares containing dots is counted to assess scatter.

The Self-Criticism and Projected Hostility Scales were not, on the basis of previous results, (Foulds *et al.*, 1960) expected to show significant differences, though there might be some tendency for obsessoids to score higher than hysteroids on the former and lower on the latter.

RESULTS

Me Scale: Of the 17 psychiatrically diagnosed psychotic depressives, only 5 scored 4 or less out of the 10 symptoms; of the 20 neurotic depressives only 3 scored 5 or more. Thus, 29 out of 37 (or 78 per cent.) were correctly allocated, as in the original sample. (Chi Square=14.15; $p < .001$). This cross-validation provides additional justification for the use of this scale as the criterion diagnostic measure.

Hysteroid Obsessoid Questionnaire: It was only possible to have 19 of the 37 subjects rated by observers on this dimension, 9 being classified as hysteroid and 10 as obsessoid. Eight of the 9 hysteroids fell at or above the median and 7 of the 10 obsessoids fell below the median on the Questionnaire. Thus 79 per cent. of the scores were in agreement with the ratings—as compared with 80 per cent. found by Caine. (Chi Square=4.54; $p < .05$). This Questionnaire was accordingly used as the criterion measure for the personality dimension.

The correlation between these two criterion scales was $-.343$. Thus, a high score on “psychotic depression” is associated with a low score on the Hysteroid Scale. In consequence of this association, all subsequent correlations reported are partial correlations with psychotic depression and hysteroid score held constant in turn.

Diagnostic Measures

DG and Me (HOQ) $r = -.685$; $t = 5.48$ $p < .001$

DG and HOQ (Me) $r = -.380$; $t = 2.39$ $p < .05$

Both relationships were therefore significant; but the relationship with diagnosis, as predicted, was the paramount one. It is interesting that in Orme's* recent work this Delusional Guilt scale was found not to discriminate between psychotic and neurotic depressives. Either his different method of administration or grossly different criteria for the differential diagnosis could be operative. In two studies at Runwell scarcely any neurotic depressives said, for example, that they believed their sins to be unpardonable; whereas this was not uncommon in Orme's group.

Personality Measures

AH and Me (HOQ) $r = .327$ n.s. (although $t = 2.02$).

AH and HOQ (Me) $r = .051$ n.s.

The relationship of Acting-out Hostility with diagnosis was, therefore, almost significant and was considerably greater than the relationship with personality. Since, in an earlier study (Foulds and Caine, 1958), the whole Extrapunitive scale differentiated between personality types and since the AH alone failed to differentiate between two psychotic groups, viz. melancholics and paranoids (Foulds *et al.*, 1960), it was thought likely that AH would prove to be a personality measure in this study. This finding was, therefore, contrary to prediction. The failure of AH to differentiate melancholics from paranoids and the higher scores of psychotic depressives in this study could possibly be due to a “psychosis” factor and concomitant feelings of loss of control. This would certainly seem more likely in a group, such as the present

* Personal communication.

one, composed very largely of agitated rather than retarded depressives. This does not, however, explain the lack of correlation with personality.

Co and Me (HOQ) $r = \cdot 134$ n.s.

Co and HOQ (Me) $r = \cdot 127$ n.s.

Contrary to prediction, *Criticism of Others* was not related significantly to personality. It was not expected to relate to diagnosis. This, together with the AH finding, suggests that hysteroid and obsessoid depressives have equally extrapunitive attitudes when these are considered in isolation from their intro-punitive attitudes.

Progressive Matrices time and Me, $r = \cdot 081$ n.s.

Progressive Matrices time and HOQ, $r = -\cdot 088$ n.s.

Contrary to prediction, *PM time* was related to neither personality nor diagnosis. The change from the 60 item Progressive Matrices to the 12 item form appears to have effected a marked change. Certainly in the original study most of the difference in speed was due to obsessoids taking very much longer on the final twelve items. This shorter version does not apparently tax the patience and persistence of hysteroids sufficiently. The longer test may be more a measure of persistence than of speed. In fact, a recent experiment by Lynn and Gordon (1961) showed that even the most extreme introverts were no slower than the most extreme extraverts on the first six problems of the P.M., only in the latter stages of the task did introverts become slower.

Neither of the *Porteus Maze measures of Total Time and Lifted Pencils* came near to showing a significant relationship with either diagnosis or personality. Here the change from open to blocked mazes may have effected the difference in results. In the open mazes the subject is presented with a speed/accuracy preference situation; whereas, in the blocked mazes, accuracy is a minimal consideration. It may be that, under these circumstances, hysteroids and obsessoids do not differ. Obsessoids may only be slower where they fear the possibility of going wrong.

Lifting of the pencil is related, among other things, to stopping to think where to go next. This measure has, therefore, also suffered a change.

Measures related to neither diagnosis nor personality

MHV Definitions and Me (HOQ), $r = \cdot 118$ n.s.

MHV Definitions and HOQ (Me), $r = \cdot 036$ n.s.

PM Score and Me (HOQ), $r = -\cdot 167$ n.s.

PM Score and HOQ (Me), $r = \cdot 000$ n.s.

Tapping and Me (HOQ), $r = \cdot 233$ n.s.

Tapping and HOQ (Me), $r = \cdot 335$, $t = 2\cdot 07$, $p < \cdot 05$

Self-criticism and Me (HOQ), $r = \cdot 431$, $t = 2\cdot 79$, $0 < \cdot 01$

Self-criticism and HOQ (Me), $r = -\cdot 247$ n.s.

Projected hostility and Me (HOQ), $r = \cdot 263$ n.s.

Projected hostility and HOQ (Me), $r = \cdot 036$ n.s.

The predicted absence of significant relationships was found in 8 out of 10 instances. Scatter of Tapping was found to be positively associated with the hysteroid personality. This seems eminently reasonable and was, indeed, the prediction made in the original study with neurotics; but it was not confirmed at that time.

Self-criticism, in this study, is significantly related to degree of Psychotic Depression. In the earlier study (Foulds *et al.*, 1960), psychotic depressives did score higher than each of the neurotic groups, but not by very much.

Measures for which no prediction was made. Inspection of the sub-scale results suggested that examination of the total "punitive" score (E+I) and of the ratio of Extra- to Intro-punitiveness $\left(\frac{E}{I} \times 100\right)$ might be of interest.

$$(E+I) \text{ and Me (HOQ)} = \cdot 497 \text{ (} p < \cdot 001 \text{)}$$

$$(E+I) \text{ and HOQ (Me)} = \cdot 086 \text{ n.s.}$$

$$\left(\frac{E}{I} \times 100\right) \text{ and Me (HOQ)} = -\cdot 232 \text{ n.s.}$$

$$\left(\frac{E}{I} \times 100\right) \text{ and HOQ (Me)} = \cdot 425 \text{ (} p < \cdot 01 \text{)}$$

(E+I) correlated $\cdot 421$ ($p < \cdot 0$) with total RSSI, but less than $\cdot 1$ with $\frac{E}{I}$ and Tapping; whereas the ratio of Extra- to Intro-punitiveness was positively associated with Wide Scatter of Tapping (r being $\cdot 341$; $p < \cdot 05$), but only $-\cdot 158$ with total RSSI. (E+I) is, therefore, a diagnostic measure and $\frac{E}{I}$ a personality measure.

DISCUSSION

Several findings of possible importance emerge from this section of the study, the first of which concerns the cross-validation of the two criterion measures. The Psychotic Depression (Me) Scale seems to be a fairly adequate substitute for clinical diagnosis for some purposes. It has the additional advantage, of course, of enabling the number of symptoms scored to be related to other variables in which one is interested, and this in a quantitative fashion. Similarly, the Hysteroid/Obsessoid Questionnaire has been cross-validated against observers' ratings, and has stood up as well as in the original study (Caine), correctly classifying 79 per cent. of the hysteroids and obsessoids. It may be said to serve as a reasonably adequate substitute for clinical ratings of personality type. A quantitative scale of this sort enables one to investigate whether the *degree* to which a person is hysteroid or obsessoid on the scale is related to other variables.

The correlation of $-\cdot 343$ between these two criterion measures is consistent with Hypothesis 1. Melancholics describe themselves as more obsessoid than neurotic depressives. The tendency is not, however, extremely marked. It has been suggested earlier that psychoses are more disruptive than neuroses and may make disentanglement of transient from permanent characteristics extremely difficult.

Hypothesis 2 is concerned with the relationship between variables at the time of initial testing. 4 of the 9 predictions of a significant relationship between two variables were confirmed: the association of each of the two criterion measures with their respective external criterion and the association of Guilt (i.e. DG Scale) with both diagnosis and personality. Its association with diagnosis (i.e. Me Scale) may be taken as confirmatory evidence of the "construct validity" of the Me Scale, since the two scales have some similar content but different methods of administration. In the Me Scale questions

are asked orally; whereas in the DG Scale the subject is left to sort cards into True and False categories. The presence of severe self-reproach and guilt is usually taken to be a good criterion in our culture for psychotic depression. The Me Scale, of course, unlike the DG Scale, contains additional items which seem to have more to do with depth of depressive affect.

It is difficult to say whether the negative correlation between DG and HOQ, i.e. the relationship between guilt and obsessoid personality, involves a distortion of the self-report on the HOQ due to the psychosis or a real association. Again we are dependent on the re-test data to clarify matters.

5 of the 9 measures predicted to correlate significantly did not do so. 3 of these 5, the PM time; Maze Lifted Pencils and Maze Total Time, have already been discussed and the results attributed to ill-judged interference with the administration of the tasks. The other two were sub-scales on the Extrapunitive Scale, Acting-out Hostility and Criticism of Others, which were expected to correlate positively with scores on the hysteroid scales, since Caine found total extrapunitive score and HOQ to correlate at $r = .26$ ($p < .01$). Our sample had generally slightly lower HOQ scores than Caine's sample of neurotics, which, however, included hysterics and anxiety neurotics. The depressives were more homogeneous with regard to HOQ score, which would make the relation with extrapunitiveness more difficult to demonstrate. In any case a measure for which we made no prediction, i.e. the ratio of total extrapunitive score to total intropunitive score, did correlate significantly ($r = .425$ $p < .01$) with HOQ. Thus, among depressed patients, regardless of whether they are psychotic or neurotic, it is apparently the relationship between tendency to place the blame on others and tendency to disparage oneself that is most closely related to the hysteroid/obsessoid dimension.

Of 16 correlations predicted to be non-significant, two were significant and one nearly so. Self-criticism correlated with the Me Scale; it was not expected to do so, since a previous study found no differences between melancholics and neurotic depressives (Foulds and Caine, 1959). Unexpectedly, therefore, self-criticism is behaving like a diagnostic measure.

Scatter of Tapping was not expected to correlate with personality, since a previous study found no difference between hysteroid and obsessoid dysthymics on this measure. The prediction originally made in the earlier study was that it should relate to personality. It appears on the face of it to have some connection with expansiveness and extrapunitiveness. In any case, the results are inconsistent, for the present study found that there was a significant correlation between Tapping and HOQ and Tapping and the Extrapunitive: Intropunitive ratio. Possibly this measure is over-determined and both symptoms and personality traits play a part. Extreme agitation in an obsessoid personality may cause him to throw caution to the winds and spread all over the page while depressive or anxious inhibitions may severely restrict a usually expansive hysteroid personality. An investigation of the reliability of this measure over well spaced intervals seems to be necessary. Earlier estimates are based on retests administered at the same session. (In fact, the test-retest rank-order reliability coefficient on the 31 patients in the present study was .545 and this, of course, with treatment intervening).

It is also to be noted that the AH measure correlated almost significantly with Me. There was only one retarded woman in the whole group, however, and agitated depressives may be more susceptible to feelings of loss of control over impulses. Several said, for example, blushing with shame, "Sometimes I

feel like smashing things". The melancholics in an earlier study, which included retarded patients, had a somewhat lower mean AH score.

Re-test Study

Subjects: 16 of the original 17 cases diagnosed clinically as Psychotic Depressives were re-tested and 15 of those diagnosed as Neurotic Depressives out of 20. All cases were re-tested just before discharge or shortly after discharge at Out-Patient Clinics.

Tests: The Porteus Mazes, Progressive Matrices and Mill Hill Vocabulary were not included in the re-test programme. The total score on the RSSI, excluding those items on the Psychotic Depressive Scale, was included with the expectation that it would behave as a diagnostic measure. Its individual items have not been found to differentiate between melancholics and neurotic depressives, but the total scale, as a measure of symptoms and signs of illness rather than traits of personality, could be expected to alter with treatment. In fact the total scale was found to correlate with Me with HOQ partialled out: $r = .410$. The correlation with HOQ with Me partialled out was: $-.165$.

Re-test Results: 18 of the 31 subjects who were re-tested were rated clinically at the time as much improved (Group A), and 13 as having limited improvement or no improvement (Group B). Since certain of our predictions apply only to those patients who psychiatrists felt had benefited from treatment, the results for the two groups have been analysed separately. Hypothesis 3 asserts that measures of personality can be demonstrated to have greater stability after treatment than measures of symptomatology. The first question to be answered is whether the HOQ has shown any consistent directional change, i.e. a group effect. We would predict that the group should become neither more nor less hysteroid or obsessoid; but it should report fewer symptoms on the Me Scale. Table I shows the different scores between test and re-test for the Psychotic Depression Scale (Me) and the HOQ.

TABLE I

Test-Retest Scores for Criterion Diagnostic and Personality Measures on Improved and Unimproved Depressives

		x	Improved (18)			p <	x	Unimproved (13)		
			SD	t				SD	t	p <
Criterion diagnostic measure	.. Me ₁ -Me ₂	3.50	2.35	6.32	.001	1.38	1.71	2.91	.02	
Criterion personality measure	.. HOQ ₁ -HOQ ₂	-1.72	4.87	1.50	n.s.	-26.9	4.52	2.15	n.s.	

With the much improved Group A the diagnostic measure changed very significantly; while with the relatively unimproved Group B it also changed significantly but to a lesser degree. Part (a) of Hypothesis 3 has, therefore, been confirmed. The "limited improvement" ascribed to some of the patients in Group B may account for what degree of Me change there was in this group.

HOQ scores, on the other hand, did not change either for improved or unimproved patients. Thus there is no apparent tendency for depressed patients to become either more hysteroid or more obsessoid as a group on experiencing alleviation of their depressive symptomatology.

The theoretical position outlined in this paper has implications, however, not only for the stability of a whole group on the hysteroid/obsessoid dimension, but also for the stability of individuals' positions on this dimension relative to the other members of the group. The finding of no difference in mean HOQ score from test to re-test could have been caused by large numbers of subjects becoming more hysteroid while an equal number became more obsessoid. It follows from earlier statements that patients who have been labelled hysteroid by the HOQ on initial testing should again be labelled hysteroid on re-test; the same should hold for obsessoids. The same degree of consistency would not be expected to hold for the psychotic/neurotic dichotomy, whereas of the 14 initially classified as psychotic (i.e. Me Scale score 5+) only 2 were so classified on re-test. Of the 17 classified as non-psychotic initially, 16 were again so classified on re-test. There was thus no association between diagnostic classification on first testing and on re-testing (for $n=1$, $\chi^2=0.01$).

All 12 initially classified as hysteroid (i.e. HOQ score 18+) were again so classified on re-test; whereas, of the 19 initially classified as obsessoid, 7 were classified as hysteroid on re-test. The association between personality classification on first and on second testing was nevertheless very significant (for $n=1$, $\chi^2=9.85$; $p<.01$).

Since 5 of the 7 patients had been diagnosed as psychotics, it was decided to investigate the mean HOQ change for improved psychotics. Table II shows the mean HOQ changes for 11 improved psychotics and for the remaining 20 cases.

TABLE II
*Changes in Criterion Personality Scores for 11 Improved Psychotics
and for the remaining 20 Cases*

HOQ ₁ -HOQ ₂	Improved Psychotics (11)				Remaining Cases (20)			
	\bar{x}	SD	t	p<	\bar{x}	SD	t	p
	-3.00	3.35	2.97	.02	-1.55	5.20	1.34	n.s.

Thus in this one instance we have found a significant group effect, an effect which is no doubt related to the original correlation of $-.343$ between the HOQ measure and the Me Scale. Psychotic depressives tended on initial testing to be more obsessoid than the neurotic depressives; it would appear that after treatment there is a tendency for them to become more like the neurotics on the Me Scale and somewhat more like neurotics on the Personality Scale. This latter is true, however, only in so far as some psychotic depressives became somewhat more hysteroid, only 7 enough so to lose their obsessoid classification. It appears, therefore, that the illness was affecting the validity of self-description on the initial testing for these patients. The HOQ may not be entirely free of symptom variables at its lower levels; the change in scores for the improved psychotics may be a function of their initial starting point. The initial mean for melancholics was 17.2; whereas for neurotic depressive it was 20.0. Their respective means on re-test were 20.0 and 20.5. If the scale is not an equal interval scale, and there is no reason why it should yet have attained this degree of discriminatory power, changes at one level may mean very much less psychologically than changes at another level. What is important psychologically at this stage is that the original hysteroid/obsessoid dichotomy held up in 78 per cent. of the cases. We have also some evidence to suggest that under certain conditions the scale has at least ordinal value, since the test/re-test correlation coefficient for the 18 improved patients is $.744$ ($p<.001$). Thus, although some of these improved

patients changed their absolute score, there was very little change in their position relative to other improved patients. It is not possible adequately to compare this finding to a similar coefficient on the Me Scale since there were so many zeros on re-test; but a comparison of frequencies above and below the cutting point for diagnosis on initial testing with frequencies above and below the group re-test median shows that only 5 out of 11 originally scoring above the cutting point on the Me Scale did score above the re-test median, and that 6 out of 7 scoring below the cutting point initially did score below the re-test median. There is, therefore, no association between position on the Diagnostic Scale on first and on second testing (for $n=1$, $\chi^2=0.73$).

It now remains to discuss the results obtained for measures other than the criterion measures. Table III indicates that the improved patients showed a mean decrease of 2.50 points, significant at the .1 per cent. level, on the Delusional Guilt Scale. (DG correlated with Me on first testing at $r=.685$). The mean change for unimproved patients was only 0.85 points and non-significant.

Two other diagnostic measures have been examined on re-test; the first is the Self-Criticism Scale, which was found on initial testing to correlate with diagnosis but not personality. If it be an expression of transient symptomatology among depressives rather than an expression of personality, it should change upon re-test.

The second measure was the total Runwell Symptom-Sign Inventory excluding the Psychotic Depression Scale, which correlated significantly with Me on initial testing and which in any case would be expected, as a symptom measure, to alter on re-test.

The third measure was the total "punitive" score (E+I), which correlated significantly with the Me Scale and with total RSSI, but not with any of the personality measures. Table III shows the test/re-test means for these three measures.

TABLE III

Test-retest Scores on Additional Diagnostic Measures on Improved and Unimproved Depressives

		x	Improved (18)			x	Unimproved (13)		
			SD	t	p <		SD	t	p
Additional	DG ₁ -DG ₂	2.50	2.15	4.93	.001	0.85	1.86	1.65	n.s.
diagnostic	SC ₁ -SC ₂	3.11	3.18	4.15	.001	1.00	2.92	1.24	n.s.
measures	SSI ₁ -SSI ₂	15.83	12.23	2.88	.01	7.08	7.79	2.16	n.s.
	(E+I) ₁ -(E+I) ₂	9.17	9.22	4.23	.001	3.15	7.60	1.49	n.s.

It can be seen that Self-Criticism, total RSSI and (E+I) all hold up as diagnostic measures rather than personality measures, since all change significantly among improved patients and not among unimproved patients.

Since the criterion measure of personality changed for improved psychotics, but not for the other three groups, two other personality measures were also examined for their behaviour on re-test. These are $\frac{E}{I}$ and Scatter of Tapping, the only two tests found to correlate with the personality criterion measure rather than the diagnostic one on initial testing. Table IV gives the mean changes for improved psychotics on these two measures compared with unimproved psychotics and all neurotics. Both tests changed in the same way as the HOQ.

TABLE IV

Test-retest Score on Additional Personality Measures on "Improved" Psychotics compared to the remaining 20 Cases

		11 Improved Psychotics				Remaining 20 Cases			
		x	SD	t	p <	x	SD	t	p
Additional personality measures	$\frac{NE \times 100}{N} - \frac{NE \times 100}{N}$	-47.55	52.46	3.01	.02	-10.15	57.81	0.79	n.s.
	$\frac{NI_1}{N} - \frac{NI_2}{N}$ Tap ₁ -Tap ₂	-0.38	0.48	2.62	.05	0.03	0.35	0.38	n.s.

Thus improved psychotic depressives, in addition to becoming more hysteroid with clinical improvement become more extrapunitive in their attitudes and more expansive in their tapping behaviour. It was noted above that only 7 out of 31 patients actually exchanged one personality type for the other. The association between (the Extrapunitive: Intropunitive ratio) classification on first and second testing was significant (for $n=1$, $\chi^2=4.01$; $p < .05$). 14 out of 15 originally classified as predominantly extrapunitive were again so classified; but 6 out of 16 originally classified as intropunitive became extrapunitive.

The association between high-low scatter of Tapping on first and second testing was significant (for $n=1$, $\chi^2=7.60$; $p < .01$). Of 15 originally scored as high for scatter, 13 were high on re-test. Of 16 originally low, 11 remained low on re-test. Thus the measures are behaving in a similar fashion: (1) they are tending not to correlate with the diagnostic measure; (2) they are tending to correlate with each other; (3) whereas diagnostic measures are altering for all improved patients on re-test, these are not; (4) whereas the diagnostic dichotomies are disappearing on re-test, these "personality" tests are generally classifying people in the same way on re-test; and (5) all three measures are showing directional changes for one particular group, the improved psychotics. Psychotics had lower scores than neurotics on all three personality measures on initial testing, but were no lower on re-test. Only limited success has, therefore, been achieved in constructing measures of habitual personality patterns which are free of psychotic symptom variables. The present measures do not appear to have been entirely free of them at the lower levels, that is, at the more obsessoid, intropunitive and restricted scatter ends of the three scales. This does not mean that the more crude two-category classification does not withstand the impact of psychotic symptomatology, this it apparently does.

SUMMARY

An investigation of psychotic and neurotic depressives has attempted to demonstrate the utility of a double classificatory system which takes account of both symptom variables and personality variables.

The three hypotheses: (i) that certain test measures will be more closely related to the diagnostic than to the personality dimension; (ii) that certain test measures will be more closely related to the personality than to the diagnostic dimension; (iii) that certain test measures will relate to neither, were confirmed in general; but predictions about the particular measures were less accurate. The number of correct predictions was, however, well beyond what one would expect by chance.

None of the three personality measures showed mean changes for all improved patients; whereas all four diagnostic measures did. Whereas the diagnostic test classifications disappeared on re-test, the personality tests

continued to classify people in the same categories. Personality measures thus appeared to have much greater stability than did diagnostic measures.

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REFERENCES

1. CAINE, T. M. Personal communication. A Measure of the Hysteroid-Obsessoid Component of Personality.
2. FOULDS, G. A. (1951). "Temperamental differences in Maze performance. I", *Brit. J. Psychol.*, **42**, 209-217.
3. *Idem* (1956). "Distraction and affective disturbance", *J. Clin. Psychol.*, **12**, 291-292.
4. *Idem* and CAINE, T. M. (1958). "Psychoneurotic symptom clusters, trait clusters and psychological tests", *J. Ment. Sci.*, **104**, 722-731.
5. *Idem* (1959). "The assessment of some symptoms and signs of depression in women", *J. Ment. Sci.*, **105**, 182-189.
6. *Idem* and CREASY, M. A. (1960). "Aspects of Extra- and Intro-punitive expression in mental illness", *J. Ment. Sci.*, **106**, 599-610.
7. *Idem* (1961a). "Scatter of Tapping among mental patients", *J. Clin. Psychol.*, **17**, 168-169.
8. *Idem* (1961b). "Personality traits and neurotic symptoms and signs", *Brit. J. Med. Psychol.*, **34**, 1-8.
9. *Idem* (1962). "The quantification of diagnostic differentiae", *J. Ment. Sci.*, **108**, 389.
10. GUILDFORD, J. P. (1934). "Introversion-Extraversion", *Psychol. Bull.*, **31**, 331-354.
11. LYNN, R. and GORDON, I. E. (1961). "The relation of neuroticism and extraversion to intelligence and educational attainment", *Brit. J. Educ. Psychol.*, **31**, 194-203.
12. MAYER-GROSS, W., SLATER, E. and ROTH, M. (1960). *Clinical Psychiatry* (2nd ed.). London: Cassell & Co.

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