

## ASSESSMENT OF PERSONALITY

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Psychologists define personality as "the integrated organization of all the cognitive, affective, conative, and physical characteristics of an individual as it manifests itself in focal distinctness to others" (Warren, 1934). Personality, in other words, is "the sum-total of the actual or potential behaviour-patterns of the organism, as determined by heredity and environment; it originates and develops through the functional interaction of the four main sectors into which these behaviour-patterns are organized: the cognitive sector (intelligence), the conative sector (character), the affective sector (temperament) and the somatic sector (constitution)" (Eysenck, 1947a). The cognitive and the somatic aspects of personality are dealt with in this number in the papers by Vernon<sup>1</sup>, and by Richter<sup>2</sup>.

We shall here be mainly concerned with the temperamental characteristics of the individual and the assessment of his character qualities, being careful to regard character not from the ethical point of view, i.e. as good or bad, but from the psychological, i.e. as strong or weak.

It is clear from these definitions of personality that it is impossible to make an "assessment of personality" as such, just as it is impossible to measure the universe. All we can do is to assess certain distinct traits of personality which are of scientific importance and then proceed to fit these together in order to build up as scientifically adequate a picture of the total person as can be done in the present state of our knowledge.

Assessment of traits has proceeded largely along four separate lines. These are: firstly, by means of inventories, questionnaires, and other pencil-and-paper tests; secondly, by means of objective tests of temperament and character; thirdly, by means of expressive or projective techniques; and fourthly, by means of observational and sociometric methods. These will be discussed in turn.

## 1. Inventories and Questionnaires

Questionnaires originated with the Woodworth Personal Data Sheet at the time of the First World War. Being

<sup>1</sup> [BMB 1295.—Ed.]  
<sup>2</sup> [BMB 1300.—Ed.]

interested in measuring the trait of neuroticism in army recruits for the purpose of screening, Woodworth drew up a list of neurotic symptoms. The recruit was then presented with a list of questions such as: "Do you have dizzy turns?"; "Did you ever have a nervous breakdown?"; "Have you ever been off work through sickness a good deal?"; "Do you worry too long over humiliating experiences?"; and so forth, and asked to encircle either a "Yes" or a "No" printed at the end of each question according to whether or not he had ever experienced, or was at present suffering from, this particular symptom. His score was the sum total of the symptoms endorsed. (Cf. Woodworth, 1922.)

Much work has since been done on neuroticism inventories of this type, and in certain circumstances they have been found extremely useful as screening instruments (Ellis, 1946; Symonds, 1931). Agreement with outside criteria, such as psychiatrists' ratings, is often quite high (Eysenck, 1947b). This type of inventory has been subjected to much criticism, mainly on the basis that a person can easily falsify his reactions, e.g. deny that he is suffering from a certain symptom in order to appear superior, or claim to be suffering from a symptom in order to "work his ticket", i.e., to obtain his discharge from the army, etc.

These criticisms have led to a rather more empirical method of construction of questionnaires. Starting out with two or more groups which we want to contrast, we ask them a large number of typical inventory questions (over 500 in the case of the Minnesota Multiphasic Personality Inventory Scale (Hathaway & McKinley, 1940; Meehl & Hathaway, 1946), and about 300 in the case of the Humm-Wadsworth Personality Scale (Humm & Wadsworth, 1934)); we then record the percentage of "Yes" answers to each question given by each group of persons, say, neurotics and normals, and then make up a scoring key for this particular trait, which takes into account only those items on which significant differences in responses are observed. Thus, when we find that neurotics differ significantly from normals in their answer to the question, "Do you worry about your health?" we do not conclude that neurotics actually do worry more about their health than normals—which is an inadmissible assumption—we merely say that they tend on the average to assert more frequently than non-neurotics that they worry about their health, and use this difference in frequency of assertion (which is an observed fact) as a basis of our interpretation of questionnaire construction.

This empirical method, since it makes no assumptions of veracity or otherwise, is clearly superior to the older method. It has moreover led to another advance, whereby we try to measure not only neuroticism or other closely similar concepts, but also a number of different personality traits, by the use of suitably contrasted criterion groups. As an example we may take the Humm-Wadsworth Scale, which gives scores for normal, hysteroid, manic cycloid, depressive cycloid, autistic schizoid, paranoid schizoid, and epileptoid types characterized, respectively, by self-control, self-improvement, inhibition, etc. (N); self-preservation, selfishness, crime, etc. (H); elation, excitement, sociability, etc. (M); sadness, retardation, caution, worry, etc. (D); daydreams, shyness, sensitiveness, etc. (A); fixed ideas, restiveness, conceit, etc. (B); ecstasy, meticulousness, inspiration, etc. (E). While far from perfect, this and the

similar Minnesota Multiphasic Test are a great improvement on the long list of extraversion-introversion tests which were published in great profusion during the past thirty years or so, until it was found that introversion as measured by these tests was really nothing but neuroticism. At present, because of this demonstration, few people use extraversion-introversion questionnaires.

One other important contribution is made by the Humm-Wadsworth and Minnesota Scales. Recognizing that in spite of the empirical construction of the test, cheating is not ruled out, the authors have tried, in a variety of ways, to assess the amount of cheating present in a particular record. This can be done, for instance, by counting the number of times that a person denies the possession of undesirable qualities, on the assumption that no honest person could possibly claim to possess all the good and none of the bad qualities contained in the inventory. In other words, the person claiming too many good qualities is viewed with suspicion.

An alternative method is that of preparing a separate scale, consisting of items which are empirically found to be non-diagnostic with respect to the personality-variables included, but which are somewhat unfavourable to the person answering "Yes"; for example, "Have you ever told any lies in your life?" If too many of these questions are answered with "No", the honesty of the person filling in the questionnaire must be in doubt.

On the whole, it may be said that, when used with care, there is no doubt that questionnaires constructed along these lines, and embodying some of the safeguards mentioned, can give important and valid information about the individual's personality.

Other uses of questionnaires and inventories have been in the fields of attitudes and of interests. A person's attitudes are studied by presenting him with a long list of statements, such as, "Women are intellectually inferior to men", or "The death penalty should be abolished." He responds by agreeing or disagreeing with each statement in turn. This extremely simple method has led to much more complicated measuring devices, attitude scales, and so forth, which are discussed in detail by McNemar (1946), Cantril (1945), Murphy & Likert (1938), and others. Researches on them leave no doubt that attitudes play an important role in personality structure.

Interests are mainly studied from the point of view of occupational interests (Strong, 1943; Kuder, 1939; Lee & Thorpe, 1943), and of values (Allport & Vernon, 1930). Long lists of choices of activities, occupations, types of work, etc., are filled in by the subject and the results scored according to empirically derived keys, by contrasting them with typical response patterns of persons successful in different types of occupations. These inventories have been found very helpful in focusing vocational and other types of interests, and as an aid in vocational guidance when added to an assessment of the subject's abilities.

## 2. Objective Testing Techniques

Objective testing techniques are described in some detail in books by Hunt (1944), Greene (1941), Cattell (1936), Eysenck (1947a), and others. They usually attempt to measure a single trait such as persistence (Howell, 1933), accuracy (Hartmann, 1928), suggestibility (Hull, 1933),

or level of aspiration (Lewin *et al.* 1944; Himmelweit, 1947), by means of objective tests. A large-scale beginning of research in this field was made in the well-known studies of deceit, honesty, and so forth, by Hartshorne & May (1928). These authors devised a large number of tests of anxiety, co-operation, persistence, inhibition, and the like, which they applied to many hundreds of schoolchildren. Examples of some of these are the following.

1. *Double testing technique.* A test is given and the subjects score their own papers by means of a key; later on, they are tested again by means of an equivalent test but without being given a key. Large differences between the scores on these two tests indicate that the subject cheated by copying from the key.

2. *Improbable achievement technique.* The children are given complex tasks, such as tracing a maze with their eyes shut, which are found under control conditions to be extremely difficult or impossible. Success indicates that the subject cheated (e.g. opened his eyes).

3. *Fictitious test technique.* The examinee is given a test, in which some of the questions or items are fictitious. For instance, he may be asked to mark all the books he has read on a long list which includes a large number of non-existent books. Any claim to have read these books is, *ipso facto*, evidence of deceit.

4. *Stealing tests.* The testing situation is arranged in such a way that the subject is given an opportunity to abstract some coins, apparently without any possibility of detection. However, by means of an inconspicuous identification symbol it is possible to find out which subjects have stolen some of the coins.

5. *The vote test.* Children in a class are given a money-prize for some activities in which they have been engaged. They are then asked to vote what to do with the money, which can be used either for certain selected persons in the group, for the group as a whole, for the school of which the group is part, etc. Answers are scored according to the degree of social-mindedness indicated.

6. *The helpfulness test.* An appeal is made to the children for pictures and books to give to children in hospitals. The number of items contributed by each child is his score.

7. *Persistence test.* One measure of persistence is derived from the speed of work of the child when employed for an hour at a monotonous task. Another involves the reading of a story printed in jumbled type, necessitating much effort and attention; the child is allowed to stop at will and is scored on the length of time he kept on with his task. Much evidence is given by the authors of these tests about the reliability and validity of these measures and their inter-relations.

As another example of a rather simple type of objective test we may take the trait of suggestibility, which can be measured objectively in a variety of different ways. In the body-sway test, for instance, the individual is told to stand still with his eyes closed and to listen to a gramophone record which the experimenter is going to play to him. The amount of body sway forward and backward during the initial period is noted; then the record is played, which repeats with slight variations the phrases, "You are falling; you are falling forward; you are falling forward all the time; you are falling forward now," etc., and the effect of the suggestion on the amount of body sway of the subject is

measured in inches. Some people are found to be very suggestible, even to the extent of falling outright, others sway but do not fall, and some are quite immune to the effects of the suggestion. Tests of this kind may be interesting in themselves, or they may be interesting additionally because they serve as measures of something other than themselves. This particular test, for instance, is of interest in its own right, but it is also important because it shows a very high correlation with neuroticism (neurotics tend to be very much more suggestible than normals on it) (Eysenck, 1944); and it also correlates highly with the subject's hypnotizability (suggestible persons are very much more easily hypnotized than others) (Eysenck, 1943).

As one further example of the straightforward test we may mention the "level of aspiration" technique, in which the subject is called upon to perform a task such as, for instance, threading a rather complicated maze. After he has gained some acquaintance with the task he is asked to state how long he thinks it will take him to carry out the task the next time he attempts it. This is called his "aspiration score". He then is given the test and his "performance score" is written down; but before telling him what his performance score actually is, he is asked to say how long he thinks he took over his task. This is called his "judgement score", constituting as it does his judgement of his own previous performance.

Difference between aspiration and actual performance and between judgement and performance are highly instructive, as they indicate the influence of autistic and emotional factors on what otherwise would be a purely rational estimate. It can be shown, for instance, that hysterics tend to have a low level of aspiration; that is to say, for hysterics, the aspiration score is no higher than the actual performance. For normal people, the aspiration score is typically somewhat higher than their actual performance. For neurotics suffering from anxiety states, the aspiration level is typically very much higher than their actual performance. At the other end, the typical anxiety neurotic tends to underrate his performance, his judgement score being much lower than his performance score. A normal person has a judgement score relatively close to his performance score, while the hysteric on the average actually tends to overrate his performance and to think he has done better than he has in fact done. These are some of the ways in which this particular test discriminates between groups who differ considerably in personality make-up.

The tests mentioned so far attempt to measure directly certain personality traits. It has, however, been found that certain types of normal and abnormal people can be differentiated on another basis which derives from purely empirical investigation. The group of tests to be discussed here is similar in many ways to ordinary tests of ability. The difference lies in the fact that we are more interested in differential ability scores as measures of temperament than in the raw ability scores as measures of intelligence. To illustrate, in the normal person we can expect that a vocabulary test will give results very similar to the results obtained from a perceptual intelligence test (we assume, of course, that there are no special defects of education present among the testees). However, when we turn to neurotic groups, we find that among hysterics there is a marked tendency for the perceptual intelligence test to give higher scores than the vocabulary test. On the other

hand, for patients with anxiety states and for depressives the opposite is true; these groups tend to have higher scores for vocabulary tests than for perceptual intelligence tests (Himmelweit, 1945). Similarly, Wechsler (1941), Rapaport, Gill & Schafer (1945) and others have shown that the pattern of scores on the ten sub-tests of the Wechsler Tests of Adult Intelligence tends to form, among psychotics, different patterns for the various psychoses, for patients with brain injuries, as well as for neurotics and normals.

Other differential ability scores of particular interest are those of the Porteus Maze Test when compared with the general intellectual level of the person. It has been shown in several studies that this test measures, in addition to intelligence, a certain quality of foresight, as it is rather obscurely called, which seems to aid its possessor in normal social adjustment. It is a quality which seems to be more closely connected with the frontal lobe than is sheer mental ability, because it has been shown that after prefrontal leucotomy loss of ability on the Porteus Maze Test is much more marked than on any other test of ability. There are other sources of evidence which indicate that the Porteus Maze Test may justly be regarded as a measure of certain non-intellectual, temperamental factors. (See Porteus & Peters, 1947a, 1947b.)

The introduction of objective tests into the measurement of personality is relatively recent and is probably the most promising line of investigation at the moment. Much remains to be discovered, particularly about the interrelations of different tests, but we know enough already to be able to say that a relatively consistent scheme of personality structure can be based on the results of objective personality tests (Eysenck, 1947a).

### 3. Projective Techniques

Projective techniques are based on the theory that an individual betrays his personality in everything he does or says by projecting the contents of his mind on to the material with which he is presented. If, for instance, as in the Rorschach Test (1937), he is presented with a series of unstructured ink-blot which he is asked to interpret, this interpretation will be determined largely by the matrix of his personality. The inverse is also possible; that is to say, by studying his responses to these ink-blot we should be able to argue back to the type of personality which has produced them.

Similarly, in the Thematic Apperception Test (Murray, 1938) the subject is given a number of pictures representing certain rather vaguely constructed situations and is asked to tell a story about these pictures, what is happening, what has led up to the situation depicted, how it will all end, and so forth. The interpretation given to the figures in the picture, the fate which they have endured or towards which they are going, the emotions and feelings which they are made to express, and their attitudes towards each other, are held to be projections of the subject's own feelings, attitudes, emotions, and so on, and are interpreted accordingly.

In the Sentence Completion Test (Rohde, 1947) the beginning of a sentence is presented to the subject, as for instance: "What annoys me most.....", or "I think sex.....", and he has to finish the sentence in some

way himself. The way in which he finishes it is interpreted again in terms of the projective technique.

The Szondi test (1947) has recently become popular on the continent of Europe and in America. It is based on the theory that persons of a certain type will have certain emotional reactions to photographs of people of a similar type, either by way of liking or disliking them intensely. The test, therefore, consists of six series of eight pictures, each picture being chosen to represent one of the eight fundamental types which Szondi recognizes. The eight pictures of each series are spread out before the subject and he is asked to select the two he likes best and the two he likes least. A record is made of his choice and the same procedure is repeated for the remaining five series. From the pattern of his choice a detailed personality diagnosis is made. This test is introduced by its author in conjunction with a rather pretentious, semi-metaphysical and pseudo-genetic scheme of personality theory which is demonstrably false. However, this does not necessarily prove that the test itself is valueless and there is much subjective testimony in its favour.

While some projective techniques, such as the Szondi Test and the Thematic Apperception Test, are relatively novel, others are relatively old, as far as psychological testing techniques go. Among these are Freudian dream-interpretation, the study of paintings and artistic productions generally, and play techniques, in which the child's or adult's methods of play are interpreted in accordance with the projective hypothesis.

Probably, the earliest projective technique was the word association test, first used by Galton, in which the experimenter says a word to the subject, who has to respond with the first words that come to his mind, the theory being that his response will reveal certain associative links of which he himself may be unaware. This technique has been elaborated a good deal by combining it with others, such as, for instance, a recording of changes in the electric resistance of the skin (the psychogalvanic reflex or electrodermal response), motor movements on the part of the subject (the Luria reaction), and so forth. The Luria technique, which consists essentially in the study of the disruption of motor responses caused by emotional experiences, leads, naturally, to another type of projective test, namely, that concerned with the study of expressive movements (cf. Luria, 1932). Here, we have a large body of speculation and experimental validation which has arisen out of the study of handwriting (graphology), and also of the more strictly controlled measures of a person's ways of moving his hands, feet, or whole body (Allport & Vernon, 1933), which can be interpreted as expressive of his personality.

On the whole, it cannot be said that these techniques have fulfilled their early promise. Interpretation is still very largely subjective, intuitive, and unscientific. Evidence concerning the reliability of these methods is disappointing and evidence concerning their validity is almost wholly lacking or of such a kind as not to be particularly convincing. Nevertheless, attempts have been made recently to make the scoring of these tests more objective and to educe proper evidence in their favour; should these attempts prove successful, there is little doubt that projective techniques would assume a very important position indeed in the armamentarium of the psychologist.

#### 4. Observational and Sociometric Methods

Among the earliest methods of personality assessment were those of simple observation and rating, a group of methods which, presumably, should include the interview also. Much work has been done in recent years to refine and objectify these methods, as may be seen, for instance, from the account given by Vernon (1938), Symonds (1931), Greene (1941), and others. Outstanding examples of careful observational records are Bühler's (Bühler *et al.* 1939) twenty-four-hour records of family situations, collected by trained workers who went into private homes, and Newcomb's (1929) analysis of detailed daily records made by counsellors in a summer camp in order to assess extraversion and introversion.

A particular variety of the general method of observation is that of time sampling. The subjects under investigation are observed for a specified number of minutes, a certain number of times every day. A record is made of the frequency with which they indulge in certain types of activity such as laughing, crying, quarrelling, etc., and this record forms the basis of the study. Such reports can be made very objective and are usually extremely reliable (Olson & Cunningham, 1934). They are particularly useful in a social situation where the experimenter has little control over the variables in which he is interested.

As an additional aid in the analysis of personality traits in social situations, the investigator nowadays often makes use of sociometric techniques (Moreno, 1934). These consist essentially in asking each member of a group with which other member of the group he would most like to participate in certain activities, which member he would like to sit beside him at meals, etc. From these records of attractions and repulsions between members of the group a pattern is derived which has been found to be very useful in many ways.

This method is particularly relevant to the part of the definition of personality quoted at the beginning which stresses the way that a person's "cognitive, affective, conative, and physical characteristics manifest themselves in focal distinctness to others." The sociometric technique shows us through the eyes of "others" just how the individual's personality manifests itself and techniques of this sort are therefore indispensable adjuncts in a thorough study of personality. During the recent war, modifications of these ratings and sociometric techniques have been found of some use in officer selection procedures.

#### 5. Summary

We have been able to give only a small number of examples to illustrate the main types of personality tests used nowadays. The interested reader will find a complete review of the hundreds of tests in common use in the *Mental measurements yearbook* (Buros, 1949), in the bibliography by Hildreth (1945) and in other similar compendia. The setting in which these tests ought to be evaluated is probably best given by Stagner (1947) and at greater length by Gardner Murphy (1947) or by Allport (1938). Greater details about the methods of measurement, and evidence regarding the reliability and validity of tests, as well as their use in various connexions, may be found in books by Hunt (1944), Greene (1941), Cattell (1946) and Eysenck (1947a).

While the assessment of personality, judged from the

points of view of validity and reliability, is still very far from the certainty which inheres in measurement as understood by the physical sciences, there can be little doubt that the methods reviewed here have led us a long way

from the subjectivity of pure intuitive understanding and have enabled us to come to grips, on a purely objective basis, with this very protean and elusive thing—the human personality.

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