Current Theoretical and Practical Problems in Measurement: A Symposium

The Measurement of Personality

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Personality is apparently another example of a shrinking universe which contracts as measurement expands. As we all know, personality, in the beginning, had everything. Then it lost its intelligence, and before it could recover lost its interest and its attitudes. It still feels, aspires, and has sentiments as long as they remain unmeasurable. Once they too fall under the psychometrician’s ax, personality will be extinct.

But what keeps motivation, feeling, and sentiment out of the psychometrician’s reach? Only one thing—the absence of an external criterion, independent of subjective, self-referred judgment. Had not Binet provided us with the external criterion of mental age, we would still be classifying people into “intelligent” and “unintelligent” the way Rorschach and his generation did. Such subjective self-referred judgments characterize all primitive measures. Height, weight, time, and warmth were evaluated subjectively long before objective measuring devices became available. The invention of such impersonal external criteria as yardsticks, balances, clocks, and thermometers permitted science to transcend self-reference as a criterion. We have not yet found external criteria for measuring motivation, feeling, and sentiment. That is why they, as well as their unanalyzed residue, personality, are still unmeasurable. This would be a good place to stop were it not for the fact that the term personality is here to stay no matter how objectively-minded psychologists may disdain it. Our problem is to find a suitable model or structure for it, which can be examined scientifically.

We shall define personality as the unique pattern of qualities which characterizes a given individual, and shall understand by measurement, the attempt first at isolating and then synthesizing the dimensions on which this uniqueness rests for the purpose of predicting behavior. Personality measurement grows out of the contributions of four fields: (1) differential psychology; (2) psychopathology; (3) personology; and (4) more recently, psychophysiology. Each of these fields has provided a model for personality theory and has developed techniques and methods with which to test the suitability of the model.

Differential Psychology

This approach postulates that the unique nature of man can be arrived at through the analysis of his behavior into underlying traits and their interactions. It has
exercised a powerful influence on personality measurement. The model which it presents of the structure of abilities, interests, and of attitudes has been envied by personality researchers. They have attempted to build a corresponding model composed of orthogonal dimensions or traits in multi-dimensional space in which each individual occupies a point representing the intersection of the multi-dimensional planes that pass through him. Not satisfied in simply locating the individual in a-dimensional space, they provide the D index or average distance between individual locations so as to group neighbors who live closely together into neighborhoods that may perhaps be found in the vast hyperspaces, just as houses cluster over the countryside. This is quite suitable for actuarial prediction of educational progress, vocational adjustment, choice of therapy and its probable outcome. As far as the individual himself is concerned, once he finds his locus in this hyperspace, there is nothing left for him, to quote George Kelly, but to sit on his own continuum. The most promising technique for measuring personality which this field has yielded is the personality inventory, and the most promising methods it has provided are factor analysis—straight or inverted, discriminant analysis, and criterion analysis. Its actuarial success has been modest but sufficiently impressive to warrant its use in screening programs. It is not, however, suitable for individual use now.

Psychopathology

Psychopathology is such a vast field that it defies simple definition. One of its postulates is that the mentally ill may be regarded as types—types of individuals who are unable to make a suitable adjustment to life. Whether the types emerge from a clustering of traits due to either heredity or environment or their interaction, or whether they represent disease processes which are independent of morbid personality structure is still an open question. Nevertheless, psychopathologists have suggested that personality may be regarded as the central portion of the univariate or multivariate distribution, the extreme portions of which represent disease entities or reaction types. Examples of these typologies are Kraepelin's disease categories, Kretschmer's cycloids and schizoids, Jung's introverts and extroverts, Jaensch's E and I types, Freud's anal, oral, and genital characters, Horney's vectorial types of movers to, from, and with people, and so on.

Some of the techniques that have been borrowed by personality measurement from psychopathology are sorting tests, perseveration tests, persistence tests, and last but not least, projective techniques. The sorting techniques had a brief flurry of interest in the 30's in the studies of deterioration and of organicity in mental patients. Personality measurement took these over with the view of measuring rigidity and its opposite, flexibility. Similarly the clinical concepts of anxiety, perseveration, body-image, self-concept, emotional charge or catharsis, stress and homeostasis, and many others took their place as potential dimensions in the typological systems of personality classification. The wave of projective techniques in the 40's swept these techniques aside and today very little interest seems to be exhibited in them. Recently the method of classification which evolved out of the contributions of the psychopathologist has made considerable headway in both profile analysis and pattern analysis.

Projective techniques. These are the latest offspring of the marriage of psychopathology and personality measurement. They postulate that each of us carries within him an inner private world which is rarely exposed to the outside and is quite different from the public world which is readily available to external scrutiny. The latter is said to represent the conforming culturally determined behavior tapped by objective tests, while the former represents the repressed, suppressed, and still unexpressed behavior not available to conventional tests. To pry open the inner world, it is claimed, projective techniques are required. Since motivation, feeling, senti-
ment, and style of behavior are largely parts of our inner world. Projective techniques should prove to be the most important tools for the study of personality. Support for the belief in the existence of this private world comes not only from projective techniques and psychoanalysis but also from hard-headed neurophysiologists like Adrian, Sherrington, Brain, and Eccles.

Adrian (1) has pointed out that the usual sequence of events in perception is that some stimulus to a receptor organ causes the discharge of impulses along afferent nerve fibers which are synaptic relays evoking specific spatio-temporal patterns of impulses in the cerebral cortex. This specific spatio-temporal pattern gives rise to the experience of a sensation (or when more complex, to a perception) which is projected (believed to occur) somewhere outside of the cortex, i.e., on the surface of the skin, within the body, or at a distance from the body. This model may be taken to represent the relationship between mind and brain at least as far as perception is concerned. Whether mind and brain events are merely concomitant or causally related is not definitely known. We do know, however, that some psychological events such as the perception of light can occur without the actual presentation of light to the eye. Direct stimulation of specified cortical areas will produce an effect similar to the light stimulus. Vocalization can be elicited, and other psychological events produced, by direct stimulation of certain other portions of the cortex without the voluntary cooperation of the subject and even apparently against his wishes. Furthermore, these brain events probably occur in early infancy before the subject presumably has sufficient previous experience to be aware of them or recognize them for what he and other babies will later take them to be. Such events certainly occur without his awareness. These brain events and their mental correlates may constitute his earliest private world, from which his later public world arises through maturation, communication, experience, and education.

It is also possible that some part of this private world never becomes public, but it perhaps exerts some influence on external behavior, especially in so far as appreciation of art, literature, and inkblots are concerned.

In the light of this hypothesis, all perception is projective since it is an internal brain event which has its localized reference elsewhere, either within the person’s skin or outside of the person’s skin. Paradoxically then, ordinary perception, including classic psychophysical perception, is projective, while the so-called projective techniques attempt to deal with the still unprojected or perhaps suppressed or repressed parts of the inner experience which accompanies cortical events. How can this material ever be investigated? Certainly not directly, for by definition it is unprojected. The only possible way it can be investigated is by its effects on projected perception. This indeed was probably why Rorschach postulated that the inner world of the person influenced his visual perception. The hypothesis for his experiment, though never specifically stated, was threefold: (1) how we perceive in space depends upon personality; (2) how we perceive in real space determines how we perceive in inkblot or Rorschach space; (3) therefore, how we perceive in Rorschach space is a reflection of our personality.

Three decades of Rorschach studies have failed to present convincing proof or disproof of these three hypotheses because these hypotheses are essentially untestable. We still do not know too much about the determinants of real space perception, nor do we know the determinants of perception in Rorschach space. Hence, the possibility of determining the second hypothesis is beyond us. We do not have any basic methods for evaluating personality independently of the Rorschach except perhaps the interview method, and consequently we cannot test the validity of either the first or the third hypothesis. Because of our ignorance, our attempts at classifying Rorschach responses into meaningful perceptual scores are doomed to failure. That is
why so many experimental studies with the Rorschach have come a cropper. But what about clinical studies?

For a long time I found it difficult to explain why the gods smiled on the clinician’s efforts and frowned on the experimentalist’s. One day, I laid aside the perceptual scoring and began to look at the Rorschach protocol as another type of interview and made a content analysis of the responses the way a clinical interview is analyzed. The scales for making this content analysis have since been incorporated in a mimeographed volume. The results were astounding. These content analysis scales proved to be related to other ways of assessing personality. I found soon that I wasn’t alone in this venture. Amya Sen in Burt’s laboratory and Sandler, also in England, Elizur in this country and also Watkins et alii similarly discovered that content analysis paid off and many Rorschachers began to desert their inkblots and take up with TAT cards because they afforded better opportunities for content analysis. In summary, the hypothesis of projective techniques is untenable and hence the perceptual model it presents, and the clinical scoring systems and the sign and syndrome methods it advocates, are not very helpful at this time. This is not because they are wrong, but because scientific knowledge of perceptual processes has not reached the point where such hypotheses can be tested.

Personology

Personology postulates that the uniqueness of personality can be arrived at through inner understanding rather than through external measurement. Some of its proponents have claimed that its idio-graphic nature defies nomothetic invasion of its boundaries. Its methods are those of the interview, observation, and case history. Its model, if it has a model, is an intricate structure differing from house to house with which no one can become familiar unless he lives there for a sufficiently long period. In other words, it can not be surveyed from the outside. Investigators of this method would be greatly helped if someone provided a good working model for the interview itself. Armed with such a model, methods could be devised for teasing out the underlying components of the interview and for experimentally varying them to note the effects on the evaluation of personality.

Psychophysiology

The postulate underlying psychophysiology is that the brain has something to do with the mind, a time-honored postulate which some psychologists have tried to ignore during the past several decades. Presumably then, alterations in brain function have their concomitant alterations in the mind. The unique nature of personality could be understood if we had tools for gauging on-going brain functioning and its alterations. The dependence of perception on brain function has already been referred to. Brain (2) and Eccles (4) have extended this model to include all other psychological events. They postulate that all psychological behavior has a substrate of cortical or subcortical events. Thus physiological, glandular, motor, sensory, perceptual, and conceptual behavior—thoughts, wishes, aspirations, dreams, and sentiments—cove with cortical or subcortical spatio-temporal impulses of an electrochemical variety. The psychological techniques which have been found responsive to induced brain changes—induced by some type of brain insult or biochemical alteration—are, contrary to expectation, not the time-honored psychological tests now in use in our clinics. Instead, the simpler psychophysical tests of the laboratory, which the clinicians of Binet’s day rejected, are found to be much keener tools for gauging alterations in brain function. Simple motor tasks like tapping, perceptual tasks like flicker fusion, weight lifting, fluctuating figures like the Necker cube, conceptual tasks like the metenym test are readily responsive to brain changes induced by ablation, shock, fatigue, temperature, or drugs like insulin or alcohol. The effects of aging, anxiety, and stress are also more readily and more objectively tapped by these tests than by standard
techniques. Many of the latter which had been thought to reflect the state of mental health of the individual failed to register alterations in well-being accompanying psychosurgery and shock therapy.

Presumably, investigations of normal brain functioning, without external intervention, ought also to be reflected in these finer psychophysical techniques. Investigations of normal personality, with psychophysiological tests by Darrow and Heath, Wenger, and Theron Van der Merwe, and more recently by the Air Force’s division of psychophysiology, indicate that these tests are useful in personality evaluation. One interesting modification of these psychophysiological methods is to apply them under normal and under stress situations afforded by mild anaesthesia or hyperoxygenation, temperature changes, or by some type of psychological threat. The particular method of coping with such stress may be reflected by the central nervous system in these simple tasks in a manner characteristic of the individual’s personality. Such simple tasks as judging the true vertical when one’s body is displaced from the vertical, Heinz Werner’s sensory-tonic field theory of perception, and Gibson’s figural after-effect phenomenon because of the precision with which the performance can be evaluated, may also prove to be valuable in the measurement of personality.

But each of these measures cannot be validated by ad hoc theorizing or the still unvalidated series of working hypotheses that have grown out of the projective techniques. These measures will have to be related to more behavioral systems of personality evaluation or to the results of scientific content analyses of systematic interviews. Some success has already been achieved with such methods in studying the personality of chronic schizophrenics (15). It seems probable on the basis of preliminary investigation that chronic schizophrenics whose perceptual functioning is not as disorganized as their conceptual usually fail to recover. Since, in normal conceptual functioning is below the conceptual usually fail to recover. Since in normal development, conceptual abilities usually are maintained longer than the perceptual and deteriorate only after the perceptual have declined, it would seem that the chronic unrecoverable schizophrenics are more like normals than the chronic recoverable cases.

Summary

The conception of personality as representing the unique pattern of qualities of the individual is no more than a scientific model. If it has ceased being a useful model we ought to discard it. If it is still useful in the attempt at predicting behavior, it ought to be retained. What are the conclusions of our survey regarding this question? Personality measurement has borrowed and is borrowing heavily from four disciplines: differential psychology, psychopathology, personality, and psychophysiology. The first two fields have provided methods and concepts which have been helpful in screening and actuarial prediction. But they have not proved sufficient for comprehending the unique nature of personality. The new field of psychophysiology or brain function and the older but dormant personology are now the most promising hope of personality measurement. With the objective indicators of brain function provided by simple psychophysical tests, and with the analysis of feeling and motivation provided by a scientific approach to the interview, personality is assured some exciting developments even if it never escapes from the very immediate threat of extinction by measurement. Whether measurement will ever render the concept of the uniqueness of personality superfluous is debatable. Recent development in psychophysiology and in personology indicate, however, that it is still capable of stimulating further efforts. What more could one ask of any model?

Received April 7, 1954

References
