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PREVIEW

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Hinkle, Phil Newman

**EGO-STRENGTH, DEPRESSION, AND ANXIETY: A MULTITRAIT-
MULTIMETHOD FUNCTIONAL ANALYSIS**

The University of Nebraska - Lincoln

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PREVIEW

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EGO-STRENGTH, DEPRESSION, AND ANXIETY:
A MULTITRAIT-MULTIMETHOD FUNCTIONAL ANALYSIS

by

Phil N. Hinkle

A DISSERTATION

Presented to the Faculty of
The Graduate College in the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy

Major: Psychology

Under the Supervision of Professors Daniel J. Bernstein
and Herb E. Howe, Jr.

Lincoln, Nebraska

August, 1982

TITLE

EGO-STRENGTH, DEPRESSION, AND ANXIETY:

A MULTITRAIT-MULTIMETHOD FUNCTIONAL ANALYSIS

BY

Phil N. Hinkle

APPROVED

DATE

Daniel J. Bernstein

July 16, 1982

Herbert E. Howe, Jr.

July 16, 1982

James K. Cole

July 16, 1982

June Levine

July 16, 1982

SUPERVISORY COMMITTEE

GRADUATE COLLEGE

UNIVERSITY OF NEBRASKA

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PREVIEW

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PREVIEW

Introduction

Personality researchers have traditionally relied on various assessment techniques such as the Minnesota Multiphasic Personality Inventory (MMPI), the Thematic Apperception Test (TAT) and Sixteen Personality Factors (16PF) to provide the data upon which predictions about an individual's behavior can be made (Hogan, De Soto, & Solano, 1977). These personality assessors seek to make statements about persons that can be shown empirically to be accurate and useful. The statements are made on the basis of many different types of data, some may be interpersonal not requiring direct observation of the individual under study. For example, statements about an individual's family history or socio-economic status require no direct contact with the individual under study. Although these data are useful in assessment, personality assessors concern themselves primarily with data that are based on direct observation of the individual's behavior.

Much research in personality assessment follows the paradigm as noted by Sarason (1966):

The researcher has an hypothesis about one or more personal characteristics which he believes may be related to some aspect of behavior... Having conceptualized these dispositions in which he is interested, he then observes selected aspects of the subject's behavior through tests... From these observations, he derives indices of the dispositions. The subject's standing on these indices are then related to the behavior that the researcher seeks to predict. This procedure may be described as a correlational one in which the relationships of predictors to the criteria are established.
(p.125)

Since personality tests are commonly assumed to measure traits, personality researchers have focused on the development of methods to "scale" adequately personality traits. One such method usually used is factor analysis, a

technique for analyzing correlations between items (or tests) to discover sets that group together. The test developer is interested in finding a systematic set of personality traits by identifying groups of items which correlate closely with each other but correlate minimally with other item groups. Guilford (1959) was one of the pioneers in applying factor analysis to personality inventories producing the Guilford-Martin Inventory of Factors and the Guilford-Zimmerman Temperament Survey, the latter inventory providing scores for ten traits. The application of factorial methods to the construction of personality inventories, as found in Cattell's (1956a, 1971, 1973) work views factor analysis, not as a data-reduction technique, but as a method for discovering underlying, causal traits. On the basis of their factorial research, Cattell and his co-workers constructed the well known 16PF (Cattell, Eber, & Tatsuoka, 1970), a personality inventory which they say yields 16 scores representing 16 traits such as humble versus assertive, high versus low ego-strength, adjustment versus anxiety, and differences in an individual's level of subjective depression.

Another personality inventory which has been used extensively in varied research settings is the MMPI. The original MMPI scales were designed to differentiate between "normal" individuals and certain traditional diagnostic categories. However, as noted by Anastasi (1976), "In subsequent usage, the scales have been treated more and more as linear measures of personality traits" (p.501). Cronbach (1970) also posits the view that the MMPI, as well as the 16PF, and similar type personality inventories function as methods to identify

specific trait dimensions. To support this position he notes that the well known Taylor Manifest Anxiety Scale (Taylor, 1953), which is widely accepted as a measure of trait anxiety, was constructed from items extracted from the MMPI, and that those same items make up the factor of anxiety as measured by the 16PF. In developing a definition of the trait construct, many personality researchers would include one or more of the following statements: a trait is any distinguishable and relatively enduring characteristic of the individual; personality represents an individual's unique pattern of traits; a trait is described as the probability an individual will react in a defined way in response to a defined class of situations; or that a trait description is a statistical summary of behavior over many situations (Anastasi, 1976; Coleman, 1960; Cronbach, 1970).

The process of selecting a test or items from a test and using factor analysis to group related items and then applying a descriptive adjective to that identified group and labeling it as a trait is somewhat subjective and scientifically questionable. As remarked by Lorge (1975):

Personality traits cannot be created by the psychologist. If the concept of personality is to have meaning, it must be conceived as an aspect of individual - an aspect susceptible to quantification. Naming a trait does not make it a trait.... Personality cannot exist by fiat alone. (p.274-275)

Although the former procedure represents a first step in personality research, the more important issue, and purpose of the present paper, is the establishment of validity between the trait measured and criterion behavior.

The question of validity between assessment inventories and actual behavior has plagued psychology, especially clinical and social-personality, since the first pencil-paper test was originated. Numerous studies (Cronbach, 1970; Kelly & Fiske, 1951; Mischel, 1968; Symond, 1931; Thurstone, 1937) have shown that validity has been generally poor between trait constructs and specific behavior patterns. The lack of correspondence between non-behavioral and behavioral assessment has resulted in psychologists questioning the utility of pencil-paper tests. This state of affairs led other psychologists (e.g., Campbell & Fiske, 1959) to suggest that before they can test the relationship between a specific trait and other traits, they must first have some confidence in their measures of that trait. Such confidence can be supported by evidence of both convergent and discriminant validity. In general, any conceptual formulation of a trait will usually implicitly include the assumption that a trait is a response tendency which can be observed under more than one experimental condition and that a trait can be meaningfully differentiated from other traits. The testing of these two assumptions must be prior to the testing of relations among traits to prevent acceptance of erroneous conclusions (Campbell & Fiske, 1959). For example, a conceptual framework might postulate a large correlation between Trait A and B and no correlation between Trait A and C. If the researcher then measures A and B by one method (e.g., questionnaire) and C by another method (e.g., behavior in test situation), the results may be consistent with the theory solely as a function of method variance common to measure A and B but not to C.

The purpose of the present research was to validate behavior samples, under a conflict induced situation, as representations of traits measured by personality assessment inventories. The conflict situation was induced by exposing subjects to a fixed-ratio and proportional schedule of instrumental and contingent responding (Allison & Timberlake, 1974; Eisenberger, Karpman, & Trattner, 1967; Bernstein & Dearborn, Note 1).¹ The instrumental response is analogous to work required while the contingent response is analogous to reward received. Thus, the relationship between the instrumental and contingent response was one of: A certain amount of work (instrumental responding) allowed access to a certain amount of reward (contingent responding). Subjects in the present study had their preference for one of two responses assessed during a free-access baseline period. After that baseline, each subject was placed in a condition of restriction (contingency phase) in which one response (instrumental) must be doubled for access to the same amount of another response (contingent). The contingency phase was followed by a second baseline identical to the first. The assessment of the reinforcement effect and the effects of the two schedules was determined by the frequency and duration of instrumental and contingent responding during the contingency phase. Frequency and duration have been traditional methods of measuring changes in response strength. How long a person spends engaging in a specific behavior and how often a person engages in a specific behavior generally have been accepted as an indication of how valuable that behavior is.

The pattern of intercorrelations among the three traits

(ego-strength, depression and anxiety) each measured by three methods (MMPI, 16PF and behavior sample) generated the primary data of this study. Experiment 1 utilized the fixed-ratio schedule to serve as a model of a frustrating situation in which the subject had no control over the restriction parameters nor control over access to reinforcement. Such a situation should have differential effects on the performance of subjects who varied on the personality dimensions of ego-strength, depression and anxiety. Experiment 2 utilized a proportional schedule, which also deprived the subject, as a model of a frustrating situation in which the subject could control the parameters of restriction and thus access to reinforcement. While the primary objective of this study was to assess the validity of pencil and paper inventories as predictors of behavior, the differences between Experiment 1 and Experiment 2 also addressed the issue of preceived control and the functional role it plays in the concept of reinforcement. Analysis of the data was accomplished through the use of a multitrait-multimethod matrix and the validation process proposed by Campbell and Fiske (1959).

Basically the structure of the present study is as follows: The trait constructs of ego-strength, depression and anxiety are reviewed and the relevant research findings examined. A brief summary follows each trait and a statement about expectant operant performance levels is advanced. Next the development of the operant paradigm used to obtain the behavioral samples is outlined and proposed as a viable method to determine the effects of the schedule on the subject's response pattern. The rationale for the selection of the two

measurements (frequency and duration) of behavioral performance used to assess the three trait constructs is presented. The derivation of the formulas to assess quantitatively the three traits is proposed and concrete examples discussed. Following the operant paradigm the personality inventories and specific subscales used are reviewed. A hypothetical table of data within the framework of the multitrait-multimethod matrix is displayed to illustrate the validation process and the critical features of the matrix are outlined. A summary of the three basic topics (traits, operant paradigm and matrix) and how they are interrelated in the present procedure concludes the introduction.

Ego-Strength

The construct of ego-strength will be reviewed and its relevance to basic human socialization emphasized. Next, the research using a psychoanalytic approach is contrasted with the social-learning method for assessing an individual's delay level. The discussion of the research is divided into two parts, person variables and interventions, and followed by a description of the measures used to assess ego-strength.

The ability to delay gratification (or self-control) is central to human socialization. Basic philosophical ideas of "will power" and the parallel psychological construct of "ego-strength" have been defined as the ability to postpone immediate gratification for the sake of future consequences, to impose delays of reward on oneself, and to tolerate such self-initiated frustration (Mischel, 1974). It is difficult to conceive of productive social interaction without some form of

self-imposed delay. Learning to wait for desired outcomes and to act in light of anticipated future consequences is fundamental for planning and for the foresight and future-orientation on which complex goal-directed behavior depends (Mischel, 1974).

As far back as Freud there has been widespread recognition of the theoretical importance of self-control, especially in the form of "voluntary delay of gratification." According to the psychoanalytic theory of delay behavior (Freud, 1946; Singer, 1955), aroused impulses press for immediate discharge of tension through fantasy or overt motor activity. As a function of repeated association of tension reduction with goal objects, and development of greater ego organization, absence or imposed delay of satisfying objects results in the substitution of hallucinatory satisfactions and other thought processes that convert free cathexes into "bound cathexes." The capacity to delay or inhibit motor discharge by substituting cathected ideational representations presumably reflects the gradual shift from primary-process activity to reality-oriented, secondary-process thinking. The psychoanalytic approach thus leads one to seek determinants of delay behavior in terms of hypothetical internal events in the form of ego organizations and energy-binding ideations (Bandura & Mischel, 1965).

In contrast, social-learning theory sought to study delay of reward and self-control with direct behavioral choice rather than with indirect signs (Mischel, 1968). This theory viewed manipulable social-stimulus events as the critical determinants of self-controlling behavior. Research using a social learning paradigm generally focused on societal and cultural adaption patterns (Mischel, 1958, 1961a, b,

c), or the cognitive functions of aspirations on probability of success (e.g., Diggory & Morlock, 1964), or on effects of expectancy on delay behavior (Mischel & Staub, 1965; Shimkumas, 1970).

Research on Delay Preferences

Despite the importance that delay of gratification plays in human behavior, relatively little experimental research was conducted in the area prior to the late fifties. Much of the empirical research had been done with animals. Research using the psychoanalytic approach relied solely on concepts concerning ego functions applied to motoric inhibition and impulse control (e.g., Singer, 1955). Their measures generally used indirect indices of ego-strength based on such signs as human movement responses to the Rorschach inkblots (e.g., Spivack, Levine, & Sprigle, 1959). Additional relationships were found between ego-strength and the ability to control motoric activity by remaining seated for long periods of time or the drawing of a line very slowly.

In contrast, a different theoretical orientation proposed by Mischel (1968), sought to synthesize social-learning and cognitive principles, strongly influenced by expectancy value theory, in order to investigate the cognitive and motivational factors involved in controlling self-imposed delay of reward. When this strategy was applied to self-control, it enabled the researcher to distinguish between two sets of variables: First, the cognitive, developmental, and learning processes through which abilities and skills necessary for self-control are acquired; and secondly, the motivational factors that guide an individual's choice among response patterns in specific incentive conditions. The direction of several theorists (e.g.,

Bandura & Mischel, 1965), based on the learning-performance or competence-action distinction, also calls attention to the cognitive, observational and developmental processes through which novel complex social behaviors are acquired and also the incentive motivational, and value variables that guide selection of potential behaviors from a host of alternatives.

The general design for such social learning research had subjects choose among actual alternatives that varied in delay time and value. For example, children were faced with the choice between getting a less valuable but immediate reward versus a more attractive reward for which they would have to wait some time before receiving. In such a design it was hypothesized that the subject's choice between the immediate versus delayed reward was an indication of their ability to delay gratification.

Correlates of Delay Preferences

Cultural and Racial Studies. In order to investigate delay, it was first necessary to establish reliable measures and explore the relationship between various preference patterns for immediate smaller rewards or delayed, larger rewards and other theoretically relevant aspects of personality functioning (Mischel, 1974). Questions in this regard concern the stability and generality of delay-of-reward preference patterns, their association with other forms of self-control, and their interrelationships with other cognitive, intellectual and personality variables under the construct of "ego-strength."

Studies involving both anthropological and psychological

investigators (e.g., Mischel, 1958, 1961a, b, c) found associations between cultural factors and delay behavior. In these studies conducted on the island of Trinidad, British West Indies, differences were found between Black and East Indian ethnic groups. On the basis of anthropological observations, a major personality difference between Black and East Indian was suggested. Blacks were said to be "impulsive, not to work or wait for bigger things in the future, but instead to prefer smaller gains immediately." In contrast, Indians were said to be "willing to postpone immediate gain and pleasure for greater rewards and returns in the future." To test this hypothesis, the researcher displayed two kinds of reinforcements (smaller and immediate versus larger but delayed) to the groups of subjects. The results showed that a significantly larger proportion of Black subjects chose the immediate reinforcement as opposed to the larger, but delayed reinforcement.

In a similar vein, Mischel (1961c) explored the differences in the presence or absence of the father in the family constellation and delay of gratification using a cross-cultural comparison. It was hypothesized that the presence or absence of the father may be significant as a causal factor in itself in relation to preference for delayed versus immediate reinforcement. Results indicated a lower ability to delay predominantly in subjects who reported fathers' absence from the family. Two additional studies focused on the locus of control and delay on task performance in lower-class Black children (Baron & Ganz, 1972) and the function of the experimenter's race on delay behavior (Strickland, 1972). The findings of Baron and Ganz

(1972) suggest that Blacks who perceive control as being external have poor delay while the internals have a higher level of delay. The research by Strickland (1972) concluded that Black children were significantly less likely to choose a delayed reward when the experimenter was White.

Motivation and Delay. The effect of motivation on delay was researched by Mischel and Gilligan (1964) in a study involving motivation for prohibited gratification, delay of gratification and responses to temptation. They found temptation to be a significant variable in subject's choice for immediate versus delayed reinforcement. The former conclusion by Mischel and Gilligan (1964) supports similar findings by Deci (1972). In his research, the concept of motivation is placed in two distinct broad classes, intrinsic and extrinsic motivation. A person is considered intrinsically motivated if he/she performs an activity for no apparent reward except the activity itself. Extrinsic motivation refers to the performance of an activity because it leads to external rewards. Viewing motivation from a dichotomized (intrinsic or extrinsic) perspective should lead to the logical assumption that a differential effect would be observed on delay. Unfortunately, little research has been conducted pairing intrinsic versus extrinsic motivation with delay. The research by Deci (1972) tentatively suggests that people who are extrinsically motivated would also be less able to delay gratification than people who are intrinsically motivated.

Time Intervals and Delay Behavior. A number of studies (Mischel & Metzner, 1962; Mischel & Crusee, 1967; Klineberg, 1968; Mischel, Crusee

& Masters, 1969) have focused on the effects of time intervals on delay behavior. The design of these experiments utilized similar research manipulation. The subject was exposed to choice situations in which he/she could receive an immediate, but smaller, reward versus the delayed, but larger, reinforcement. An addition to the design was the use of TAT stories, in which the experimenter told subjects to make up stories, involving immediate or delayed events. The results were consistent with the notion that the capacity to choose a larger delayed reward over a smaller immediate reward was related to the individual's sense of reality and to the degree of everyday preoccupation with future rather than present events. In general, these studies indicate that delay subjects make moderate, realistic estimates of future events, whereas immediate subjects make either extremely short or long estimates.

Modeling and Delay. The association that delay behavior has with socialization, shown thus far, makes it necessary to look at the importance of vicarious learning (modeling). It has been well documented that during the development of individuals there are a host of social response patterns learned through observation. There have been, however, no systematic comparative studies of the relative magnitude and stability of changes in social behavior as a function of exposure to real-life and symbolic modeling cues (Bandura & Mischel, 1965). Two studies will be cited which focused on the relative efficacy of, both live and verbally presented, symbolic models in modifying delay-of-reward behavior. In the first study (Bandura & Mischel, 1965) it was predicted that the modeling procedures would