CONSTRUCT VALIDITY OF THE PERSONAL ORIENTATION INVENTORY AND THE MOTIVATION ANALYSIS TEST WITH TEACHER EDUCATION STUDENTS

By

DEAN LOUIS KERASOTES

Bachelor of Science

University of Illinois

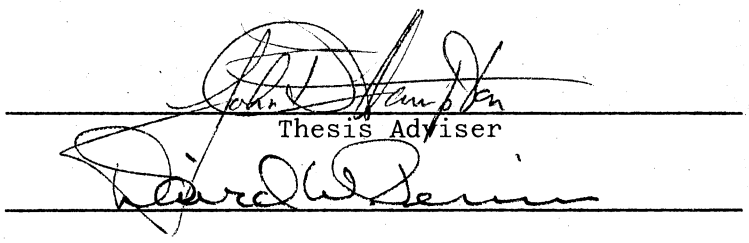
Urbana, Illinois

1972

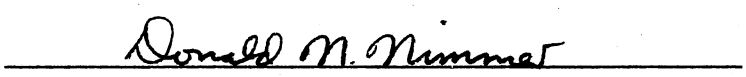
Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
MASTER OF SCIENCE
May, 1978

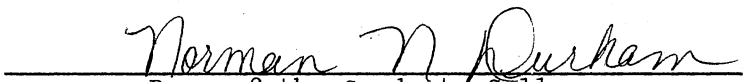
CONSTRUCT VALIDITY OF THE PERSONAL ORIENTATION INVENTORY AND THE MOTIVATION ANALYSIS TEST WITH TEACHER EDUCATION STUDENTS

Thesis Approved:



Thesis Adviser





Dean of the Graduate College

ACKNOWLEDGMENTS

The author wishes to express his appreciation to his major adviser, Dr. John Hampton, for his valuable suggestions and comments throughout this study. Appreciation is also extended to committee members, Dr. Donald Nimmer and Dr. David Perrin, for their time and assistance given to this research.

Special thanks should be given Stephen Grissom, Kingsley Lentz, Greg McCarty, Larry Vaught, and the teacher education students who participated in this research.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Two psychological tests currently employed to measure human motivation are the Personal Orientation Inventory (POI), developed by Shostrom (1963), and the Motivation Analysis Test (MAT), developed by Cattell, Horn, Sweney, and Radcliffe (1964). These instruments reflect different theoretical approaches to the measurement of human motivation. The POI, constructed primarily to measure Maslow's conception of the self-actualizing individual along with Maslow's theory of motivation, was derived from a clinical perspective. On the other hand, Cattell's theory of motivation as measured by the MAT was developed from an empirical, factor-analytic approach. Both instruments have been used extensively in educational, clinical, and industrial settings. These instruments serve to operationally define motivational constructs and provide a basis for examining the theories underlying those constructs.

Statement of the Problem

The present study addresses the problem of the construct validity of the POI and MAT. Inasmuch as both instruments purport to measure human motivation, the relationship between the constructs measured by these two instruments must be identified. A review of the literature revealed that while the POI and MAT have been utilized for similar

groups of individuals, the constructs measured by the two instruments have not been related by administering them to the same group. Such a procedure would enable one to examine the statistical relationships between the scales of the POI and MAT.

Assumptions

In research using paper and pencil tests measuring personal traits, it is possible that the subjects may not respond honestly to the test items. Therefore, results may be suspect to factors such as social desirability, anxiety, and faking. These possibilities must be acknowledged; however, several factors hopefully decreased these effects in this investigation. First, research on the POI demonstrated that it is fairly resistant to the effects of faking and response sets. Second, the items on the MAT are disguised and were designed to minimize faking and social desirability. Third, participation in this study was voluntary. Students were asked to take the tests and their participation was not in any way related to evaluation in their courses. No rewards or payment were promised to the subjects for their participation other than the opportunity to receive feedback and an interpretation of their tests results. Finally, by ensuring anonymity and promising feedback, the experimenter hoped to encourage honest responding and to maximize interest in responding to the instruments.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

In reviewing the literature, the author found no previous studies which directly addressed the construct validity of these two instruments as they relate to each other. Therefore, documentation of the need for this study will focus on the theoretical and empirical aspects of the POI and MAT. First, the development of each instrument from its theoretical base will be discussed. Second, information describing the scales and reliabilities of the instruments will be presented. Third, presentation of empirical evidence will focus on research related to the validity of the POI and MAT. Finally, the possible relationships between the scales of the POI and MAT will be discussed.

The Personal Orientation Inventory

The impetus for the development of the POI originated out of the theoretical writings of humanistic, existential, and gestalt psychologists. In particular, the instrument purports to measure the values and behavior related to Maslow's conception of the self-actualizing individual (Shostrom, 1974). Maslow (1954) presented a theory of human motivation which underlies the concept of self-actualization.

Maslow described his theory of motivation as a holistic-dynamic

theory which was derived primarily from clinical experience (Maslow, 1954). Thus he acknowledges the gestalt organismic or holistic conception of man and the dynamic interaction of his needs. He postulated a hierarchy of needs separated into two categories: lower and higher needs. The lower needs consist of physiological, safety, love and belonging, and esteem. Higher needs include the need for self-actualization, the need to know and understand, and aesthetic needs. Maslow postulated a prepotency of needs with satisfaction of lower needs being a prerequisite for activation of higher needs.

According to Maslow (1968), the lower and higher level needs have different characteristics and operate under different mechanisms. His concept of deficiency-motivation (D-motivation) represents the mechanisms of lower needs, whereas growth motivation (B-motivation) represents higher level needs. Lower needs are active when there is deprivation, and attainment of a goal decreases the need. Hence, deficiency-motivated behavior reduces one of the basic needs. On the other hand, growth-motivated behavior does not reduce the need for self-actualization. Such behavior is directed towards self-fulfillment, understanding of the world, and appreciation of beauty. Growth-motivated behavior varies greatly.

> In one individual it may take the form of the desire to be an ideal mother, in another it may be expressed athletically, and in still another it may be expressed in painting or inventions. At this level individual differences are greatest (Maslow, 1954, p. 46).

For Maslow, the growth-motivated or self-actualizing individual became synonomous with the psychologically healthy person. Through his clinical observations Maslow recognized that his concept of the healthy person was represented by the self-actualizing or growth-

motivated individual. A list of characteristics shared by self-actualizing people was developed by Maslow. These characteristics include more efficient perception of reality, acceptance, spontaneity, autonomy and more profound interpersonal relationships (Maslow, 1954). He suggested that these characteristics would be useful for further analysis of the functioning of healthy individuals. Many of the concepts measured by the POI are drawn from the characteristics listed above. Maslow noted the trend toward empirical analysis of self-actualization and referred to the POI as operationally defining the concept (Maslow, 1971).

The POI consists of 150 pairs of statements describing values and behaviors. From each pair, the subject chooses the one statement most true of himself. These items are scored for two major scales and ten subscales. The scales represent characteristics thought to be important components of self-actualization. The two major scales are Time Competence (TC) and Inner-Directed (I). Time Competence measures the degree to which an individual lives in the present. Inner-Directed measures the degree a person's behavior is self-directed rather than influenced by social or external pressures. Viewed in combination, these two scales give the best estimate of a person's level of self-actualization (Shostrom, 1974).

The ten subscales of the POI represent particular characteristics important to the development of self-actualization and center around the areas of valuing, feelings, self-perception, awareness, and interpersonal sensitivity. In the area of values, Self-Actualizing Value (SAV) measures the degree that the individual's values are similar to those of self-actualizing people and Existentiality (Ex) measures

flexibility in application of principles. With regard to feelings, Feeling Reactivity (FR) measures sensitivity of one's feelings and Spontaneity (S) measures freedom to express feelings. Self-actualization in terms of self-perception is reflected in Self-Regard (Sr) measuring self-worth and Self-Acceptance (Sa) measuring acceptance of one's weaknesses. Awareness is reflected in the following scales: Nature of Man Constructive (Nc) measuring a positive view of man and Synergy (Sy) measuring transcendence of dichotomies. Acceptance of Aggression (A), measuring the ability to accept and express hostility, and Capacity for Intimate Contact (C), measuring the capacity to establish meaningful interpersonal relations, reflect self-actualization in interpersonal relations. The scales and subscales of the POI are presented in Table I.

Norms for the POI important to the present study are based on a sample of 2,607 college freshmen. Reference norms for various clinical and occupational groups are also presented in the POI Manual (Shostrom, 1974). Research suggests that attempts to fake the POI tend to shift scale scores away from the self-actualizing range (Braun and LeFaro, 1969; Foulds and Warehine, 1971), and that social desirability response sets are negatively related to the POI scales (Knapp and Comrey, 1973). Shostrom (1974) reported that significant sex differences were found for Time Competence, Self-Actualizing Value, Nature of Man, and Synergy. However, he concluded that the raw score differences were small enough to be disregarded for interpretive purposes.

Test-retest and internal consistency reliabilities of the POI have been reported. Klavetter and Morgan (1967) reported test-retest reliability coefficients for a one week period. These coefficients ranged

TABLE I

SCALE NAMES AND SYMBOLS FOR THE
PERSONAL ORIENTATION INVENTORY

POI Scale Name	Scale Symbol
Major Scales	
1. Time-Competence	Tc
2. Inner-Directed	I
Subscales	
3. Self-Actualizing Value	SAV
4. Existentiality	Ex
5. Feeling Reactivity	FR
6. Spontaneity	S
7. Self-Regard	Sr
8. Self-Acceptance	Sa
9. Nature of Man	Nc
10. Synergy	Sy
11. Acceptance of Aggression	A
12. Capacity for Intimate Contact	C

from .52 for A to .82 for Ex for the subscales. For the major scales, reliabilities of .71 for TC and .77 for I were found. Test-retest reliabilities over a one year period ranged from .32 to .74 with a median reliability of .58 (Ilardi and May, 1968). Internal consistency reliability estimates (Cronbach alpha) have been reported for the major scales TC (.65) and Inner-Directed (.80) (Knapp, 1976).

Evidence for the validity of the POI has been gathered from two main areas: the use of the POI to discriminate actualizing and non-self-actualizing individuals and the relationships between the POI and other instruments assessing human behavior in the personality-motivation domain. Generally, research in these areas lends support to the construct, concurrent, and predictive validity of the instrument (Tosi and Lindamood, 1975). Specifically, it has been noted that the major scales (TC and I) demonstrate considerable validity (Bloxom, 1972). With emphasis placed on relationships between the POI and other psychometric instruments, the following research has been used to demonstrate the validity of the POI.

A number of studies found that the POI can be used to differentiate self-actualizing from non-self-actualizing people. Shostrom (1964) administered the POI to a sample of clinically nominated self-actualizing and non-self-actualizing individuals. All scale scores except Nature of Man were significantly higher for the self-actualizing group. Another study (Fox, Knapp and Michael, 1968) indicated that psychiatric patients score lower on the POI scales than do normal adults and self-actualizing individuals.

McClain (1970) conducted a study on the relationship between the POI and behavioral ratings of normal adults. Thirty counselors

enrolled in a summer institute were administered the POI. Three staff members rated each counselor's level of self-actualization based on criteria drawn from Maslow's writings. All but three subscales (Sr, Nc, Sy) were significantly related to behavioral ratings of self-actualization. Correlations found significant at the .01 level were with S (.53), I (.69), and Sa (.56). Significant correlations at the .05 level were found for TC (.40), SAV (.41), Ex (.43), Fr (.45), A (.42), and C (.42). The authors concluded that their findings provide evidence that the POI measures self-actualization in normal adults.

Further evidence for the construct validity of the POI has been gathered from correlational studies with other instruments. The Handbook for the Personal Orientation Inventory (Knapp, 1976) summarizes these studies. Specific hypotheses generated from Maslow's theory concerning the relationship of self-actualization to psychological adjustment and other personality characteristics have been tested.

Self-actualization measured by the POI tends to be negatively related to measures of psychopathology. The POI was correlated with the MMPI for a group of patients in therapy (Shostrom and Knapp, 1966). Significant negative correlations were obtained between POI and Depression, Psychasthenia, and Social Introversion on the MMPI. Also, eight of twelve POI scales were found to be negatively correlated with the Eysenck Personality Inventory measure of neuroticism for a group of college students (Knapp, 1965).

Other research studies have compared self-actualization to personality systems derived from factor analysis. The Manual for the Personal Orientation Inventory (Shostrom, 1974) reports correlations between the POI and the Guilford-Zimmerman Temperment Survey and

Cattell's Sixteen Personality Factor Questionnaire (16PF) for a group of 159 college students. When correlated with the G - Z factors, self-actualization was found to be positively related to the following traits: active, ascendent, sociable, emotionally stable, and objective. The 16PF factors found to be related to self-actualization were assertive, happy-go-lucky, expedient and venturesome.

Knapp and Comrey (1973) investigated the relationships between the POI and the Comrey Personality Inventory (CPS). The CPS, developed from a comprehensive taxonomy of personality, allowed the comparison of differing theoretical viewpoints. The authors hypothesized that: 1) Inner-Directedness and Existentiality would be negatively related to Social Conformity; 2) Nature of Man would be positively related to Trust; and 3) Inner-Directed and Time-Competence would be positively related to Emotional Stability. The POI and CPS were administered to 84 college students and these hypotheses were confirmed. Also, Existentiality was the only POI subscale not significantly related to Emotional Stability. Spontaneity, Self-Regard, and Acceptance of Aggression were positively related to the CPS Extraversion scale. Finally, the author noted that six of the twelve POI scales were negatively related to the CPS Response Bias scale which measures the tendency to give a good impression. The authors concluded that the results of the study provide evidence for the construct validity of the POI.

The Motivation Analysis Test

Cattell's theory of motivation was derived from a factor-analytic

approach to the measurement of motivation. Cattell and Child (1975) presented an overview of their research which was aimed at identifying the components of human motivation and dynamic structures. The components of motivation are the various ways a motive can manifest itself and hence be measured. They define dynamic structure as the goals of motivated behavior and the paths by which the goals are reached. The results of Cattell's research on these two areas are directly reflected in the MAT. The test devices are used to tap the components of dynamic structures which identify specific motivational factors.

In his early research Cattell (1957) identified seven factors as the primary components of motivation. He accomplished this task by factor analyzing a pool of over sixty test devices commonly used to measure motivation. Two second-order factors, U (unintegrated) and I (integrated), emerged from the identification of the seven primary components. According to Cattell and Child (1975),

> . . . the U component is the relatively unintegrated, unrestrained, and sponteneous component of interest which is susceptible to momentary stimulation and is part of the unconscious or preconscious. The integrated component on the other hand is a relatively firm reality oriented, cognitively invested, experienced and a consciously integrated and controlled interest component (p. 18).

Finally, an individual's total motivation in a particular area is the sum of the U and I components.

After the U and I components were identified, factor analytic techniques were applied to a pool of attitudes in order to identify dynamic factors or the behavioral goals. Two general classes of dynamic factors emerged which Cattell named as ergs and sentiments. Ergs represent a set of attitudes that are directed toward a biological

goal. On the other hand, sentiments represent attitudes and values which are a product of socialization. Five of the major ergs and five of the major sentimdnts were chosen for inclusion in MAT (Cattell, Horn, Sweney, and Radcliffe, 1964).

The scales of the MAT (Cattell et al., 1964) measure ten motivational factors, five ergs and five sentiments, identified from Cattell's research. Mating, Assertiveness, Fear, Narcism, and Pugnacity are the five ergs. Mating (Ma) measures the strength of the normal sex drive. Strength of the drive to self-assertion, mastery, and achievement are measured by Assertiveness (As). Fear (Fr) measures the level of alertness to external dangers and Narcism (Na) measures the drive to sensuous self-indulgence. Pugnacity (Pg) measures the level of hostile impulses. The sentiments or socially acquired motives are Self (SS), Superego (Se), Career (Ca), Sweetheart-spouse (Sw), and Home-parental (Ho). Self-Sentiment measures level of concern about self-control, self-understanding, and social repute. Superego assesses the level of conscience development and Career measures interest in a career. Sweetheart-spouse strength of attachment to spouse or sweetheart while Home-parental measures strength of attitudes attached to the parental home. The MAT erg and sentiment scales are presented in Table II.

Specifically, the MAT assesses twenty-eight attitudes. Two attitudes are measured by each scale with the exception of Self-Sentiment and Superego. Eight attitudes are assessed for Self-Sentiment and four attitudes are assessed for Superego. These attitudes were chosen on the basis of their correlation with their respective motivational factor. A total of 208 test items are distributed among four subtests. The Integrated (I) component of each factor is measured by a forced,

TABLE II

SCALES AND SYMBOLS FOR THE
MOTIVATION ANALYSIS TEST

MAT Scale Name	Scale Symbol
Ergs:	
1. Mating	Ma
2. Pugnacity	Pg
3. Assertiveness	As
4. Fear	Fr
5. Narcism	Na
Sentiments:	
6. Career	Ca
7. Home-parental	Ho
8. Superego	Se
9. Self-Sentiment	SS
10. Sweetheart-spouse	Sw

two-choice word association test and a multiple choice information test. Unintegrated (U) motivation for each factor is measured by a forced choice "ends for means" test and an estimation test. Thus, the scale scores measure ten motivational factors expressed in the U or I form. Total motivation scores for each factor are obtained by combining the U and I components. Cattell et al. (1964) refer to the total motivation scores as the most valid and reliable measures for each of the ergs and sentiments.

The standardization group for the MAT consisted of 1,847 adults, 866 college students, and 981 individuals representing several occupation groups. Additional profile norms are provided for various clinical and occupational groups (Cattell and Child, 1975; Sweney, 1969). In reviewing the literature, this instrument has been characterized as an experimental instrument and needing further information pertaining to reliability, validity, and additional normative data (Alker, 1972; Comrey, 1972). The reliabilities for the scales which are reported in the manual: test-retest reliabilities over a one-week period ranged from .51 for Pugnacity to .81 for Home-parental; test-retest reliabilities over a five-week period ranged from .39 for Career Sentiment to .69 for Self-Sentiment; and internal consistency reliability estimates (coefficient alpha) ranged from .33 for Assertiveness to .71 for Self-Sentiment. In the Handbook for the Motivation Analysis Test, Cattell et al. (1964) point out that high internal consistency is not necessarily desirable for a factor scale due to the small number of items for each scale and note that an equivalent form is currently being developed to provide more information on reliability. Also, they point out that the dynamic factors are not expected to be extremely stable

over extended periods of time.

Validity for the scales is based on the correlation between scale scores and their factor estimates. These correlations ranged from .52 for Narcism to .76 for Self-Sentiment (Cattell et al., 1964). They state that the basis for construct validity is established from research in which the dynamic factors were identified. Despite the deficiencies with regard to traditional psychometric standards, Mazer (1972) suggested that the MAT offers much promise as an experimental instrument.

The MAT has been used in research to provide motivational profiles for specific groups of individuals. Motivational patterns for criminals employing violence, criminals employing stealth, schizophrenics, othopedically disabled, seminary males, and supervisory personnel, doctors, business executives, and college students have been presented (Sweney, 1969).

The MAT was utilized in a study of the relationships between personality, motivation and adolescent drug use (Krug and Henry, 1974). Several of the MAT Scales were useful in differentiating drug users from non-users in a group of 563 high school seniors and entering junior college freshmen. Drug users displayed greater rejection of parental-home as measured by the Home-parental scale. Also scoring lower on the Sweetheart-spouse scale indicated difficulties in developing meaningful relationships with the opposite sex. Greater self-indulgence was suggested for the drug users by higher scores on the

Narcism scale and lower integrated Superego scores which reflected less conscience development. Drug users were also higher on integrated Mating and Self-Sentiment. Also, higher unintegrated Pugnacity in drug users was interpreted as indicative of greater unchanneled hostility.

Lawlis (1971) conducted a study on the motivational patterns of the chronically unemployed. The MAT was administered to 75 chronically unemployed males and 75 employed males. Point-biserial correlations were calculated relating MAT scales to chronic unemployment. The strongest relationship was found between Self-Sentiment and unemployability ($r=-.403$). The authors concluded that the unemployed were characterized by low integrated motivation and high unintegrated motivation. Specifically, unrealistic career motivation, motivational conflict about self-esteem, less mating drive, difficulty in satisfying needs for comfort, and difficulty in gaining satisfaction from romantic relations were characteristic of the unemployed.

The MAT has been analyzed for more general or second-order motivational factors (Burdsal, 1975). It was administered to 190 college undergraduates and 60 Air Force personnel. A factor analysis was performed on the unintegrated and integrated scale scores, and six second-order motivational factors were identified. These include: Factor I, Long-Term Growth and Satisfaction vs. Short-Term Attainments with Frustration; Factor II, Social vs. Selfish values; Factor III, Masculinity vs. Femininity; Factor IV, People Orientation; Factor V, Egocentric vs. Materialistic Orientation; Factor VI, Relaxed Materialism vs. Frustrated Insecurity.

Burdsal (1975) described individuals high on Factor I as showing motivation toward self-awareness and self-fulfillment suggested by high

integrated Self-Sentiment. These individuals displayed low unintegrated motivation toward home, career, and religion. Also, an active interest in sex was suggested by high scores on integrated Mating and high integrated Narcism suggested importance placed on the "finer things in life."

Factor II related to whether an individual's goals were socially directed. Socially directed goals were implied by high integrated Superego, Home-parental scores, and Career scores. High integrated Pugnacity was related to direct and comfortable expression of hostility. Low unintegrated Narcism, Self-Sentiment, and Assertiveness reflected satisfaction of basic needs, low interest in status symbols, and low undirected concern about the future.

Factor III related to masculine or feminine orientation. Masculine orientation was marked by greater unintegrated hostility, interest in sex, and less unintegrated tension with regard to sweetheart-spouse, home, and religion.

Factor IV was interpreted to represent moving toward as opposed to moving away from people. Individuals moving towards people were characterized by less unintegrated concern for self, less integrated fear or caution, and less integrated career involvement. Also, higher unintegrated Sweetheart-spouse Sentiment suggested more need for love and affection.

Factor V related to whether an individual was oriented toward internal or external satisfactions. The unintegrated Narcism, Career, and Self-Sentiment scales contributed to this factor. Burdsal (1975) described individuals with higher unintegrated Narcism, lower unintegrated Career, and less unintegrated Self-Sentiment as wishing for

more internal satisfaction.

Factor VI was related to one's basic security and consisted of scores on unintegrated Fear, Career, Superego, and integrated Mating. Higher unintegrated Fear and Superego sentiments coupled with lower integrated Career and Mating motivation was interpreted as reflecting frustrated insecurity.

Burdsal (1975) concluded that the dynamic structures measured by the MAT tended to form second-order factors representing generalized motivational patterns which appeared to have value-like content. While emphasizing the need for research relating these patterns to behavioral indices, he stated that they may be useful for a more general approach to explaining behavior.

The research of the literature revealed only one attempt at comparing the MAT to another psychological instrument. Cattell et al. (1964) present a correlation matrix between the scales of the MAT and the scales of the Sixteen Personality Factor Questionnaire (16PF) which can be found in the Handbook for the Motivational Analysis Test. Analysis of the correlation matrix revealed that Self-Sentiment which is measured on both the MAT and 16PF provided the only substantial correlation. Cattell concluded that the two instruments were measuring relatively independent traits.

Summary

The review above summarizes the current literature regarding the development, construction, and standardization of the POI and MAT. This review discussed Maslow's theoretical approach to the understanding of human motivation and the development of the POI to measure his

concept of motivation. The construction of the scales for the POI was discussed and information relating the validity, reliability and standardization of the instrument was presented. The review of the literature emphasized that construct validity of the POI was established by correlating the instrument with other measures of psychological instruments. Shostrom (1974) noted that the POI scales, Time-Competence and Inner-Directed, viewed in combination give the best estimate of an individual's level of self-actualization. Also, these scales have been reviewed as having the most construct validity (Bloxom, 1972; Tosi and Lindamood, 1975). The review also discussed Cattell's factor analytic approach to the understanding of human motivation and the development of the MAT for the measurement of his concept of motivation. Description of the construction of these scales along with normative data was also presented for this instrument. The review of the literature did not reveal a study in which the scales of the POI and MAT were related to one another. Therefore, possible relationships between the scales as well as the underlying theoretical constructs must be discussed from the foundation provided by the review of theoretical and empirical aspects of the two instruments presented in this review.

From a theoretical perspective, the POI measures Maslow's motivational construct of self-actualization while the MAT measures Cattell's constructs of ergs and sentiments. It was noted in the review above that self-actualization represents behavior directed by Maslow's higher needs. These needs are psychological in nature in that they are oriented toward the goals of self-fulfillment, understanding of the world, and the appreciation of beauty (Maslow, 1954). Cattell's two major motivational factors are not both psychologically based. Ergs

represent physically based motivational factors directed toward biological goals. Sentiments represent motives of a psychological nature oriented toward personal and social goals (Cattell and Child, 1975). If these definitions of the theoretical constructs are valid, then one might expect that self-actualization and the ergs would not be related. Also, since self-actualization and sentiments represent conceptions of motivation that are psychological in nature, one might expect possible relationships between self-actualization and the sentiments.

On the basis of interpretive similarity and empirical findings, certain relationships between selected scales of the POI and MAT might be expected. In particular, both the POI and MAT have scales that purport to measure aspects of an individual's self-direction and self-perception. The POI Inner-Directed scale is interpreted as reflecting independence and self-reliance (Shostrom, 1974). Similarly, the MAT Self-Sentiment scale measures an individual's investment of motivation in himself and reflects authenticity and self-direction (Sweney, 1969). The importance of these scales is highlighted by the fact that they are represented by the largest number of items on their respective instrument. Finally, Inner-Directedness has been highly related to measures pertaining to psychological health (Shostrom, 1964; Shostrom and Knapp, 1966; Knapp and Comrey, 1973). Similarly, Self-Sentiment has been related to psychologically healthy individuals (Sweney, 1969; Lawlis, 1971). Thus, based on these similarities, one might expect a relationship to exist between Inner-Directedness and Self-Sentiment.

In conclusion, the review of the literature reveals some similarities and differences between the constructs of the POI and MAT. First on a theoretical level, Maslow's concept of self-actualization reflects

a purely psychologically based motivational construct. On the other hand, Cattell's empirically derived erg construct represents a physically based source of motivation. His sentiment construct, however, is psychologically based. Second, both the POI and MAT have scales related to the role of the "self" in motivation. Third, the scales of the POI and MAT represent a broad array of human characteristics that, from an interpretive standpoint, appear quite heterogeneous. The MAT is especially specific and the POI is global. Assessing the construct validities of the POI and MAT would clarify these similarities and differences.

Research Questions

The problem posed in this study focuses on the relationship between the constructs measured by the scales of the POI and MAT. According to Lord and Novick (1968):

> Two important steps are required to establish the construct validity of a test. First it is necessary to show that the test correlates appreciably with all other tests which theory suggests it should correlate. Then it is necessary to show that the test does not correlate appreciably (except perhaps 'spuriously') with all other tests which theory suggests it should not correlate (p. 279).

If the scales of the POI and MAT are measuring the same constructs, one would expect significant correlations between their scales to exist. Therefore, the construct validity of the POI and MAT may be established by examination of the following research questions:

Question 1: What are the relationships between the POI major scales and the MAT erg scales?

Question 2: What are the relationships between the POI major scales

and the MAT sentiment scales?

Question 3: What are the relationships between the POI subscales and the MAT erg scales?

Question 4: What are the relationships between the POI subscales and the MAT sentiment scales?

CHAPTER III

METHODOLOGY

Subjects

The subjects were 119 undergraduate students enrolled in the teacher education training program at Oklahoma State University. Participation in this study was part of a learning exercise on the topic of motivation. There were 31 males and 76 females. Subjects' ages ranged from 19 to 31, with a mean age of 21 years.

Instruments

Two instruments measuring motivation were used in this study.

The POI (Shostrom, 1963) was used to measure aspects of the motivational construct of self-actualization. Consisting of 150 paired statements of values and behaviors, it yields measures for 12 scales. An example of a POI item is: "(a) I live by values which are in agreement with others, (b) I live by values which are primarily based on my own feelings."

The 1975 edition of the MAT (Cattell, Horn, Sweney, and Radcliffe, 1964) was used to measure the strength of 10 dynamic motivation factors. Each factor is measured on two levels, integrated (I) and unintegrated (U), which are combined to yield a total motivation score for each of the ten factors. There are 208 items divided among four subtests.

Integrated motivation scores are measured by two subtests, Information and Paired Words. Unintegrated motivation is measured by the Estimates and Uses subtests. The following examples illustrate each type of subtest item:

Subtest 1 - USES

A vacation is an opportunity to:
a) lie around and regain your strength
b) examine your ideals and goals

Subtest 2 - ESTIMATES

All careers are becoming so overcrowded that you can't expect to reach the top.
a) Very false
b) False
c) True
d) Very true

Subtest 3 - PAIRED WORDS

SKILLED:
a) manner, or
b) job

Subtest 4 - INFORMATION

A stoic is:
a) A person who seeks physical pleasure
b) A person not affected by passions
c) A small haystack in a field
d) The kind of money used in Ethiopia.

Reliabilities and validities for both instruments have been reported in Chapter II.

Procedure

The experimenter administered the POI and MAT to five sections of undergraduate teacher training classes on two consecutive class periods. On the first day of testing, the experimenter requested the students' help in gathering information on two psychological tests. The students were informed that they would receive the results and interpretation of

their tests. They were also informed that anonymity would be guaranteed by using the last four digits of their social security number as identification. Students absent from class on the first day of testing were excluded from the experiment. For all classes, the POI was administered on the first day to 119 students and the MAT was administered on the second day of testing to 107 students. Twelve absences on the second day reduced the total number of complete cases to 107. The testing sessions were separated by one day for all classes. Both the POI and MAT were administered according to instructions in their respective manuals.

From the test protocals, the scores for the 12 scales of the POI and the ten total motivation factors from the MAT were obtained for each subject.

Analysis of the Data

The analysis of the data employed Pearson product-moment correlation as the appropriate measure of relationship (Glass and Stanley, 1970). Pearson product-moment correlations between the POI scales and the MAT scales were calculated. The exact probabilities for all correlations were calculated to allow the reader to ascertain the appropriate significance level for the reader's criteria. The correlations between scales of the POI and MAT specified in the Research Questions were grouped into matrices. These correlations were examined to identify correlations significant at the .05 level.

CHAPTER IV

RESULTS

Introduction

The purpose of the present study was to examine the construct validities of the POI and MAT. This task was attempted by examining the scales of the two instruments as they relate to each other. From a review of the literature, logical relationships between the constructs represented in the POI and MAT were identified. These relationships were derived from the theoretical definitions of Maslow's conception of self-actualization measured by the POI and Cattell's motivational constructs, ergs and sentiments, measured by the MAT. From the review of the POI, it was established that its major scales, Time-Competence and Inner-Directed, represent the best measure of level of self-actualization. Research questions were postulated to determine the relationships between self-actualization, measured by the POI major scales and subscales, and the motivational factors, ergs and sentiments, measured by the MAT. These relations were expressed as Pearson product-moment correlations.

Presentation of the Results

Means and Standard Deviations for the POI and MAT

The means and standard deviations were calculated for the individual scales and subscales of the POI and MAT. Table III presents the data for the POI and Table IV presents the data for the MAT.

Results for the Research Questions

Question 1: What are the relationships between the POI major scales and the MAT erg scales? Table V reports the ten correlations between the POI major scales and the MAT erg scales. One correlation, between Inner-Directed and the Mating erg ($r=-.2235$, $p = .021$), was found to be significant.

Question 2: What are the relationships between the POI major scales and the MAT sentiment scales? Table VI provides the correlation matrix for the POI major scales and the MAT sentiments. Examination of Table VI revealed two significant correlations. The correlation between Time-Competence and Sweetheart-spouse sentiment was .1905 ($p = .049$) and the correlation between Inner-Directed and Self-Sentiment was .2045 ($p = .035$).

Question 3: What are the relationships between the POI subscales and the MAT erg scales? Table VII provides the correlation matrix for the POI subscales and the POI erg scales. Ten significant correlations were found. The Mating erg scale correlated -.2128 ($p = .028$) with Self-Actualizing Value, -.1929 ($p = .046$) with Feeling

TABLE III

MEANS AND STANDARD DEVIATIONS FOR THE PERSONAL ORIENTATION INVENTORY SCALES

(n = 107)

Personal Orientation Inventory Scale	Mean	Standard Deviation
Time-Competence	16.84	2.80
Inner-Directed	86.24	10.31
Self-Actualizing Value	20.05	2.59
Existentiality	21.10	3.96
Feeling Reactivity	15.89	3.08
Spontaneity	12.34	2.85
Self-Regard	12.21	2.37
Self-Acceptance	15.56	3.00
Nature of Man	12.06	1.80
Synergy	6.96	1.23
Acceptance of Aggression	16.11	3.41
Capacity for Intimate Contact	18.22	3.57

TABLE IV

MEANS AND STANDARD DEVIATIONS FOR THE MOTIVATION ANALYSIS TEST

(n = 107)

Motivation Analysis Test Scale	Mean	Standard Deviation
Mating	6.37	2.15
Pugnacity	4.08	2.75
Assertiveness	3.86	2.55
Fear	3.77	2.39
Narcism	5.90	2.28
Career	3.86	2.25
Home-parental	4.98	2.39
Superego	4.77	2.33
Self-Sentiment	4.75	2.34
Sweetheart-spouse	6.25	2.50

TABLE V

INTERCORRELATIONS BETWEEN THE PERSONAL ORIENTATION INVENTORY MAJOR SCALES AND THE MOTIVATION ANALYSIS TEST ERG SCALES
(n=107)

Personal Orientation Inventory Major Scales	Motivation Analysis Test Erg Scales				
	Mating	Pugnacity	Assertiveness	Fear	Narcism
Time-Competence	-0.1186 p=0.224	-0.1160 p=0.234	-0.0058 p=0.953	0.0368 p=0.706	0.0980 p=0.315
Inner-Directed	-0.2235 p=0.021	0.1500 p=0.123	0.0045 p=0.963	0.1688 p=0.082	0.0211 p=0.829

TABLE VI

INTERCORRELATIONS BETWEEN THE PERSONAL ORIENTATION INVENTORY MAJOR SCALES AND THE MOTIVATION ANALYSIS TEST SENTIMENT SCALES
(n=107)

Personal Orientation Inventory Major Scales	Motivation Analysis Test Sentiment Scales				
	Career	Home-parental	Superego	Self-Sentiment	Sweetheart-spouse
Time-Competence	0.0851 p=0.384	-0.0316 p=0.747	0.1594 p=0.101	0.1421 p=0.144	0.1905 p=0.049
Inner-Directed	-0.0185 p=0.850	-0.1846 p=0.057	0.0821 p=0.400	0.2045 p=0.035	-0.1070 p=0.273

TABLE VII

INTERCORRELATIONS BETWEEN THE PERSONAL ORIENTATION INVENTORY SUBSCALES AND THE MOTIVATION ANALYSIS TEST ERG SCALES

(n=107)

Personality Orientation Inventory Subscales	Motivation Analysis Test Erg Scales				
	Mating	Pugnacity	Assertiveness	Fear	Narcism
Self-Actualizing Value	-0.2128 p=0.028	0.2798 p=0.004	-0.0304 p=0.756	-0.0241 p=0.805	-0.0438 p=0.654
Existentiality	-0.0012 p=0.990	0.2298 p=0.017	-0.1567 p=0.107	0.1526 p=0.117	0.0817 p=0.403
Feeling-Reactivity	-0.1929 p=0.046	0.1816 p=0.061	0.0232 p=0.812	0.0773 p=0.429	0.0118 p=0.904
Spontaneity	-0.1314 p=0.177	0.1647 p=0.090	0.0364 p=0.710	-0.0854 p=0.382	-0.0729 p=0.455
Self-Regard	-0.2035 p=0.036	0.0970 p=0.320	0.0983 p=0.314	-0.1164 p=0.233	0.0005 p=0.996
Self-Acceptance	-0.0898 p=0.357	0.0972 p=0.319	0.0548 p=0.575	0.2441 p=0.011	-0.0163 p=0.867

TABLE VII (Continued)

Personal Orientation Inventory Subscales	Motivation Analysis Test Erg Scales				
	Mating	Pugnacity	Assertiveness	Fear	Narcism
Nature of Man	-0.2374 p=0.014	-0.1098 p=0.260	0.0512 p=0.600	-0.0145 p=0.882	-0.0354 p=0.717
Synergy	-0.0446 p=0.648	0.0847 p=0.386	-0.0710 p=0.467	0.0002 p=0.998	0.0424 p=0.665
Acceptance of Aggression	-0.0572 p=0.559	0.2373 p=0.014	-0.0145 p=0.883	0.0438 p=0.654	0.0318 p=0.745
Capacity For Intimate Contact	-0.0854 p=0.382	0.1689 p=0.082	-0.0930 p=0.341	0.0391 p=0.689	-0.0065 p=0.947

Reactivity, -.2035 (p = .036) with Self-Regard, and -.2374 (p = .014) with Nature of Man. The Pugnacity erg scale correlated .2798 (p = .004) with Self-Actualizing Value, .2298 (p = .017) with Existentiality, and .2373 (p = .014) with Acceptance of Aggression. Fear and Self-Acceptance correlated .2441 (p = .011).

Question 4: What are the relationships between the POI subscales and the MAT sentiment scales? The correlation matrix for these scales is found in Table VIII. Examination of the matrix revealed seven significant correlations. There was a significant correlation between Home-parental sentiment and Existentiality (r = -.3186, p = .001). Superego sentiment and Self-Regard were significantly related (r = .1998, p = .039). Self-Sentiment was significantly related to Existentiality (r = .1993, p = .040), Spontaneity (r = .1921, p = .047), and Capacity for Intimate Contact (r = .2059, p = .033). Sweetheart-spouse sentiment was significantly related to Nature of Man (r = .3159, p = .001) and Acceptance of Aggression (r = -.2178, p = .024).

TABLE VIII

INTERCORRELATIONS BETWEEN THE PERSONAL ORIENTATION INVENTORY SUBSCALES AND THE MOTIVATION ANALYSIS TEST SENTIMENT SCALES
(n=107)

Personality Orientation Inventory Subscales	Motivation Analysis Test Sentiment Scales				
	Career	Home-parental	Supergo	Self-Sentiment	Sweetheart-spouse
Self-Actualizing Value	-0.0750 p=0.443	-0.0364 p=0.709	0.1127 p=0.248	0.0982 p=0.314	-0.0678 p=0.482
Existentiality	-0.0727 p=0.457	-0.3186 p=0.001	-0.1203 p=0.217	0.1993 p=0.040	-0.0198 p=0.840
Feeling-Reactivity	0.0223 p=0.820	-0.1813 p=0.062	-0.0168 p=0.863	0.1621 p=0.095	-0.0710 p=0.468
Spontaneity	0.0722 p=0.460	0.0190 p=0.846	0.0957 p=0.327	0.1921 p=0.047	-0.0305 p=0.755
Self-Regard	0.1700 p=0.080	0.0406 p=0.678	0.1998 p=0.039	0.0332 p=0.735	-0.1326 p=0.173
Self-Acceptance	0.0832 p=0.394	-0.0987 p=0.312	0.0311 p=0.750	0.0338 p=0.730	-0.0190 p=0.846

TABLE VIII (Continued)

Personality Orientation Inventory Subscales	Motivation Analysis Test Sentiment Scales: Career	Home-parental	Supergo	Self Sentiment	Sweetheart-spouse
Nature of Man	-0.0284 p=0.771	0.1235 p=0.205	0.0866 p=0.375	0.0415 p=0.671	0.3159 p=0.001
Synergy	-0.1285 p=0.187	-0.1193 p=0.221	-0.0460 p=0.638	0.1344 p=0.168	0.0522 p=0.593
Acceptance of Aggression	0.1228 p=0.208	-0.0044 p=0.964	-0.0857 p=0.380	-0.0259 p=0.791	-0.2178 p=0.024
Capacity For Intimate Contact	0.0332 p=0.735	-0.1355 p=0.164	-0.0222 p=0.820	0.2059 p=0.033	-0.0958 p=0.327

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

The purpose of this study was to investigate the construct validity of two instruments purporting to measure human motivation, the POI and MAT. Logical relationships between the constructs measured by the scales of the POI and MAT were identified from a review of the literature. These relationships were derived primarily from the theoretical definitions of Maslow's conception of self-actualization measured by the POI and Cattell's motivational constructs, ergs and sentiments, measured by the MAT. Four research questions concerning the relationships of the POI major scales and subscales with the MAT erg and sentiment scales were proposed. Both the POI and MAT were administered to 107 teacher education students and Pearson product-moment correlations were calculated between the resulting scale scores from the two instruments. Thus, the relationships between the scales of the POI and MAT were empirically established.

Interpretation of the Results

Several properties of Pearson product-moment correlations may be examined to interpret the results obtained in this study. First, the level of statistical significance indicates the probability that a

correlation could have occurred by chance. The magnitude of a correlation needed for significance decreases as sample size increases. Therefore with a large sample size, a small correlation coefficient could be considered statistically significant. For example, a correlation between 10 pairs of measures must be approximately .63 to be considered significant at the .05 level. With 100 pairs of measures, a correlation of .20 would be considered significant at the same level. Thus, a second property, magnitude of the correlation, must be considered. The magnitude of the correlation is indicative of the strength of the relationship. For example, correlation coefficients less than .20 are described as very low; correlations coefficients ranging from .20 to .40 are described as low; correlations ranging from .40 to .60 are described as moderate; and correlations above .60 are described as strong (Bartz, 1976). Another means to interpret a correlation coefficient is in terms of the proportion of variance shared between two variables. The coefficient of determinantion which is the correlation coefficient squared, provides this information (Kerlinger, 1973). Also, by multiplying the coefficient of determination by 100, one can express the proportion shared variance in terms of a percentage. The proportion of shared variance allows one to express the extent to which two variables are associated with a common factor.

The purpose of the present study is the examination of the construct validity of the POI and MAT. Demonstration of construct validity requires assessing the degree to which scales of POI and MAT measure the same thing. This will be determined by the amount of shared variance.

Question 1: What are the relationships between the POI major scales

and the MAT erg scales. One of the ten correlations presented in Table V is significant at the .05 level. This correlation, r = -.2235, between Inner-Directed and Mating is of low magnitude. The coefficient of determination for this correlation, .05, indicates that only approximately 5% of variance is shared by these two scales. Thus, although the correlation is significant, the coefficient of determination is not substantial. This would appear to be evidence that two scales, Inner-Directed and Mating, are measuring different factors. On this basis, there does not appear to be any evidence for relationships between the POI major scales and the MAT erg scales.

Question 2: What are the relationships between the POI major scales and the MAT sentiment scales? Examination of the results in Table VI reveals only two correlations significant at the .05 level. The correlation between Time-Competence and Sweetheart-spouse, r = .1905, yields a coefficient of determination of .036. Also, the correlation between Inner-Directed and Self-Sentiment, r = .2045, results in a coefficient of determination of .042. This indicates that Time-Competence and Sweetheart-spouse share 3.6% of variance; and Inner-Directed and Self-Sentiment share only 4.2% of variance. Although statistically significant, neither correlation appears to be substantial as evidenced by their respective shared variances. On this basis, there does not appear to be any evidence for substantial relationships between the POI major scales and the MAT erg scales.

Question 3: What are the relationships between the POI subscales and the MAT erg scales? Ten of the fifty correlations in Table

VII were significant at the .05 level. The lowest of these correlations, Feeling Reactivity with Mating (r = -.1929), yields a coefficient of determination of .037 which indicates 3.7% of shared variance. The highest correlation, Self-Actualizing Value with Pugnacity (r = .2798), yields a coefficient of determination of .078 which indicates 7.8% of shared variance. Therefore, shared variances of the ten significant correlations ranged from only 3.7% to 7.8%. Although these correlations are significant, the coefficients of determination are not substantial. On this basis, there does not appear to be any evidence for relationships between POI subscales and MAT erg scales.

Question 4: What are the relationships between the POI subscales and the MAT erg scales? Of the fifty correlations in Table VIII, seven correlations are significant at the .05 level. The lowest of these correlations, Spontaneity with Superego (r = .1921), yields a coefficient of determination of .036 indicating 3.6% of shared variance. The highest correlation, Existentiality with Home-parental (r = -.3186), yields a coefficient of determination of .102. This indicates 10.2% of shared variance. Therefore, the shared variances of the seven significant correlations ranged from 3.6% to 10.2%. Although these correlations are significant, their coefficients of determination are not substantial. On this basis, there does not appear to be any evidence for relationships between the POI subscales and the MAT erg scales.

Conclusions

The interpretation of the results from this study lead to the

following conclusions with regard to the construct validity of the POI and MAT. First, there does not appear to be any substantial relationships between the POI major scales and the MAT erg scales. The POI major scales measure the psychologically based motivational construct of self-actualization and the MAT erg scales measure physically based motivational constructs. Theoretically, relationships between these constructs would not be expected. Therefore, the results of this study support this theoretical difference. Second, there does not appear to be any substantial relationships between the POI major scales and the MAT sentiment scales. Since the motivational constructs underlying these scales are both psychological, relationships between these scales might have been expected. However, the lack of relationships found in the results indicate that these scales are not measuring the same human characteristics. Third, no substantial relationships were found between the POI subscales and the MAT erg scales. The POI subscales measure specific aspects of self-actualization and were not expected to relate to the MAT ergs. Therefore, the theoretical difference between psychological and physical motivational constructs was again supported. Finally, no substantial relationships were found between the POI subscales and the MAT sentiment scales. Relationships might be expected since both groups of scales measure psychologically based constructs. Substantial relationships between these scales were not found in this study. Therefore, it is concluded that these scales are not measuring similar human characteristics.

In summary, both the POI and MAT purport to measure human motivation. The evidence from this study indicates that the shared variance between individual scales of the two instruments was at best 10.2%.

Hence, although both tests purport to measure human motivation, their individual scales and subscales do not appear to be measuring similar human characteristics.

Recommendations

A recommendation for further study of the construct validity of the POI and MAT involves replicating this study with other groups of individuals. Inasmuch as both instruments purport to measure human motivation for adults, the findings reported in this study are based only on a sample of aspiring teacher education students. To substantiate the conclusions drawn from this investigation, it would be necessary to demonstrate that the relationships found between the scales of these two instruments are the same for other samples of the adult population.

SELECTED BIBLIOGRAPHY

Alker, A. A. "Review of the Motivation Analysis Test." In O.K. Buros (Ed.), The Seventh Mental Measurement Yearbook. Highland Park, N.J.: Gryphon Press, 1972.

Bartz, A. E. Basic Statistical Concepts in Education and the Behavioral Sciences. Minneapolis, Minn.: Burgess Publishing Co., 1976.

Bloxom, B. "Review of the Personal Orientation Inventory." In O. K. Buros (Ed.), The Seventh Mental Measurements Yearbook. Highland Park, N.J.: Gryphon Press, 1972.

Braun, J. R. and D. LaFaro. "A Further Study of the Fakability of the Personal Orientation Inventory." Journal of Clinical Psychology, 25 (1969), pp. 296-299.

Burdsal, Charles. "An Examination of Second Order Motivational Factors as Found in Adults." The Journal of Genetic Psychology, 127 (1975), pp. 83-89.

Cattell, R. B. Personality and Motivation Structure and Measurement. New York: World Book Co., 1957.

Cattell, R. B. and D. Child. Motivation and Dynamic Structure. New York: Halstead Press, 1975.

Cattell, R. B., J. L. Horn, A. B. Sweney, and J. A. Radcliffe. Handbook for the Motivation Analysis Test. Champaign, Ill.: IPAT, 1964.

Coan, R. W. "Review of the POL." In O. K. Buros (Ed.), The Seventh Mental Measurement Yearbook. Highland Park, N.J.: Gryphon Press, 1972.

Comrey, A. L. "Review of the Motivation Analysis Test." In O. K. Buros (Ed.), The Seventh Mental Measurements Yearbook. Highland Park, N.J.: Gryphon Press, 1972.

Foulds, M. L. and R. G. Warehime. "Effects of a Fakegood Response Set on a Measure of Self-actualization." Journal of Counseling, 18 (1971), pp. 279-280.

Fox, J., R. R. Knapp, and W. B. Michael. "Assessment of Self-Actualization of Psychiatric Patients: Validity of the Personal Orientation Inventory." Educational and Psychological Measurement, 28 (1968), pp. 565-569.

Glass, C. V. and J. C. Stanley. Statistical Methods in Education and Psychology. Englewood, N.J.: Prentice Hall, 1970.

Ilardi, R. L. and W. T. May. "A Reliability Study of Shostrom's POI." Journal of Humanistic Psychology (1968), pp. 68-72.

Kerlinger, F. N. Foundations of Behavioral Research. New York: Holt, Rinehart, and Winston, 1973.

Klavetter, R. E. and R. E. Morgan. "Stability and Internal Consistency of a Measure of Self-Actualization." Psychological Reports, 21 (1967), pp. 422-424.

Knapp, R. R. "Relationship of a Measure of Self-Actualization to Neuroticism and Extrosion." Journal of Consulting Psychology, 29 (1965), pp. 168-172.

_____. Handbook for the Personal Orientation Inventory. San Diego, Ca.: EDITS, 1976.

Knapp, R. R. and A. L. Comrey. "Further Construct Validation of a Measure of Self-Actualization." Educational and Psychological Measurement, 33 (1973), pp. 419-425.

Krug, S. and T. Henry. "Personality, Motivation, and Adolescent Drug Use Patterns." Journal of Counseling Psychology, 21, No. 5 (1974), pp. 440-445.

Lawlis, F. G. "Motivational Factors Reflecting Employment Instability." The Journal of Social Psychology, 84 (1971), pp. 215-223.

Lord, F. M. and M. R. Novick. Statistical Theories of Mental Test Scores. Reading, Mass.: Addison-Wesley, 1968.

Maslow, A. H. Motivation and Personality. New York: Harper and Row, 1954.

_____. Toward a Psychology of Being. New York: Van Nostrand, 1968.

_____. The Further Reaches of Human Nature. New York: Viking, 1971.

Mazer, G. E. "Review of the Motivation Analysis Test." In O. K. Buros (Ed.), The Seventh Mental Measurement Yearbook. Highland Park, N.J.: Gryphon Press, 1972.

McClain, E. W. "Further Validation of the Personal Orientation Inventory: Assessment of Self-Actualization of School Counselors." Journal of Clinical and Consulting Psychology, 35, No. 1 (1970), pp. 23-29.

Shostrom, E. L. Personal Orientation Inventory. San Diego, Ca.: EDITS, 1963.

_____. "A Test for the Measurement of Self-Actualization." Educational and Psychological Measurement, 24 (1964), pp. 207-218.

_____. Manual for the Personal Orientation Inventory. San Diego, Ca.: EDITS, 1974.

Shostrom, E. L. and R. R. Knapp. "The Relationship of a Measure of Self-actualization (POI) to a Measure of Pathology (MMPI) and to Therapeutic Growth." American Journal of Psychotherapy, 20 (1966), pp. 193-202.

Sweney, A. B. A Preliminary Descriptive Manual for Individual Assesment with the Motivation Analysis Test. Champaign, Ill.: IPAT, 1969.

Tosi, D. J. and C. A. Lindamood. "The Measurement of Self-Actualization: A Critical Review of the POI." Journal of Personality Assessment, 39, No. 3 (1975), pp. 215-224.

VITA 2

Dean Louis Kerasotes

Candidate for the Degree of

Master of Science

Thesis: CONSTRUCT VALIDITY OF THE PERSONAL ORIENTATION INVENTORY AND THE MOTIVATION ANALYSIS TEST WITH TEACHER EDUCATION STUDENTS

Major Field: Educational Psychology

Biographical:

Personal Data: Born at Springfield, Illinois, April 12, 1950, the son of Louis G. and Anastasia Kerasotes.

Education: Graduated from Springfield High School, Springfield, Illinois, in June, 1968; received the Bachelor of Science degree in Psychology from the University of Illinois in 1972; enrolled in the graduate program in Educational Psychology, 1975-1978, at Oklahoma State University; completed requirements for the Master of Science degree at Oklahoma State University in May, 1978.

Professional Experience: Graduate teaching assistant for courses in Educational Psychology, Child Development, and Statistics in the Department of Applied Behavioral Studies, Oklahoma State University, 1976-1978; assistant to the Regional Headstart Consultant for Northeast Oklahoma in the educational and psychological assessment of preschool children, 1977-1978; member of the American Educational Research Association.