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PSYCHOLOGICAL NEEDS AND VOCATIONAL MATURITY OF MANPOWER TRAINEES

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Willis Edward Bartlett, B.S. Ed., M.A.

** * ** * **

The Ohio State University
1967

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction

The concept of vocational maturity has been formulated with the basic assumption that vocational choice behavior changes systematically with age.¹ The older one becomes, his vocational choice behavior becomes more goal-directed, more realistic, and more independent.²

Bohn has pointed out that the major reviews of vocational interests literature have made only vague and tentative statements about the relationships between vocational interests and personality measures; whereas personality variables have been related to occupational behavior.³ The relationship between vocational maturity and personality variables has been vague, too. Crites has aptly noted that unless central concepts and terms of vocational development like vocational maturity become more operationally defined, it will not be


²Donald E. Super and Phoebe L. Overstreet, The Vocational Maturity of Ninth Grade Boys (New York: Columbia University, 1960).

possible to use these concepts and terms to account for individual differences in vocational behavior.  

The Problem

The purpose of the study was to investigate the relationships among vocational maturity, psychological needs, and skill area training of trainees enrolled in a multiphase Manpower Development Training Act (MDTA) center.

Questions of the Study

Several questions were investigated in this study:

1. Is there a correlation between vocational maturity and psychological needs of MDTA trainees?

2. Is there a difference in vocational maturity between groups in the various skill areas used in the study?

3. Is there a difference in psychological needs between groups in the various skill areas used in the study?

4. Is there a relationship between trainees' vocational maturity and each of the following: age, last grade completed in school, congruence of occupational choice with skill area, and continuation of training?

5. Is there a relationship between trainees' psychological needs and each of the following: age, last grade completed in school,

---

congruence of occupational choice with skill area, and continuation of training?

Hypotheses to be Tested

Hypothesis 1 - There is no significant correlation between vocational maturity and psychological needs of the trainees.

Hypothesis 2 - There is no significant difference in vocational maturity between groups in each of the following skill training areas: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

Hypothesis 3 - There is no significant difference in each psychological need between groups in each of the following skill training areas: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

Hypothesis 4 - There is no significant difference between vocational maturity and each of the following: age, last grade completed in school, congruence of occupational choice with skill area, and continuation of training.

Hypothesis 5 - There is no significant difference between psychological needs and each of the following: age, last grade completed in school, congruence of occupational choice with skill area, and continuation of training.
Significance of the Problem

Clark,^ Roe,^ and Super^ studied the traits of selected occupational groups and found a relationship between personality variables and occupational choice. Bordin, Nachmann, and Segal^ studied need gratification patterns of different occupational groups and found that occupational groups do vary from one another in important personality characteristics. Astin and Nichols,^ and Holland^ have demonstrated relationships between personality variables and such vocational behavior as choice of college, choice of college major, and choice of vocation.

Bohn administered the Adjective Check List (ACL) to college students who were grouped into different occupational interest groups as measured by the Strong Vocational Interest Blank (SVIB). The results of his study were interpreted as supporting some current...
vocational stereotypes and demonstrating the importance of psychological needs to vocational personality types.\textsuperscript{11}

The above stated research has demonstrated that personality variables contribute a significant role in vocational behavior. Although the nature of this relationship is not clearly understood, personality research which makes use of vocational and occupational variables can be of use to both personality theory and vocational choice theory.\textsuperscript{12}

**Definition of Terms Used**

**Vocational maturity.**—Vocational maturity in the study is used to refer to that which is measured by the Vocational Maturity (VM) scale of the Vocational Development Inventory (VDI) - Attitude Test. Crites has based the VM score on a "...50 item scale consisting of statements about an adolescent's (1) involvement in the process of vocational choice, (2) orientation toward the problem of vocational choice, (3) independence in decision making, (4) preference for factors in vocational choice and (5) conceptions of vocational choice.\textsuperscript{13} In scoring, one point is allowed for each appropriate true or false answer that measures vocational maturity.

\textsuperscript{11}Martin J. Bohn, Jr., "Psychological Needs Related to Vocational Personality Types," *Journal of Counseling Psychology*, XIII (Fall, 1966), 306-309.

\textsuperscript{12}Roe, op. cit.

\textsuperscript{13}John O. Crites, "The Vocational Development Project of the University of Iowa," *Journal of Counseling Psychology*, XII (Spring, 1965), 81-86.
The subject's score can range from zero to fifty, with a high score purportedly indicating a great deal of vocational maturity. A copy of the VDI is located in the Appendix.

**Psychological needs.**—Murray developed a need-press system in which he defines a need as the following:

"A need is a construct (a convenient fiction or hypothetical concept) which stands for a force (the physico-chemical nature of which is unknown) in the brain region, a force which organizes perception, appreciation, intellection, conation and action in such a way as to transform in a certain direction on existing, unsatisfying situation. A need is sometimes provoked directly by internal processes of a certain kind (viscerogenic, endocrinogenic, thalamicogenic) arising in the course of vital sequences, but, more frequently (when in a state of readiness) by the occurrence of one of a few commonly effective press (or by anticipatory images of such press). Thus, it manifests itself by leading the organism to search for or to avoid encountering or, when encountered to attend and respond to certain kinds of press.^[14]

Each need is associated with a particular feeling or emotion which may be weak or intense, momentary or enduring. If the need persists, it precipitates certain behavior which (if the organism is capable) brings about satisfaction of the need.^[15]

The scoring of the ACL is determined by the number of adjectives that are selected. The purported meaning of high and low scores are included in the definitions of each need scale.

Fifteen of the scales of the ACL represent a disposition.

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^[15] Ibid.
within Murray's need-press system. The following list includes a
definition of each need and a description of the high and low scorers
of each need scale:

1. Achievement: Ach

Definition: "To strive to be outstanding in pursuits
of socially recognized significance."16

High scoring subject-He is seen as being intelligent and
hard working. He is determined to do well and usually
succeeds.

Low scoring subject-He is more skeptical, more dubious
about the rewards of his work and is uncertain about
risking his involvement. He tends to be somewhat with­
drawn and dissatisfied with his current status.

2. Dominance: Dom

Definition: "To seek and sustain leadership roles in
groups or to be influential and controlling in individual
relationships."17

High scoring subject-He is forceful, strong-willed, and
persevering individual.

Low scoring subject-He is unsure of himself, and indifferent
to both the demands and the challenges of interpersonal
life.

3. Endurance: End - "To persist in any task undertaken."

High scoring subject: "...is typically self-controlled
and responsible, but also idealistic and concerned about
truth and justice."

16Harrison G. Gough and Alfred B. Heilbrun, The Adjective
Check List Manual (Palo Alto, California: Consulting Psychologists

17Ibid.
Low scoring subject: "...is erratic and impatient, intolerant of prolonged effort or attention and apt to change in an abrupt and quixotic manner."18

4. Order: Ord - "To place special emphasis on neatness, organization, and planning in one's activities."

High scoring subject: "...is usually sincere and dependable, but at the cost of individuality and spontaneity."

Low scoring subject: "...is quicker in temperament and reaction, and might often be called impulsive."19

5. Intracception: Int - "To engage in attempts to understand one's own behavior or the behavior of others."

High scoring subject: "...is reflective and serious, as would be expected; he is also capable, conscientious, and knowledgeable."

Low scoring subject: "...tends toward profligacy and intemperateness in its use. He is aggressive in manner, and quickly becomes bored or impatient with any situation where direct action is not possible."20

6. Nurturance: Nur - "To engage in behaviors which extend material or emotional benefits to others."

High scoring subject: "...is of a helpful, nurturant disposition, but sometimes too bland and self-disciplined."

Low scoring subject: "...is the opposite: skeptical, clever, and acute, but too self-centered and too little attentive to the feelings and wishes of others."21

7. Affiliation: Aff - "To seek and sustain numerous personal friendships."

18Ibid.
19Ibid., 8.
20Ibid.
21Ibid.
High scoring subject: "...is adaptable and anxious to please, but not necessarily because of altruistic motives; i.e., he is ambitious and concerned with position, and may tend to exploit others."22

Low scoring subject: "...is more individualistic and strong-willed, though perhaps not out of inner resourcefulness and independence."22

8. Heterosexuality: Het - "To seek the company of and derive emotional satisfactions from interactions with opposite-sexed peers."

High scoring subject: "...is interested in the opposite sex as he is interested in life, experience, and most things around him in a healthy, direct, and outgoing manner."

Low scoring subject: "...thinks too much, as it were, and dampens his vitality; he tends to be dispirited, inhibited, shrewd and calculating in his interpersonal relationships."23

9. Exhibition: Exh - "To behave in such a way as to elicit the immediate attention of others."

High scoring subject: "...tend to be self-centered and even narcissistic."

Low scoring subject: "...lack confidence in themselves and shrink from any encounter in which they will be visible or 'on stage'."24

10. Autonomy: Aut - "To act independently of others or of social values and expectations."

High scoring subject: "...is independent and autonomous, but also assertive and self-willed."

22 Ibid.
23 Ibid.
24 Ibid.
Low scoring subject: "...is of a moderate and even subdued disposition."^25

11. Aggression: \textit{Agg} - "To engage in behaviors which attack or hurt others."

High scoring subject: "...is both competitive and aggressive. He seeks to win, to vanquish, and views others as rivals."

Low scoring subject: "...is much more of a conformist, but not necessarily lacking in courage or tenacity."^26

12. Change: \textit{Cha} - "To seek novelty of experience and avoid routine."

High scoring subject: "...typically perceptive, alert, and spontaneous individuals who comprehend problems and situations rapidly and incisively and who take pleasure in change and variety."

Low scoring subject: "...seeks stability and continuity in his environment, and is apprehensive of ill-defined and risk-involving situations."^27

13. Succorance: \textit{Suc} - "To solicit sympathy, affection, or emotional support from others."

High scoring subject: "...is dependent on others, seeks support, and expects to find it."

Low scoring subject: "...is independent, resourceful, and self-sufficient, but at the same time prudent and circumspect."^28

14. Abasement: \textit{Aba} - "To express feelings of inferiority through self-criticism, guilt, or social impotence."

High scoring subject: "...not only submissive and self-effacing, but also appear to have problems of self-acceptance."

\textit{\textsuperscript{25Ibid.}}

\textit{\textsuperscript{26Ibid.}}

\textit{\textsuperscript{27Ibid., 9.}}

\textit{\textsuperscript{28Ibid.}}
Low scoring subject: "...is optimistic, poised, productive and decisive."\(^\text{29}\)

15. Deference: Def - "To seek and sustain subordinate roles in relationship with others."

High scoring subject: "...is typically conscientious, dependable, and persevering."

Low scoring subject: "...is more energetic, spontaneous, and independent; he likes attention, likes to supervise and direct others, and to express his will."\(^\text{30}\)

A description of the other scales of the ACL is located in the Appendix.

Youth trainees.—In the study youth trainees refers to those enrolled in the youth program of the Columbus Adult Training Center. These were trainees between ages sixteen and twenty-one.

Skill group.—Skill group or area refers to the particular occupational training group in which a trainee was receiving instruction such as baking or welding.

Manpower Development Training Act (MDTA).—In the study MDTA refers to the "...Manpower Development and Training Act of 1962 (Public Law 87-415), as amended in 1963 and 1965, provides a program of training and retraining for unemployed and under employed men and women."\(^\text{31}\)

\(^{29}\)Ibid.

\(^{30}\)Ibid.

Limitations of the Study

A major limitation of the study was the inherent limits of the instruments used to measure vocational maturity and the psychological needs of the subjects.

A second limitation was the effect the experimenter bias phenomena had on the results of the study. Rosenthal aptly pointed out: "Expectation and motivation of the experimenters were shown to be partial determinants of the results of behavioral research." Since experimenter bias cannot be identified and controlled, it affects most research.

Another limitation of the study concerned the selection of trainees to various skill areas. A trainee may not be committed to the particular occupation for which he was receiving training, but comes to training because anything is better than being unemployed. Therefore, the assumption that these trainees represent the same characteristics as those already employed in the various occupations for which there is a skill area cannot be made.

Organization of Remainder of the Study

In Chapter II, research relating to (1) vocational maturity and (2) psychological needs theory, and where relevant to either of these two topics, vocational choice theory will be presented. Review of the literature pertinent to the instruments used in this study will be given.

The design of the study and the procedures that were followed will be developed in Chapter III. Chapter IV will report the findings and interpretations of the study. This will be followed by Chapter V which will include the summary, conclusions, and recommendations for further research in the area of the problem.
CHAPTER II

REVIEW OF LITERATURE

The purpose of this study was to investigate the relationships among vocational maturity, psychological needs, and skill area training of MDTA trainees. This chapter will discuss research relating to (1) vocational maturity and (2) psychological needs theory, and where relevant to either of these two topics, vocational choice theory will be presented. Review of the literature pertinent to the instruments used in this study will be given.

Vocational Maturity

"Vocational maturity was first defined in a priori terms as readiness to make the vocational decisions called for by society, revealed by methods of coping with developmental tasks which are occupational in nature."33

Super, et al. developed two criteria on which to define vocational maturity.34 These authors have stated these two criteria to be:

"...The first is concerned with the person's chronological age, which indicates the life stage in


34 Donald E. Super et al., Vocational Development: A Framework for Research on, cit.
which, on a normative basis, he should be found and hence the developmental tasks with which he should be dealing... (vocational maturity I). The second way of evaluating vocational maturity is based on the behavioral repertoire which the individual has available for coping with the developmental tasks with which he is dealing, regardless of whether they are the tasks considered appropriate for his age and expected life stage (vocational maturity II).  

Evaluation for vocational maturity I and vocational maturity II are frequently based upon tasks of the same life stage. When this happens, there is a possibility that some persons may be retarded in vocational development according to the definition of vocational maturity I, but could be mature in dealing with these tasks based upon criteria of definition.  

In 1961, Crites reviewed the literature and found five definitions of vocational maturity. Vocational maturity: (1) denotes the degree of development, the place reached on the continuum of vocational development, (2) is identified by an individual's developmental tasks with which he is dealing, (3) is the comparison of the individual's vocational life stage to his chronological age, (4) is the comparison of the individual's vocational life stage to his expected life stage, and (5) is the comparison of the individual's vocational life stage to the behavior of others.  

The first two definitions are concerned with the measurement

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35Ibid., 57.
36Ibid., 256.
of absolute degree of vocational development, whereas the latter three definitions are concerned with the relative degree of vocational development. 38

Crites pointed out the criticism of such definitions: (1) An individual can be vocationally mature by one definition, but vocationally immature by another, and (2) the difficulty of selecting an appropriate measurement model for the concept of vocational maturity. 39

The author then continued to delineate how he viewed vocational development by degree and rate. He stated:

"...Degree of vocational development refers to the maturity of an individual's vocational behavior as indicated by the similarity between his behavior and that of the oldest individual in his vocational life stage. In contrast, rate of vocational development refers to the maturity of an individual's vocational behavior in comparison with that of his own age group." 40

Related Research

Nelson reported data using Super's dimension of "wisdom of vocational choice." 41 Nelson classified clients as being either vocationally mature or immature. The client was vocationally mature if any of his expressed interests were in agreement with his inventoried interests and tested aptitudes. A vocationally immature client had no agreement between his expressed and measured interests

38 Ibid., 256.
39 Ibid.
40 Ibid., 259.
41 Super, et al., loc. cit.
and aptitudes. The author found 61 per cent of his clients were vocationally mature while 39 per cent were vocationally immature. Nelson did have age data on his subjects, but did not analyze the relationship between vocational maturity, as he defined it, and chronological age.

A classical study of vocational maturity conducted by Super and Overstreet pointed out that none of the criteria used for measuring vocational maturity was significantly related to age. The older ninth-graders were no more mature vocationally than the younger boys in the same grade. It was found that the more intelligent boys did have a slight tendency to think more about the choices they needed to make, tended to accept more responsibility for choice and planning, and had done more planning. The results also suggested that in families which tended to share interests and activities, there was a slight tendency for the boys to accept responsibility for making vocationally related choices and plans, even though they were no more concerned with the need to make a choice; nor were they better informed about their occupational preferences than boys from less cohesive homes. There were no significant differences found between vocational maturity and the presence of parental vocational aspirations, parental mobility, and the religious affiliation of the parents. There was no relationship between vocational maturity and urban-rural


43 Super, et al., loc. cit.
residence of the boys. School curriculum and cultural stimulation were related to vocational maturity. In regard to the consistency and wisdom of vocational preference and vocational maturity, it was stated that "...boys who seemed most oriented to the task of preparing to make occupational choices were no more likely to make wise choices than boys who were less oriented to this task."

To measure the maturity of vocational outlooks of public high-school students, Mathewson and Orton developed a maturity scale which included the following seven dimensions: (1) awareness and understanding, (2) differentiation and individualization, (3) emotional tone and coloration, (4) value orientation, (5) direction and focus, (6) integration, and (7) developmental potentiality. These authors found that:

"...Relationships between maturity as assessed by judges and factors of age, sex, social level of family, type of curriculum, citizenship ratings, cumulative grade average, intelligence quotient, and scores on achievement tests were not found to be significant. A relationship at the .01 level was found between vocational maturity and number of extra curricular activities."

Gribbons, after interviewing boys and girls in the eighth grade

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45 Ibid., 134.


47 Ibid., 384.
and then in the tenth grade, found that there was a significant change in their ability to deal with the eight variables used in his study which were determined to be measures of readiness for vocational planning. These variables were: (1) curriculum choice - awareness of factors to consider, (2) occupational choice - awareness of factors to consider, (3) verbalized strength and weaknesses, (4) accuracy of self appraisal, (5) rationale for abilities, (6) awareness of interests and their relation to occupational choice, (7) awareness of values and their relation to occupational choice, and (8) independence of choice. 

Concerning the same study, Gribbons and Lohnes found that readiness for vocational planning was not appreciably related to socio-economic level of family, but was related to socio-economic level of occupational choices.

Using three variables known to be related to vocational maturity, intelligence, achievement, and participation in extra curricular activities, Dilley developed the Decision Making Inventory (DMI). He found that high DMI scores were associated with: "(a) high intelligence, (b) high achievement, (c) high frequency of participation in extra curricular activities."

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curricular activities. It is concluded that decision-making ability is related to vocational maturity."\(^{50}\)

To measure the generally held conception that a guidance program in the eighth grade contributes to vocational maturity, Jesse and Heimann found that in terms of null hypotheses, all tests failed to produce a significant finding above chance level.\(^{51}\) These authors did find, however, a trend in favor of the individually counselled group over the group guidance group and over the control group. They stated that: "...This would seem to substantiate the concept that a guidance program does contribute to the vocational maturity and vocational development of junior high-school students."\(^{52}\)

Using vocational maturity measures, verbal expressions concerning approaches to planning for vocational choice, degree of awareness of training, need for making a choice, assumption of responsibility for making a choice, and knowledge of self and occupations, Anderson and Heimann also found that short term vocational counseling did have a significant effect on measured vocational maturity.\(^{53}\)

In summation of the review of research relevant to vocational maturity, there appears to be a relationship between vocational maturity

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\(^{52}\) Ibid., 71.

and the following: (1) the number of extra curricular activities, (2) socio-economic level of occupational choice, (3) involvement in a guidance program, and (4) decision-making ability.

**Related Vocational Choice Theory**

Vocational maturity is a basic concept of the developmental theory of vocational choice. The following theories will be reviewed: (1) the choice-adjustment approach and (2) the developmental approach.

*The choice-adjustment approach.*—The choice and adjustment approach to career development is supported by the writings of Tiedeman and O'Hara. These authors have viewed career development as a process of gaining a vocational identity through differentiation and integration of the personality as one confronts the problem of work. Important elements of career development include the biological constitution, the psychological makeup, and society as it serves as a source of identification for the person.

The process is based upon the following stages. I. The Aspect of choice: (A) exploration, (B) crystallization, (C) choice, and (D) clarification. II. The Aspect of adjustment: (A) induction, (B) reformation, and (C) integration.54

Career development is self development viewed in relation with choice, entry, and progress in educational and vocational pursuits. It is an evolving conception of self-in-situation which is occurring

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over time in man who is capable of anticipation, experience, evaluation, and memory.55

O'Hara and Tiedeman investigated estimates of private high school boys' present status with regard to aptitudes, interests, social class, and values. The analysis of data revealed that self concept in the areas in interest, aptitudes, work, and general values are clarified as boys pass through grade nine to twelve, although aptitude is relatively poorly perceived throughout high school even by academically able boys.56

O'Hara studied the relationship between vocational self concept and high school achievement. He found that self ratings of vocational attributes were significantly related to the vocational developmental task of achievement in a college preparatory course in a private high school. There were significantly more senior correlations between self ratings and achievement which surpassed freshman correlations.57

Tiedeman has become interested with preconscious, unconscious and conscious mechanisms in the personal determination of career development. In relation to these mechanisms, he has also become

55Ibid.


interested in the time and sequence phenomena in the personal determination of career. 58

The developmental approach.—Ginzberg, et al. have studied vocational development and have viewed it to be a long process involving a series of decisions following a discernible developmental pattern. This process is largely irreversible and is characterized by demands. The following is an outline of this developmental pattern.

I. Period of fantasy choices - ages 6-11
II. Period of tentative choices
   A. Interest stage - ages 11-12
   B. Capacity stage - ages 13-14
   C. Value stage - ages 15-16
   D. Transition - age 17
III. Period of realistic choices
   A. Exploration stage
   B. Crystalization stage
   C. Stage of specification 59

Super also has viewed career choice as developmental. Using Bushler's stages of human development, Super has related these to vocational and self-concept development. These stages are:

I. Adolescence - exploration, and developing self concept
II. Transition - from school to work-reality testing
III. Floundering - implement self concept
IV. Establishment - self concept modified and implemented
V. Maintenance stage - preserving the self concept
VI. Years of decline - adjustment to new self


59 Eli Ginzberg, op cit.
Super's stages cover the whole life stage from adolescence to retirement. Ginzberg's stages focused in on a detailed description of Super's first two stages.  

Super has also investigated the self concept theory of career development. He defined the vocational self concept to be the summation and translation of the self percepts (observed facts the individual receives via several senses) into occupational terms. The vocational self concept may also be used to denote the various self concepts (self percepts which have acquired meaning) which are believed to be relevant to vocational choice and success, which are translated into vocational preferences.

The developmental theory of vocational choice is based upon a long process involving a series of decisions which follow a discernible developmental pattern. The concept of vocational maturity has been formulated with the basic assumption that vocational choice behavior changes systematically with age and grade as one proceeds through the developmental pattern. Other vocational choice theories have considered personality variables to be more important determinants of vocational choice behavior rather than a series of decisions which follow a discernible developmental pattern. These theories will be discussed as they relate to psychological needs.

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Psychological Needs

The concept psychological need has been defined by Murray to produce activity on the part of the organism and maintains this activity on the part of the organism and press (environmental forces) situation has been changed to reduce the need. According to Murray, existence of a need can be inferred on the basis of: (1) the effect or end result of the behavior, (2) the particular pattern of behavior involved, (3) the attention and response to a particular set of stimulus objects, (4) the expression of a particular emotion, and (5) the expression of satisfaction or disappointment when the effect is either achieved or not achieved. Using the above definition and criteria for inferring needs, Murray arrived at a tentative list of twenty needs of which fifteen have been incorporated in the Edwards Personal Preference Schedule and the Adjective Check List.

Related Vocational Choice Theories

Various vocational choice theories are based upon the assumption that vocational choice is an expression of personality. Personality variables such as the psychological need concept are incorporated into these theories. The following is a discussion of these various vocational choice theories.

1. Occupational-Environment Theory.—Holland has developed a theory of vocational choice which places major emphasis upon the

62 Murray, loc. cit.
63 Ibid.
an individual has. Holland's six major groups are: motoric, persuasive, intellectual, supportive, conforming, and esthetic. Lyon stated that Holland believes that people have adjustive orientations to life, distinctive life styles characterized by preferred methods of dealing with daily problems, and that these orientations correspond to the major occupational environments.

Holland has also developed a Vocational Preference Inventory (VPI) which includes six scales based upon the assumption that vocational choice is an expression of personality. These scales and preferences are:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Preference for</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Realistic</td>
<td>technical and skilled trades</td>
</tr>
<tr>
<td>2. Intellectual</td>
<td>scientific occupations</td>
</tr>
<tr>
<td>3. Social</td>
<td>teaching and helping occupations</td>
</tr>
<tr>
<td>4. Conventional</td>
<td>clerical occupations</td>
</tr>
<tr>
<td>5. Enterprising</td>
<td>supervisory and sales occupations</td>
</tr>
<tr>
<td>6. Artistic</td>
<td>artistic, musical, and literary occupations</td>
</tr>
</tbody>
</table>

Using National Merit Scholarship Finalists, Holland and Nichols found that students who made changes in major fields from high school senior year to the end of the freshman year in college had attributes which were dissimilar from those of the typical student in that field.

67 Ibid., 280.
Remaining in a given field appears to be associated with having attributes commonly associated with the typical student, while leaving a field is related to dissimilarity between a student's attributes and those of the typical student.68 Another study which supports Holland's theory in general and using a sample population other than National Merit Scholars found that students choose occupations consistent with their personality type.69

Relating psychological needs to occupational choice, Brill considered needs as unconscious determinants underlying the selection of an occupation.70 Shaffer proposed that the satisfaction of an individual's strongest two or three needs determine to a significant extent the overall satisfaction on any job.71 Hoppock suggested that Super's explanation of the process of vocational development as an implement of the self-concept72 also includes satisfaction of needs.73

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2. Early Determinants Theory.—Another basis used for vocational development theory is the effects of early determinants on vocational choice. Roe has hypothesized that children with a major orientation towards persons would go into service, business, organizational, general cultural, arts and entertainment occupations. Children with a major orientation not towards persons would go into technology, outdoor and science occupations.74

Roe's theory75 has been refuted and presented in the literature by certain classical studies. Roe and Siegelman found that social workers had had more stress and less affection than the engineers. The engineers had generally affectionate early backgrounds which were the stablest and least stressful of any group studied.76 Hagen found that careers are not solely dependent upon the atmosphere of the home in which a child is reared and that research should be conducted in the area of the child's response to the atmosphere.77 Switzer, Grigg, Miller and Young found that there was no consistent relationship between parental attitude and occupational choice. The authors state that

75 Ibid.
Roe's hypothesis should be modified to include the interaction between the attitudes of the mother and the father. 78

3. Psychoanalytic Theory.—Another group of studies using psychoanalytic theory are based upon childhood experiences and their effect upon vocational choice. Bordin, Nachmann, and Segal identified the various gratifications work can offer and traced these gratifications to physiological functions necessary to achieve them, with special emphasis on the importance of early experiences leading to investments in certain means of acquiring gratifications. 79

Nachmann's study revealed that childhood experiences among lawyers, social workers and dentists varied. The fathers of lawyers and dentists were in both word and deed the source of authority in the home. The fathers of the social workers were unable to make decisions for the family. The mother was stronger in the family of the social workers. 80

Upon comparing two occupational groups, creative writers and accountants, Segal found that accounting students showed a greater conformity to social norms and a greater attempt at emotional control than do creative writing students. Creative writing students show


greater signs of hostility than accounting students. It was also confirmed that creative writers show greater tolerance for ambiguity and greater ability to deal with complex emotional situations than accounting students. 81

Instruments Used in Study

The instruments used in the study were the Vocational Development Inventory (VDI) and the Adjective Check List (ACL). The VDI was used to measure vocational maturity (VM) and the ACL was used to measure the psychological needs of the subjects used.

Vocational Development Inventory

Crites developed a new type of assessment instrument, as a part of the Vocational Development Project at the University of Iowa, which measures the maturity of vocational attitudes in adolescence. The following model was used by Crites in developing the Vocational Development Inventory.

1. Description of the behavior - the definition, delimitation, and illustration of the variety and scope of the actions included in the items.

2. Analysis of the behavior - the classification of a specific behavior or item with respect to other behaviors and hypotheses about its generality and predictability.

3. Formulation of item specifications - decisions about the type of item content and response format appropriate to measure the specified behaviors.\(^{82}\)

Crites has used the adolescent's "...(1) involvement in the process of vocational choice, (2) orientation toward the problem of vocational choice, (3) independence in decision-making, (4) preference for factors in vocational choice and (5) conceptions of vocational choice"\(^{83}\) as the bases for measurement of vocational maturity.

The major findings of his research on the development of the VDI indicated that verbal vocational behaviors are monotonically related to both age and grade, but more frequently with the latter. Trends in responses from age and grade are from True to False and stages in the maturation of vocational attitudes are primarily associated with the transitional points in the educational system.\(^{84}\) Thus, using the model of vocational maturity as posited by Crites,\(^{85}\) a relationship between age-grade and vocational maturity has been indicated.

Related Research

Schalon classified a sample of 102 vocational-educational clients drawn from the files of the University of Iowa Counseling Service according to the correspondence between their expressed vocational

\(^{82}\)Crites, Psychological Monograph, 8.

\(^{83}\)Crites, Journal of Counseling Psychology, 81.

\(^{84}\)Crites, Psychological Monograph, 1.

\(^{85}\)Ibid.
choice and their measured aptitudes and interests. This classification yielded the following subgroups: adjusted, maladjusted, undecided, unrealistic, unfulfilled, and coerced. He then compared the vocational maturity, using the VDI, and the adjustment, using the Achievement and Aggression scales of the ACL.86 The results of this study indicated that: (1) the undecided category was the largest and unfulfilled the smallest, (2) only the criterion of Aggression produced a significant F value, (3) the unfulfilled clients were significantly higher on the Aggression criterion than was any other subgroup, (4) the undecided clients scored significantly higher on the Aggression criterion than the adjusted subgroup and (5) the coefficient of .31 between Vocational Maturity and Achievement was significant at the .01 level.87

Holland's study compared vocational maturity, decision dimension, consistency dimension and the realism dimension.88 He found that the realism dimension and decision dimension were related to school grade at or beyond the .05 level of significance.

**Adjective Check List**

Gough and Heilbrun have developed a check list approach to assess psychological needs of the subjects. The instrument has twenty-

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87Ibid., 51.

four scales, fifteen of these scales were based on Murray's need theory. It was found that subjects with certain psychological needs tend to select certain adjectives as being self-descriptive. For example, a subject scoring high on the achievement scale (ACH) would tend to select adjectives such as aggressive, ambitious, capable, conscientious, energetic, industrious, and opportunistic. Low scoring subjects would tend to select adjectives like apathetic, easygoing, irresponsible, leisurely and shiftless as being self-descriptive. The following studies used the completed 300 word ACL.

Related Research

Brunken and Shen used the ACL and the Reading Versatility Test to identify personality characteristics that are related to quality or rate of reading of college students. They found that:

"...High rate efficient and effective readers characterize themselves as possessing a high degree of personality characteristics considered desirable for good adjustment and achievement in college and the world of work, and a low degree of those characteristics considered undesirable for adjustment and achievement; low-rate ineffective readers characterize themselves as possessing the opposite degree of these characteristics." Bienson and Magoon determined what adjectives empirically differentiated high and low scores on the California Psychological

89 Murray, loc. cit.
90 Gough and Helbron, op. cit.
92 Ibid., 837.
Inventory. They found the obtained adjectives to be similar to those cited by the authors of the ACL.\footnote{Sanford M. Bienson and Thomas M. Magoon, "ACL Adjectives Associated with Differentiated Status on the CPI Scales," \textit{Personnel and Guidance Journal}, XLIV (November, 1965), 286-291.}

Scarr has used the ACL to ascertain if it could be used as a personality assessment technique with children. She found that the ACL scales "...correlated systematically with both direct and indirect measures of the twins' behavior, lending confidence in the validity of the ACL scales for a population of young children."\footnote{Sandra Scarr, "The Adjective Check List as a Personality Assessment Technique with Children: Validity of the Scale," \textit{Journal of Consulting Psychology}, XXX (April, 1966), 122.} Scarr also has been conducting research using identical and fraternal twin girls to determine individual difference in ACL scores.\footnote{Sandra Scarr, "The Origins of Individual Differences in Adjective Check List Scores," \textit{Journal of Consulting Psychology}, XXX (August, 1966), 354-357.}

\textbf{Comparison of ACL to Interest Maturity}

Comparing vocational maturity and personality, Bohn used the Interest Maturity (IM) Scale scores of the Strong Vocational Interest Blank and the scores of the ACL of seventy-five male clients of a university counseling service.\footnote{Martin J. Bohn, Jr., "Vocational Maturity and Personality," \textit{Vocational Guidance Quarterly}, XIV (December, 1966), 123-126.} He divided the maturity scores into three groups: high, middle and low. A comparison of the need scales indicated that the IM groups differed significantly on ten of the sixteen need scores. Achievement, exhibition, autonomy, affiliation,
succorance, dominance, change, heterosexuality and defensiveness needs were directly related to IM scores.

Bohn stated that:

"The personality structure of individuals with high IM scores compared to those with low IM scores suggests that the high scorers are more 'mature'. On the average, they are more achievement oriented, more independent, more sociable, more sensitive, and more persuasive. Conversely, they are less prone to be self-critical or to admit personality shortcomings."97

Related Research of Psychological Needs

Another assessment instrument used to measure subjects' psychological needs, based on Murray's need-press theory, is the Edwards Personal Preference Schedule (EPPS). The results of Jones and Gottfried suggested that there is a relationship between psychological needs and preference for teaching certain exceptional children as measured by the EPPS.98

The EPPS has also been used to determine the effect of needs in relation to satisfaction with occupation. Kuhlin hypothesized:

"...individuals whose measured needs are relatively stronger than the potential of the occupation for satisfying those needs (as they perceived this potential) will tend to be frustrated and hence to be less well satisfied with their occupation. Where needs and

97Ibid., 124.

the perceived need-satisfaction potential of the occupation are more in harmony, it was anticipated that satisfaction would be rated higher.\(^9\)

His hypothesis was confirmed and he also found that the achievement need discrepancies were consistently related to occupational satisfaction.

Brown and Pool compared psychological needs and self-awareness. They found that subjects who showed low self-awareness also had lower needs for achievement and higher needs for order, succorance, abasement, heterosexuality and aggression than subjects with high self-awareness.\(^10\) Their findings were held to support the view that there are psychological needs which serve to limit self-awareness.

The hypothesis that inventoried interests are related to particular need hierarchies has been partially confirmed by Suziedelis and Steimel. They found that individuals with endurance and achievement uppermost in their hierarchy of needs indicated a preference for biological and physical sciences.\(^11\)

Gray, using the EPPS and the Miller Occupational Value Indicator, compared the needs and values in three occupations: teachers, accountants, and mechanical engineers.


Teachers were found to have significantly higher scores on deference, affiliation, interception, abasement, and nurturance. Accountants produced significantly higher scores on achievement, exhibition, dominance, and endurance. In a comparison of teachers and mechanical engineers, teachers yielded higher scores on affiliation, intraception, succorance and nurturance, while mechanical engineers scored significantly higher on achievement, order, dominance, and endurance.102

No significant differences were found between mechanical engineers and accountants.103 Upon comparing education students with the college norm group on the EPPS, Hamachek and Takake found that the education students did not score less on the autonomy, succorance, heterosexual, and aggression scales.104

The research related to psychological needs has demonstrated how personality variables affect vocational choice behavior. The literature illustrated various uses of the ACL and how a similar-type of personality assessment instrument, the EPPS, determined the effect of needs in relation to occupational satisfaction, self-awareness, vocational interests, and occupational choice.

The review of literature pointed out how the concept of vocational maturity was used by Crites in the VDI. The review of research relevant to vocational maturity illustrated the relationship between vocational maturity and the following: (1) number of extra curricular


103 Ibid., 243.

activities, (2) socio-economic level of occupation choice, (3) involvement in a guidance program, and (4) decision-making ability.

The choice-adjustment and developmental theories of vocational choice were presented as they related to vocational maturity.

The concept of psychological need was discussed and how personality variables affected vocational choice was also presented. Various vocational choice theories were discussed as they related to psychological needs. This was followed by a review of the literature pertinent to the instruments used in the study.

Chapter III will be centered around a description of the research design used in the study. The study group, procedure used, description of the instruments used, and statistical treatment of the data will also be presented.
CHAPTER III

PROCEDURE FOR THE STUDY

This chapter is devoted to a description of the research design selected for this study, the research setting, the study group, procedure used, description of the instruments used, and statistical treatment of the data.

Research Design Selected for the Study

The purpose of this study was to investigate the relationships among vocational maturity, psychological needs, and skill area training of trainees enrolled in a multi-phase MDTA program.

The normative approach to research was used in this study. According to Good, normative studies present facts or current conditions concerning the nature of a group of persons, a number of objects, or a class of events. This approach may also include the procedures of induction, analysis, classification, enumeration, or measurement. The purposes of the normative investigation are:

"(1) to secure evidence concerning an existing situation or current condition, (2) to identify standards or norms with which to compare present conditions, in order to plan the next step, and (3) to determine how to make the next step (having determined where we are
and where we wish to go). Kerlinger has defined normative research as: "...that branch of social scientific investigation that studies large and small populations (or universes) by selecting and studying samples chosen from the population to discover the relative incidence, distribution, and interrelations of sociological and psychological variables."

Research Setting

This study took place in the Columbus Adult Education Center, Columbus, Ohio. A multi-phase youth Manpower Development Training program was conducted at the center. Courses which were included in the multi-phase youth program were: baker, sewing machine operator, electrical appliance repairman, automobile service station attendant/mechanic, welder, cook, food service worker, clerk-general office, clerk-typist, and auto mechanic.

There were three phases of the training program. The first phase was that of basic education. Basic education included mathematics, communications, and reading. These courses were designed to help trainees acquire techniques necessary for successful employment. These techniques included learning how to apply for a job, learning the attributes of holding a job, and learning how to receive maximum benefits from their job.

The second phase was training in a skill area. The skill course


was designed to give the trainee entry skill into a specific occupation or trade.

The third phase of training was orientation and guidance. This phase was devoted to helping the trainee adjust to training and providing counseling services, both group and individual to each trainee.

The duration of training varied among the various skill areas. The shortest duration being fifteen weeks for the food service class and the longest program being fifty-three weeks for the auto mechanic skill area. The average program lasted for six months.

The Study Group

The subjects for this study were enrolled in a multi-phase MDTA program. These trainees were referred to the training center by the Youth Opportunity Center of Columbus, Ohio. The age range of the subjects was from seventeen to twenty-one.

The total study group was composed of one hundred fifty-eight trainees. Eighteen trainees were enrolled in the food service skill area; eighteen were enrolled in the welder skill area; eighteen were enrolled in the sewing machine operator skill area; fourteen were enrolled in the service station attendant/mechanic skill area; seventeen trainees were enrolled in the baker skill area; twenty were enrolled in the clerk, general office skill area; sixteen trainees were enrolled in the cook skill area; eighteen trainees were enrolled in the electrical repairman skill area; and nineteen were enrolled in the clerk-typist skill area. The skill objectives for each of these skill areas may be found in the Appendix.
To be considered a member of the study group, a trainee had to be enrolled in one of the above skill areas. One skill area, automotive, was not included because it had started before this investigation began.

**Procedure**

The subjects used in this study were administered the VDI and the ACL during their first week of training. A record was obtained on each trainee concerning his continuing training for a month, his age, the last grade completed in school, and what his vocational choices were at the time he entered training.

The following categories were established from this information.

The first category, age of trainees, was composed of three groups. These groups were: (1) trainees who were less than nineteen, (2) trainees who were nineteen, and (3) trainees who were over nineteen.

The second category was trainees' last grade completed in school which was also divided into three groups. These groups were: (1) completed less than the tenth grade, (2) completed tenth or eleventh grade, and (3) graduated from high school.

The third category was the congruence of the trainees' first occupational choice with their skill area training. This category had three groups: (1) first occupational choice the same as skill area training, (2) first occupational choice unrelated to skill area training, and (3) still undecided about occupational choice.

The age category was used in this study to determine if there
was a systematic change in vocational maturity and psychological needs as age increased. The grade completed category was included to determine the effects of the educational process on vocational maturity and psychological needs. The congruence or incongruence between the trainee's first occupational choice and his skill area category was included to determine its effects on vocational maturity and psychological needs. The continuation of training category was included to determine if there was a relationship between it and vocational maturity or certain psychological needs. One month of training was used to determine if trainees were continuing the program as most dropouts occur during this interval.

Description of the Instruments Used in the Study

Two instruments were used in this study. The Vocational Development Inventory was used to measure vocational maturity and the Adjective Check List was used to measure psychological needs.

Vocational Development Inventory

The VDI Attitude Scale-Form Four was used to measure the vocational maturity of the youth manpower trainees. A copy of this instrument may be found in the Appendix. The following sample items were purported to measure involvement in the choice process, orientation toward work, independence in decision-making, preference for vocational choice factors, and conceptions of choice process respectively: (1) "I seldom think about the job I want to enter." (2) "Work is dull and unpleasant," (3) "I plan to follow the line of work my parents suggest," (4) "Whether you are interested in a job is not as
important as whether you can do the work," and (5) "A person can do any kind of work he wants as long as he tries hard."

The subject was asked to indicate agreement or disagreement with each of the fifty items by marking each item True or False. In scoring, one point is allowed for each appropriate true or false answer that measured a certain dimension of vocational maturity. A subject's score ranged from zero to fifty.

The following information was based on Form Two of the VDI. Form Four was a refinement of Form Two. Published results were not available for Form Four since it is still in the experimental stage. The following are conclusions Crites has reported concerning the development and use of the VDI:

1. Age - "...it is evident that responses to certain verbal statements of vocational attitudes and concepts, which are theoretically relevant to the choice of an occupation, are monotonically related to age during the adolescent years."

2. Grade Analyses - "...response to verbally stated vocational behaviors change systematically and consistently from grade to grade, instructions to answer items as either true or false give better discrimination between grades than scaling instructions, and item type had no reliable effect upon differentiation between grades."

3. School Differences - Crites concluded that differences between schools in high and low rent districts were not significant.
4. Sex Differences - "It was found that there were very few differences between males and females on items which differentiated between grade."\(^{107}\)

The norms for Form Two of the VDI were based on a sampling of 2,822 subjects in grades five through twelve who were enrolled in the Cedar Rapids, Iowa school system. The criteria used for determining the validity of the VM scale were age and grade. The actual product-moment correlations were .385 between VM and age and .463 between VM and grade, both of which were significant beyond the .001 level. In this analysis, the correlation of age with grade was \( r = .908 \).\(^{108}\) No mention was made of the reliability of the VDI, but plans for this type of research have been made.

Adjective Check List

The ACL was used to measure the psychological needs of the youth manpower trainees. A copy of this instrument may be found in the Appendix. The ACL has twenty-four scales which include fifteen manifest traits from Murray's needs theory\(^{109}\) plus other scales developed by Gough and Heilbrun.\(^{110}\) The needs scales are: (1) Achievement: Ach, (2) Dominance: Dom, (3) Endurance: End, (4) Order: Ord, (5) Intracception: Int, (6) Nurturance: Nur, (7) Affiliation: Aff, (8) Heterosexuality: Het, (9) Exhibitionism: Exh, (10) Autonomy: Aut.

\(^{107}\)Crites, Psychological Monograph, 16-32.

\(^{108}\)Ibid., 26.

\(^{109}\)Murray, op. cit.

\(^{110}\)Gough and Heilbrun, op. cit.
Each subject was asked to check each adjective on the instrument which he believed to be self-descriptive. The scoring of the ACL is dependent upon the total number of adjectives checked. The tendency to check more or fewer words obviously reflects certain personological dispositions, but it also acts as a response set artifact in the scoring of other scales. For this reason, it was necessary to control for "total checked" in deriving standard scores on the other variables. The technique adopted was to classify each protocol into one of four categories for each sex and to use standard scores calculated for that category only.

Most of the scales of the ACL appeared to have adequate reliability over the ten week interval of time used in the reliability tests. The test-retest reliability coefficients varied from a low of .01 to a high of .86, with a mean of .54 and a standard deviation of .19.

Preliminary versions of the ACL need scales were related to their EPPS counterparts. The rank order of needs assessed by the ACL correlated .60 with the ranking given by the EPPS.

Other validation tests were performed by the authors of the ACL such as a comparison of the ACL scales with the California Psychological Inventory and the Minnesota Multiphasic Personality Inventory. These correlations are listed in the ACL Manual. 111

Black has stated that the ACL can be used with seventh grade

111 Ibid., 12-22.
reading levels. While there are some adjectives beyond that level, their omission will not significantly affect the validity. Black also pointed out that although the norms used for the standard score conversions came mostly from samples of college students and adults, these scores are not inaccurate when used with high school samples.112

Statistical Treatment of Data

All of the hypotheses of this study were stated as null hypotheses and were rejected if the probability of the obtained results were less than the .05 level of significance.

The ACL scores of the fifteen need scales, the VM scores of the VDI, whether a trainee stayed in training for a month or dropped out of training, his age, his last grade completed in school, and his occupational choice were punched on data cards. The data analyses were programmed through a multiple regression program used by the IBM 7090 machine. This program was written by the programmer at the Computer Center at The Ohio State University.

Hypothesis One was tested by the use of the Pearson product-moment coefficient.113

\[
r = \frac{\sum_{i=1}^{N} x_i y_i}{N}
\]

\[Z_{XY} = \text{sum of the product of the two variables}
\]

\[N = \text{number of subjects}
\]


Another statistical technique used in this research was the one-way analysis of variance. Hypotheses Two and Three were tested using the following $F$ test.

$$F = \frac{\frac{1}{k-1} \sum_{i=1}^{k} (\bar{y}_i - \bar{y}_{..})^2}{\frac{1}{N-k} \sum_{i=1}^{k} \sum_{j=1}^{n_i} (y_{ij} - \bar{y}_i)^2}$$

$y_i =$ mean of the $i$th group

$y_{..} =$ grand mean

$N =$ number of subjects

$k =$ number of groups being compared

$n_i =$ number of subjects in the $i$th group

This $F$ ratio has $k-1$ and $N-k$ degrees of freedom. The modified Duncan program developed by the Health Science Computing Facility at the University of California, Los Angeles, was used to determine the significance of differences among skill area groups on the variables used in Hypotheses Two and Three.

A two-way analysis of variance program was developed at the Computer Center for the computation of the analysis of variance to test Hypotheses Four and Five. This program was a modified two-way analysis of variance to determine the interaction and error of measurement among the following variables: whether a trainee stayed in training for a month or dropped out of training, his age, his last grade completed in school, and his occupational choice in relation to his skill area.

This chapter has presented the research design used in the study, the research setting, the study group, a description of the instruments used in the study, and the statistical treatment of data.
Chapter IV will include a discussion of the findings and interpretations of the data collected.
CHAPTER IV

FINDINGS AND DISCUSSION

This chapter is concerned with the findings of this study. The discussion will be centered on the extent to which the null hypotheses in Chapter I can be accepted or rejected. For each hypothesis, the following information will be discussed: a statement of the hypothesis, the manner of testing the hypothesis, and the data resulting from a test of each hypothesis.

Hypothesis One

There is no significant correlation between vocational maturity and psychological needs of trainees. In testing this hypothesis, the Pearson product-moment correlation coefficient was used to determine the correlation between the VM scale and the fifteen psychological needs scales of the ACL. To determine the significance of the correlations found, the critical value of the correlation coefficient was determined by using the Fisher and Yates table.\textsuperscript{114}

For this study the critical value for the 0.05 level of significance was .1966 and for the 0.01 level of significance was .2565.

\textsuperscript{114}Ferguson, op. cit., 315.
## TABLE 1

**SIGNIFICANCE OF CORRELATION BETWEEN THE VOCATIONAL MATURITY SCALE AND THE PSYCHOLOGICAL NEEDS SCALES OF TRAINEES**

<table>
<thead>
<tr>
<th>ACL Scale</th>
<th>Sum of Cross Product</th>
<th>Covariance</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ach.</td>
<td>251788</td>
<td>11.19560</td>
<td>0.285728**</td>
</tr>
<tr>
<td>Dom.</td>
<td>258191</td>
<td>7.65484</td>
<td>0.198172*</td>
</tr>
<tr>
<td>End.</td>
<td>259478</td>
<td>3.99089</td>
<td>0.096130</td>
</tr>
<tr>
<td>Ord.</td>
<td>245094</td>
<td>5.18335</td>
<td>0.123636</td>
</tr>
<tr>
<td>Int.</td>
<td>253450</td>
<td>.97210</td>
<td>0.019741</td>
</tr>
<tr>
<td>Nur.</td>
<td>259696</td>
<td>.65532</td>
<td>-0.011826</td>
</tr>
<tr>
<td>Aff.</td>
<td>253402</td>
<td>1.70685</td>
<td>0.035929</td>
</tr>
<tr>
<td>Het.</td>
<td>265025</td>
<td>1.03265</td>
<td>0.019610</td>
</tr>
<tr>
<td>Exh.</td>
<td>267692</td>
<td>.74804</td>
<td>0.019258</td>
</tr>
<tr>
<td>Aut.</td>
<td>260957</td>
<td>3.21463</td>
<td>0.081570</td>
</tr>
<tr>
<td>Agg.</td>
<td>253364</td>
<td>6.45908</td>
<td>0.124743</td>
</tr>
<tr>
<td>Cha.</td>
<td>263370</td>
<td>6.72265</td>
<td>0.158782</td>
</tr>
<tr>
<td>Suc.</td>
<td>254705</td>
<td>-5.39280</td>
<td>-0.130888</td>
</tr>
<tr>
<td>Aba.</td>
<td>249403</td>
<td>-6.28453</td>
<td>-0.147377</td>
</tr>
<tr>
<td>Def.</td>
<td>261717</td>
<td>-6.09506</td>
<td>-0.135225</td>
</tr>
</tbody>
</table>

*Significant at 0.05 level.
**Significant at 0.01 level.

### Findings

Two psychological needs scales correlated significantly with the VM scale (Table 1). The achievement (Ach.) scale correlated 0.286 with vocational maturity and was significant at the 0.01 level. The dominance scale (Dom.) correlated 0.198 with vocational maturity and was significant at the 0.05 level. The following psychological needs scale showed no significant correlation with vocational maturity: endurance, order, intraception, nurturance, affiliation, heterosexuality, exhibition, autonomy, aggression, change, succorance, abasement, and deference.
Discussion

Hypothesis One was partially rejected on the basis of the data gathered in this study. There was a positive significant correlation between the achievement and dominance needs and vocational maturity. Trainees who have higher vocational maturity have a higher need to be outstanding in pursuits of socially recognized accomplishments than trainees who have lower vocational maturity. Trainees who have higher vocational maturity also have a higher need to be influential and controlling in individual relationships than trainees who have lower vocational maturity. The remainder of Hypothesis One was not rejected since there were no significant correlation coefficients between VM and the other thirteen psychological needs scales.

Hypothesis Two

There is no significant difference in vocational maturity between groups in each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator. In testing this hypothesis, a one-way analysis of variance was used to determine if the vocational maturity within skill group scores were significantly different than the vocational maturity scores among groups. The Snedecor table was used to determine the significance of the $F$ distribution on the vocational maturity variable. The $F$ ratio of 2.00 was required for significance at the 0.05 level.

\[115\text{Ibid.}, 310-313.\]
A modified Duncan test of significance of mean difference was used to determine if each of the skill area groups were significantly different on the measured variable, vocational maturity. The modified Duncan test was used by the IBM 7090 machine to determine the significance of difference among skill area groups at the 0.05 level. The Duncan test pointed out the homogeneity of skill groups. Significant differences among skill area groups were indicated by groups that were not homogenous.

Findings

There were significant differences at the 0.05 level between skill areas on the measured variable, vocational maturity. The Food Service Worker skill area had a significantly lower mean score on the vocational maturity variable than the Welder, Baker, Clerk-Typist, Service Station Mechanic, Electrical Appliance Repair, and General Office Clerk skill areas. The General Office Clerk skill area had a significantly higher mean score on the vocational maturity variable than the Food Service Worker, Cook, Sewing Machine Operator, Welder, Baker, and Clerk-Typist skill areas. There were no significant differences among the possible combinations of the remaining skill areas (Table 2).

Discussion

The null hypotheses, there is no significant difference on the vocational maturity variable between groups, were rejected for the following combinations of skill areas: (1) Food Service Worker and Welder, Baker, Clerk-Typist, Service Station Mechanic, Electrical Appliance Repair and General Office Clerk and (2) General Office Clerk
TABLE 2
HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE VOCATIONAL MATURITY VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Service</td>
<td>18</td>
<td>28.278</td>
<td>b</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>30.437</td>
<td>a, b</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>31.278</td>
<td>a, b</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>32.611</td>
<td>a</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>32.941</td>
<td>a</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>33.105</td>
<td>a</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>34.000</td>
<td>a, c</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>34.056</td>
<td>a, c</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>36.900</td>
<td>c</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

and Food Service Worker, Cook, Sewing Machine Operator, Welder, Baker, and Clerk-Typist.

The null hypotheses, there is no significant difference on the vocational maturity variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Cook, Sewing Machine Operator, Welder, Baker, Clerk-Typist, Service Station Mechanic, and Electrical Appliance Repair; (2) Food Service Worker, Cook, and Sewing Machine Operator; and (3) Service Station Mechanic, Electrical Appliance Repair, and General Office Clerk.

Hypothesis Three

There is no significant difference in each psychological need between groups in each of the following skill training groups: Clerk-
Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator. In testing this hypothesis, a one-way analysis of variance was used to determine if each psychological need variable score within skill groups was significantly different than each psychological need variable score among groups. A modified Duncan test of significance of mean difference was used to determine if each of the skill area groups were significantly different on the measured variable. The findings for this hypothesis are presented for each of the fifteen psychological need variables.

**Achievement Need Variable**

**Hypothesis**

There is no significant difference on the achievement need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

**Findings**

There were significant differences at the 0.05 level between skill groups on the measured variable, achievement need. The Sewing Machine Operator skill area had a significantly lower mean score on the achievement need variable than the Baker, General Office Clerk, and Electrical Appliance Repair skill areas. The Electrical Appliance Repair skill area had a significantly higher mean score on the
achievement need variable than the Welder, Food Service Worker, Service Station Mechanic, and Sewing Machine Operator skill areas. The Service Station Mechanic skill area had a significantly lower mean score on the achievement need variable than the General Office Clerk, and the Electrical Appliance Repair skill areas. There were no significant differences among the possible combinations of the remaining skill areas (Table 3).

Discussion

The null hypotheses, there is no significant difference on the achievement need variable between groups, were rejected for the following combinations of skill areas: (1) Sewing Machine Operator and Baker, General Office Clerk, and Electrical Appliance Repair; (2) Electrical Appliance Repair and Welders, Food Service Worker, Service Station Mechanic, and Sewing Machine Operator; and (3) Service Station Mechanic, General Office Clerk, and Electrical Appliance Repair.

The null hypotheses, there is no significant difference on the achievement need variable between groups were not rejected for all possible combinations of the following skill areas: (1) Food Service Worker, Welder, Clerk-Typist, Cook, Baker, General Office Clerk, and Electrical Appliance Repair; (2) Sewing Machine Operator, Service Station Mechanic, Food Service Worker, Welder, Clerk-Typist, and Cook; (3) Service Station Mechanic, Food Service Worker, Welder, Clerk-Typist, Cook, and Baker; and (4) Clerk-Typist, Cook, Baker, General Office Clerk, and Electrical Appliance Repair.
TABLE 3
HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE
ACHIEVEMENT NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>44.500</td>
<td>b</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>45.500</td>
<td>b c</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>46.278</td>
<td>a b c</td>
</tr>
<tr>
<td>Welders</td>
<td>18</td>
<td>47.167</td>
<td>a b c</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>49.000</td>
<td>a b c d</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>49.500</td>
<td>a b c d</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>49.824</td>
<td>a c d</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>51.100</td>
<td>a d</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>52.279</td>
<td>d</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

Dominance Need Variable

Hypothesis

There is no significant difference on the dominance need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, Clerk, General Office, and Sewing Machine Operator.

Findings

There was one significant difference at the 0.05 level between skill groups on the measured variable, dominance need. The Baker skill area had a significantly higher mean score on the dominance need variable.
than the Sewing Machine Operator skill area. There were no significant differences among the possible combinations of the remaining skill areas (Table 4).

**TABLE 4**

HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE DOMINANCE NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>46.833</td>
<td>b</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>47.286</td>
<td>a, b</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>48.389</td>
<td>a, b</td>
</tr>
<tr>
<td>Welders</td>
<td>18</td>
<td>48.833</td>
<td>a, b</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>50.158</td>
<td>a, b</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>50.687</td>
<td>a, b</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>50.750</td>
<td>a, b</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>51.389</td>
<td>a, b</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>52.824</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

Discussion

The null hypothesis, there is no significant difference on the dominance need variable between groups, was rejected for the combination of the Baker and Sewing Machine Operator skill areas.

The null hypotheses, there is no significant difference on the dominance need variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Service Station Mechanic, Food Service Worker, Welder, Clerk-Typist, Cook, General Office Clerk, Electrical Appliance Repair, and Baker; and (2) Sewing Machine
Operator, Service Station Mechanic, Food Service Worker, Welder, Clerk-Typist, Cook, General Office Clerk, and Electrical Appliance Repair.

**Endurance Need Variable**

**Hypothesis**

There is no significant difference on the endurance need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

**Findings**

There were no significant differences at the 0.05 level between skill groups on the measured variable, endurance need. The rank order of mean scores of the skill groups from low to high were Service Station Mechanic, Sewing Machine Operator, Food Service Worker, Welder, Electrical Appliance Repair, Cook, Baker, General Office Clerk, and Clerk-Typist (Table 5).

**Discussion**

The null hypothesis, there is no significant difference on the endurance need variable between skill area groups was not rejected for all possible combinations of Service Station Mechanic, Sewing Machine Operator, Food Service Worker, Welder, Electrical Appliance Repair, Cook, Baker, General Office Clerk, and Clerk-Typist skill areas.
TABLE 5

HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE
ENDURANCE NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Station</td>
<td>14</td>
<td>46.500</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>48.611</td>
<td>a</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>48.778</td>
<td>a</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>49.444</td>
<td>a</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>49.889</td>
<td>a</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>50.937</td>
<td>a</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>51.765</td>
<td>a</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>52.050</td>
<td>a</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>52.368</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

Order Need Variable

Hypothesis

There is no significant difference on the order need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

Findings

There were significant differences at the 0.05 level between skill groups on the measured variable, order need. The Clerk-Typist had a significantly higher mean score on the order need scale than the Service
Station Mechanic, and Sewing Machine Operator skill areas. There were no significant differences among the possible combinations of the remaining skill areas (Table 6).

**TABLE 6**

**HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE ORDER NEED VARIABLE**

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Station</td>
<td>14</td>
<td>44.071</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>45.333</td>
<td>a</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>45.556</td>
<td>a b</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>46.437</td>
<td>a b</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>46.722</td>
<td>a b</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>47.111</td>
<td>a b</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>49.100</td>
<td>a b</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>49.471</td>
<td>a b</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>51.000</td>
<td>b</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

**Discussion**

The null hypotheses, there is no significant difference on the order need variable between groups, were rejected for the combinations of Clerk-Typist and Service Station Mechanic; and Clerk-Typist and Sewing Machine Operator skill areas.

The null hypotheses, there is no significant difference on the order need variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Service Station Mechanic, Sewing Machine Operator, Welder, Cook, Food Service Worker, Electrical Appliance Repair, General Office Clerk, and Baker; and (2) Welder,
Intraception Need Variable

Hypothesis

There is no significant difference on the intraception need variable between each of the following skill area training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

Findings

There were significant differences at the 0.05 level between skill groups on the measured variable, intraception need. The Service Station Mechanic skill area had a significantly lower mean score on the intraception need variable than the Food Service Worker, Welder, Clerk-Typist, Electrical Appliance Repair, General Office Clerk, and Cook skill areas. The Sewing Machine Operator skill area had a significantly lower mean score on the intraception need variable than the Cook skill area. There were no significant differences among the possible combinations of the remaining skill areas (Table 7).

Discussion

The null hypotheses, there is no significant difference on the intraception need variable between groups, were rejected for the following combinations of skill areas: (1) Service Station Mechanic and
Food Service Worker, Welder, Clerk-Typist, Electrical Appliance Repair, General Office Clerk, and Cook; and (2) Sewing Machine Operator and Cook.

**TABLE 7**

**HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE INTRACEPTION NEED VARIABLE**

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Station</td>
<td>14</td>
<td>41.929</td>
<td>c</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>46.611</td>
<td>a</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>48.176</td>
<td>a b c</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>48.389</td>
<td>a b</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>48.778</td>
<td>a b</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>49.789</td>
<td>a b</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>50.111</td>
<td>a b</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>51.700</td>
<td>a b</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>54.812</td>
<td>b</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

The null hypotheses, there is no significant difference on the intraception need variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Sewing Machine Operator, Baker, Food Service Worker, Welder, Clerk-Typist, Electrical Appliance Repair, and General Office Clerk; (2) Baker, Food Service Worker, Welder, Clerk-Typist, Electrical Appliance Repair, General Office Clerk, and Cook; and (3) Service Station Mechanic, Sewing Machine Operator, and Baker.
Nurturance Need Variable

Hypothesis

There is no significant difference on the nurturance need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

Findings

There were significant differences at the 0.05 level between skill groups on the measured variable, nurturance need. The Service Station Mechanic skill area had a significantly lower mean score on the nurturance need variable than the Welder, General Office Clerk, and Cook skill areas. The Food Service Worker skill area had a significantly lower mean score on the nurturance need variable than the Cook skill area. There were no significant differences among the possible combinations of the remaining skill areas (Table 8).

Discussion

The null hypotheses, there is no significant difference on the nurturance need variable between groups, were rejected for the following combinations of skill areas: (1) Service Station Mechanic and Welder, General Office Clerk, and Cook; and (2) Food Service Worker and Cook.

The null hypotheses, there is no significant difference on the nurturance need variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Sewing Machine
TABLE 8
HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE NURTURANCE NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Station</td>
<td>14</td>
<td>43.643</td>
<td>c</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>47.389</td>
<td>b, c</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>49.111</td>
<td>a, b, c</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>49.588</td>
<td>a, b, c</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>50.000</td>
<td>a, b, c</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>50.722</td>
<td>a, b, c</td>
</tr>
<tr>
<td>Welders</td>
<td>18</td>
<td>51.611</td>
<td>a, b</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>54.450</td>
<td>a, b</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>55.000</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.


Affiliation Need Variable

Hypothesis

There is no significant difference on the affiliation need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder,

Findings

There were significant differences at the 0.05 level between skill groups on the measured variable, affiliation need. The General Office Clerk skill area had a significantly higher mean score on the affiliation need variable than the Service Station Mechanic, Sewing Machine Operator, and Food Service Worker skill areas. The Cook skill area had a significantly higher mean score on the affiliation need variable than the Service Station Mechanic and the Sewing Machine Operator skill area (Table 9).

Discussion

The null hypotheses, there is no significant difference on the affiliation need variable between groups, were rejected for the following combinations of skill areas: (1) General Office Clerk and Service Station Mechanic, Sewing Machine Operator, and Food Service Worker; and (2) Cook and Service Station Mechanic, and Sewing Machine Operator.

The null hypotheses, there is no significant difference on the affiliation need variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Baker, Clerk-Typist, Electrical Appliance Repair, Welder, Cook, and General Office Clerk; (2) Service Station Mechanic, Sewing Machine Operator, Food Service Worker, Baker, Clerk-Typist, Electrical Appliance Repair, and Welder; and (3) Food Service Worker, Baker, Clerk-Typist, Electrical Appliance Repair, Welder, and Cook.
TABLE 9
HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE AFFILIATION NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Station</td>
<td>14</td>
<td>44.571</td>
<td>b</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>45.944</td>
<td>b</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>46.667</td>
<td>b c</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>47.882</td>
<td>a b c</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>49.158</td>
<td>a b c</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>49.667</td>
<td>a b c</td>
</tr>
<tr>
<td>Welders</td>
<td>18</td>
<td>50.000</td>
<td>a b c</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>52.437</td>
<td>a c</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>53.800</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

Heterosexuality Need Variable

Hypothesis

There is no significant difference on the heterosexuality need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

Findings

There were no significant differences at the 0.05 level between skill groups on the measured variable, heterosexuality need. The rank order of mean scores of the skill groups from low to high were Welder, Service Station Mechanic, Clerk-Typist, Electrical Appliance Repair,
Food Service Worker, Baker, Sewing Machine Operator, General Office Clerk, and Cook (Table 10).

**TABLE 10**

**HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE HETEROSEXUALITY NEED VARIABLE**

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welders</td>
<td>18</td>
<td>48.722</td>
<td>a</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>49.500</td>
<td>a</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>50.211</td>
<td>a</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>50.889</td>
<td>a</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>51.500</td>
<td>a</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>51.588</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>51.722</td>
<td>a</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>52.950</td>
<td>a</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>54.562</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.*

Discussion

The null hypothesis, there is no significant difference on the heterosexuality need variable between groups, was not rejected for all possible combinations of the following groups: Service Station Mechanic, Sewing Machine Operator, Food Service Worker, Electrical Appliance Repair, Cook, Baker, General Office Clerk, and Clerk-Typist.

**Exhibition Need Variable**

Hypothesis

There is no significant difference on the exhibition need variable between each of the following skill training groups: Clerk-Typist,

Findings

There were no significant differences at the 0.05 level between skill groups on the measured variable, exhibition need. The rank order of mean scores of the skill groups from low to high were Clerk-Typist, Electrical Appliance Repair, General Office Clerk, Welder, Sewing Machine Operator, Food Service Worker, Cook, Baker, and Service Station Mechanic (Table 11).

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>50.053</td>
<td>a</td>
</tr>
<tr>
<td>Electric Appliance</td>
<td>18</td>
<td>50.556</td>
<td>a</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>51.200</td>
<td>a</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>51.278</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>52.222</td>
<td>a</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>52.389</td>
<td>a</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>52.500</td>
<td>a</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>52.529</td>
<td>a</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>54.714</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

Discussion

The null hypothesis, there is no significant difference on the exhibition need variable between groups, was not rejected for all
possible combinations of the Clerk-Typist, Electrical Appliance Repair, General Office Clerk, Welder, Sewing Machine Operator, Food Service Worker, Cook, Baker, and Service Station Mechanic skill area.

**Autonomy Need Variable**

**Hypothesis**

There is no significant difference on the autonomy need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

**Findings**

There was one significant difference at the 0.05 level between skill groups on the measured variable, autonomy need. The Food Service Worker had a significantly higher mean score on the autonomy need variable than the Cook skill area. There were no significant differences among the possible combinations of the remaining skill areas (Table 12).

**Discussion**

The null hypothesis, there is no significant difference on the autonomy need variable between groups, was rejected for the combination of the Food Service Worker and Cook skill areas.

The null hypotheses, there is no significant difference on the autonomy need variable between groups, were not rejected for all possible
TABLE 12
HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE
AUTONOMY NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cook</td>
<td>16</td>
<td>47.125</td>
<td>b</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>48.278</td>
<td>a b</td>
</tr>
<tr>
<td>Welders</td>
<td>18</td>
<td>49.333</td>
<td>a b</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>49.850</td>
<td>a b</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>50.471</td>
<td>a b</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>51.737</td>
<td>a b</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>51.929</td>
<td>a b</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>52.333</td>
<td>a b</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>53.000</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

combinations of the following skill areas: (1) Electrical Appliance Repair, Welder, General Office Clerk, Baker, Clerk-Typist, Service Station Mechanic, Sewing Machine Operator, and Food Service Worker, and (2) Cook, Electrical Appliance Repair, Welder, General Office Clerk, Baker, Clerk-Typist, and Service Station Mechanic.

Aggression Need Variable

Hypothesis

There is no significant difference on the aggression need variable between each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.
Findings

There were two significant differences at the 0.05 level between the skill groups on the measured variable, aggression need. The Service Station Mechanic skill area had a significantly higher mean score on the aggression need variable than the Cook and General Office Clerk skill areas. There were no significant differences among the possible combinations of the remaining skill areas (Table 13).

**TABLE 13**

**HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE AGGRESSION NEED VARIABLE**

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cook</td>
<td>16</td>
<td>45.313</td>
<td>a</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>45.700</td>
<td>a</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>47.889</td>
<td>a</td>
</tr>
<tr>
<td>Welders</td>
<td>18</td>
<td>48.111</td>
<td>a</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>49.500</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>49.944</td>
<td>a b</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>50.235</td>
<td>a b</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>50.316</td>
<td>a b</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>54.071</td>
<td>b</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

Discussion

The null hypotheses, there is no significant difference on the aggression need variable between groups, were rejected for the combinations of Service Station Mechanic and Cook; and Service Station Mechanic and General Office Clerk skill areas.
The null hypotheses, there is no significant difference on the aggression need variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Cook, General Office Clerk, Food Service Worker, Welder, Electrical Appliance Repair, Sewing Machine Operator, Baker, and Clerk-Typist; and (2) Food Service Worker, Welder, Electrical Appliance Repair, Sewing Machine Operator, Baker, Clerk-Typist, and Service Station Mechanic.

**Change Need Variable**

**Hypothesis**

There is no significant difference on the change need variable between each of the following skill training areas: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

**Findings**

There were significant differences at the 0.05 level between skill groups on the measured variable, change need. The Electrical Appliance Repair skill area had a significantly higher mean score on the change need variable than the Baker, Sewing Machine Operator, Clerk-Typist, Welder, Food Service Worker, and General Office Clerk skill areas. There were no significant differences among the possible combinations of the remaining skill areas (Table 14).
TABLE 14
HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE CHANGE NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baker</td>
<td>17</td>
<td>47.765</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>49.389</td>
<td>a</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>49.632</td>
<td>a</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>49.944</td>
<td>a</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>50.389</td>
<td>a</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>50.450</td>
<td>a</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>51.929</td>
<td>a</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>52.000</td>
<td>a</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>56.167</td>
<td>b</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

Discussion

The null hypotheses, there is no significant difference on the change need variable between skill groups, were rejected for the combinations of Electrical Appliance Repair with Baker, Sewing Machine Operator, Clerk-Typist, Welder, Food Service Worker, and General Office Clerk skill areas.

The null hypotheses, there is no significant difference on the change need variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Baker, Sewing Machine Operator, Clerk-Typist, Welder, Food Service, General Office Clerk, Service Station Mechanic and Cook; and (2) Service Station Mechanic, Cook, and Electrical Appliance Repair.
**Succorance Need Variable**

**Hypothesis**

There is no significant difference on the succorance need variable between each of the following skill training areas: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

**Findings**

There were no significant differences at the 0.05 level between skill groups on the measured variable succorance need. The rank order of mean scores of the skill groups from low to high were Electrical Appliance Repair, General Office Clerk, Baker, Welder, Cook, Sewing Machine Operator, Food Service Worker, Service Station Mechanic, and Clerk-Typist (Table 15).

**Discussion**

The null hypothesis, there is no significant difference on the succorance need variable between groups, was not rejected for all possible combinations of the Electrical Appliance Repair, General Office Clerk, Baker, Welder, Cook, Sewing Machine Operator, and Clerk-Typist areas.
### TABLE 15

HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE SUCCORANCE NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>47.611</td>
<td>a</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>48.100</td>
<td>a</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>48.765</td>
<td>a</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>48.833</td>
<td>a</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>48.875</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>49.833</td>
<td>a</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>50.111</td>
<td>a</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>51.643</td>
<td>a</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>52.158</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

**Abasement Need Variable**

**Hypothesis**

There is no significant differences on the abasement need variable between each of the following skill training areas: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

**Findings**

There were no significant differences at the 0.05 level between skill areas on the measured variable abasement need. The rank order of mean scores of the skill groups from low to high were Baker, Electrical Appliance Repair, Service Station Mechanic, Sewing Machine Operator,
TABLE 16
HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE ABASMENT NEED VARIABLE

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baker</td>
<td>17</td>
<td>46.588</td>
<td>a</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>47.389</td>
<td>a</td>
</tr>
<tr>
<td>Service Station</td>
<td>14</td>
<td>47.500</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>47.778</td>
<td>a</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>48.389</td>
<td>a</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>48.950</td>
<td>a</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>49.278</td>
<td>a</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>49.737</td>
<td>a</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>50.750</td>
<td>a</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.

Discussion

The null hypothesis, there is no significant difference on the abasement need variable between groups, was not rejected for all possible combinations of the Baker, Electrical Appliance Repair, Service Station Mechanic, Welder, General Office Clerk, Food Service Worker, Clerk-Typist and Cook skill areas.

Deference Need Variable

Hypothesis

There is no significant difference on the deference need variable between each of the following skill training areas: Clerk-Typist, Cook,

Findings

There were three significant differences at the 0.05 level between the skill groups on the measured variable, deference need. The Cook skill area had a significantly higher mean score on the deference need variable than the Service Station Mechanic, Food Service Worker, and Sewing Machine Operator skill areas. There were no significant differences among the possible combinations of the remaining skill areas (Table 17).

**TABLE 17**

**HOMOGENOUS GROUPINGS AMONG SKILL AREA GROUPS ON THE DEFERENCE NEED VARIABLE**

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Mean</th>
<th>Homogenous Groups*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Station</td>
<td>14</td>
<td>47.143</td>
<td>a</td>
</tr>
<tr>
<td>Food Service</td>
<td>18</td>
<td>49.111</td>
<td>a</td>
</tr>
<tr>
<td>Sewing Machine</td>
<td>18</td>
<td>49.444</td>
<td>a</td>
</tr>
<tr>
<td>Baker</td>
<td>17</td>
<td>50.235</td>
<td>a b</td>
</tr>
<tr>
<td>Clerk-Typist</td>
<td>19</td>
<td>50.789</td>
<td>a b</td>
</tr>
<tr>
<td>Electrical Appliance</td>
<td>18</td>
<td>51.111</td>
<td>a b</td>
</tr>
<tr>
<td>Gen. Office Clerk</td>
<td>20</td>
<td>51.700</td>
<td>a b</td>
</tr>
<tr>
<td>Welder</td>
<td>18</td>
<td>51.944</td>
<td>a b</td>
</tr>
<tr>
<td>Cook</td>
<td>16</td>
<td>56.125</td>
<td>b</td>
</tr>
</tbody>
</table>

*The skill areas with the same letter in this column are homogenous.
Discussion

The null hypotheses, there is no significant difference on the deference need variable between groups, were rejected for the combinations of Cook and Service Station Mechanic; Cook and Food Service Worker; and Cook and Sewing Machine Operator skill areas.

The null hypotheses, there is no significant difference on the deference need variable between groups, were not rejected for all possible combinations of the following skill areas: (1) Service Station Mechanic, Food Service Worker, Sewing Machine Operator, Baker, Clerk-Typist, Electrical Appliance Repair, General Office Clerk, and Welder; and (2) Baker, Clerk-Typist, Electrical Appliance Repair, General Office Clerk, Welder, and Cook.

Summary

Hypothesis Three was partially rejected on the basis of the data gathered in this study. There were significant differences between groups on the following psychological needs variables: achievement, dominance, order, intraception, nurturance, affiliation, autonomy, aggression, change and deference. The remainder of Hypothesis Three was not rejected since no significant differences between groups were found on the following psychological needs variables: endurance, heterosexuality, exhibition, succorance, and abasement.

Hypothesis Four

There is no significant difference between vocational maturity and each of the following: age, last grade completed in school,
congruence of occupational choice with skill area training, and continuation of training. In testing this hypothesis, a modified two-way analysis of variance was used to determine the interaction of age, last grade completed in school, congruence of occupational choice with skill area training on the vocational maturity variable. The Snedecor table was used to determine the significance of the $F$ distribution of the four categories on the vocational maturity variable. The age, last grade completed, and congruence of occupational choice categories required an $F$ ratio of 3.06 to be significant at the 0.05 level and 4.75 to be significant at the 0.01 level. The continuation of training category required an $F$ ratio of 3.91 to be significant at the 0.05 level and 6.81 to be significant at the 0.01 level.

Findings

There was a significant difference at the 0.05 level among the last grade completed in school groups and vocational maturity. Those trainees who were graduated from high school had a significantly higher mean score on the vocational maturity scale than those trainees who dropped out of school before graduation. No significant differences were found among the groups in the age, congruence of occupational choice with skill area, and the continuation of training categories on the vocational maturity variable (Table 18).

116 Ibid.
TABLE 18

Differences among trainees' age, grade completed, congruence of occupational choice with skill area, and continuation of training on the vocational maturity variable

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>32.04</td>
<td>0.0198</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>33.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>33.53</td>
<td></td>
</tr>
<tr>
<td>Last grade completed</td>
<td>9 or less</td>
<td>46</td>
<td>31.07</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &amp; 11</td>
<td>60</td>
<td>32.30</td>
<td>3.894*</td>
</tr>
<tr>
<td></td>
<td>Completed</td>
<td>52</td>
<td>34.52</td>
<td></td>
</tr>
<tr>
<td>Occupational choice</td>
<td>related</td>
<td>108</td>
<td>32.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>31.94</td>
<td>0.195</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>32.56</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>32.88</td>
<td>0.0447</td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>32.24</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level

Discussion

The null hypothesis, there were no significant differences among groups of the last grade completed in school category on the vocational maturity variable, was rejected. There was a significant difference among the last grade completed groups on the measured variable, vocational maturity.

The null hypothesis that there was no significant difference among groups in the age, congruence of occupational choice, and continuation of training categories on the vocational maturity variable was not rejected. There were no significant differences found.
Hypothesis Five

There is no significant differences between each psychological need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training. In testing this hypothesis, a modified two-way analysis of variance was used to determine the interaction of age, last grade completed in school, congruence of occupational choice with skill area training for each of the psychological need variables. The significant $F$ ratio distributions used for testing Hypothesis Four were used to test this hypothesis. The findings for this hypothesis are presented for each of the fifteen psychological needs variables.

Achievement Need Variable

Hypothesis

There is no significant difference between achievement need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There were no significant differences among the groups of the age, last grade completed in school, congruence of occupational choice with skill area training, and the continuation of training categories on the achievement need variable (Table 19). There were no significant $F$ ratios at or beyond the 0.05 level.
TABLE 19
DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE ACHIEVEMENT NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>48.04</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>.990</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>47.69</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>48.37</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &amp; 11</td>
<td>60</td>
<td>48.00</td>
<td>.106</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>49.00</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>49.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>48.44</td>
<td>2.170</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>46.44</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>49.03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>47.20</td>
<td>2.984</td>
</tr>
</tbody>
</table>

Discussion

The null hypothesis, there were no significant differences among groups of the age, last grade completed in school, congruence of occupational choice with skill area, and continuation of training on the achievement need variable, was not rejected. There were no significant differences among the groups on the measured variable, achievement need.
Dominance Need Variable

Hypothesis

There is no significant difference between dominance need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There were no significant differences among the groups of the age, last grade completed in school, congruence of occupational choice with skill area training, and the continuation of training categories on the dominance need variable (Table 20). All of the F ratios were low and not significant at or beyond the 0.05 level.

Discussion

The null hypothesis using the dominance need variable was not rejected. There were no significant differences among groups of the categories on the measured variable, dominance need.
TABLE 20
DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED,
CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL
AREA, AND CONTINUATION OF TRAINING ON
THE DOMINANCE NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>50.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>49.75</td>
<td>.226</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>49.06</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>50.02</td>
<td></td>
</tr>
<tr>
<td>Grade Completed</td>
<td>10 &amp; 11</td>
<td>60</td>
<td>50.15</td>
<td>.281</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>49.15</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>50.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>47.75</td>
<td>.916</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>49.68</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>49.78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>49.80</td>
<td>.398</td>
</tr>
</tbody>
</table>

Endurance Need Variable

Hypothesis
There is no significant difference between endurance need and
each of the following: age, last grade completed in school, congruence
of occupational choice with skill area training, and continuation of
training.

Findings
There were no significant differences among the groups of the
age, last grade completed in school, congruence of occupational choice
with skill area training, and the continuation of training categories on the endurance need variable (Table 21). All of the $F$ ratios were not significant at or beyond the 0.05 level.

TABLE 21
Differences Among Trainees' Age, Grade Completed, Congruence of Occupational Choice With Skill Area, and Continuation of Training on the Endurance Need Variable

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>49.76</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td>20-21</td>
<td>36</td>
<td>48.78</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>50.83</td>
<td></td>
</tr>
<tr>
<td>Grade Completed</td>
<td>10 &amp; 11</td>
<td>60</td>
<td>49.20</td>
<td>0.128</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>50.83</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>50.63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>50.19</td>
<td>1.482</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>48.59</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>-- continued</td>
<td>107</td>
<td>51.30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-- discontinued</td>
<td>51</td>
<td>47.73</td>
<td>1.013</td>
</tr>
</tbody>
</table>

Discussion

The null hypothesis using the endurance need variable was not rejected. There were no significant differences among groups of the categories on the measured variable, endurance need.
Order Need Variable

Hypothesis

There is no significant difference between the order need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There was a significant difference between groups in the continuation of training category and the order need variable. The trainees who continued training had a significantly higher mean score on the order need scale than the trainees who discontinued training. This difference was significant at the 0.05 level (Table 22).

Discussion

The null hypothesis, there is no significant differences between the groups in the continuation of training category and the order need variable, was rejected. There was a significant difference between the continuation of training and discontinuation of training on this variable.

The null hypothesis, there is no significant difference among groups in the age, last grade completed in school, and congruence of occupational choice with skill area training categories on the order need variable, was not rejected. There were no significant differences found in these groups.
TABLE 22

DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE ORDER NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>47.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>48.82</td>
<td>2.458</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>45.92</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>47.07</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &amp; 11</td>
<td>60</td>
<td>46.32</td>
<td>.859</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>48.71</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>47.15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>47.69</td>
<td>.839</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>46.32</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
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</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>45.29</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level

Intracention Need Variable

Hypothesis

There is no significant difference between the intraception need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There was a significant difference between the groups in the
continuation of training category and the intraception need variable. Those trainees who continued training had a significantly higher mean score on the intraception need scale than those trainees who discontinued training. This difference was significant at the 0.05 level. There were no significant differences on the intraception need variable among the groups of each of the following categories: age, last grade completed in school, and congruence of occupational choice with skill area training (Table 23).

**TABLE 23**

**DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE INTRACEPTION NEED VARIABLE**

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
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<th>Mean</th>
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</thead>
<tbody>
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<td>Age</td>
<td>17-18</td>
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<td>47.73</td>
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</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>50.91</td>
<td>.980</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>49.72</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>48.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &amp; 11</td>
<td>60</td>
<td>48.60</td>
<td>.065</td>
</tr>
<tr>
<td></td>
<td>Completed</td>
<td>52</td>
<td>50.12</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>49.60</td>
<td></td>
</tr>
<tr>
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<td>not related</td>
<td>16</td>
<td>47.69</td>
<td>1.161</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>48.03</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>50.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>46.41</td>
<td>6.710*</td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level
Discussion

The null hypothesis, there is no significant difference between the groups in the continuation of training category and the intraception need variable, was rejected. There was a significant difference between the continuation of training and discontinuation of training groups on the measured variable, intraception need.

The null hypothesis, there is no significant difference among groups in the age, last grade completed in school, and congruence of occupational choice with skill area training categories on the intraception need variable, was not rejected. There were no significant differences found.

Nurturance Need Variable

Hypothesis

There is no significant difference between the nurturance need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There was a significant difference between the groups in the continuation of training category and the nurturance need variable. Those trainees who continued training had a significantly higher mean score on the nurturance need variable than those trainees who discontinued training. This difference was significant at the 0.01 level. There were no significant differences on the nurturance need variable.
among the groups of each of the following categories: age, last grade completed in school, and congruence of occupational choice with skill area training (Table 24).

**TABLE 24**

DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE NURTURANCE NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>49.23</td>
<td></td>
</tr>
<tr>
<td>Age</td>
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<td>46</td>
<td>50.93</td>
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<tr>
<td>Last Grade</td>
<td>10 &amp; 11</td>
<td>60</td>
<td>48.82</td>
<td>.250</td>
</tr>
<tr>
<td>Last Grade</td>
<td>Completed</td>
<td>52</td>
<td>51.54</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>51.28</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>not related</td>
<td>16</td>
<td>50.13</td>
<td>2.530</td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>undecided</td>
<td>34</td>
<td>47.41</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>51.83</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>discontinued</td>
<td>51</td>
<td>47.18</td>
<td>7.735*</td>
</tr>
</tbody>
</table>

*Significant at the 0.01 level

**Discussion**

The null hypothesis, there is no significant difference between the groups in the continuation of training category and the nurturance need variable, was rejected. There was a significant difference between the continuation of training and discontinuation of training groups on the measured variable, nurturance need.
The null hypothesis, there is no significant difference among groups in the age, last grade completed in school, and congruence of occupational choice with skill area training categories on the nurturance need variable, was not rejected. There were no significant differences found.

Affiliation Need Variable

Hypothesis

There is no significant difference between the affiliation need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There was a significant difference among the groups of the congruence of occupational choice with skill area training category and a significant difference between the groups of the continuation of training category on the affiliation need variable. The difference between the affiliation need variable and congruence of occupational choice with skill area training category was significant beyond the 0.01 level. Those trainees whose occupational choices were congruent with their skill area had a significantly higher mean score on the affiliation need variable. The difference between the affiliation need variable and continuation of training was also significant beyond the 0.01 level. Those trainees who continued training had a significantly higher mean score on the affiliation need variable than those trainees
who discontinued training. There were no significant differences on the affiliation need variable among the groups of the age and last grade completed categories (Table 25).

**TABLE 25**

DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE AFFILIATION NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>48.24</td>
<td></td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>48.64</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>48.61</td>
<td></td>
</tr>
<tr>
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<td>.318</td>
</tr>
<tr>
<td></td>
<td>Completed</td>
<td>52</td>
<td>50.54</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>50.24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>44.94</td>
<td>5.699*</td>
</tr>
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<td></td>
<td>undecided</td>
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<td>47.15</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>50.16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>46.69</td>
<td>7.378*</td>
</tr>
</tbody>
</table>

*Significant at or beyond the 0.01 level.

**Discussion**

The null hypothesis, there is no significant difference among the groups in the congruence of occupational choice with skill area category and the affiliation need variable, was rejected. The null hypothesis, there is no significant difference between the groups in the continuation of training category, was rejected. The trainees
whose occupational choice was congruent with their skill area training, scored significantly higher than those trainees whose occupational choice was not related to their skill area training. The trainees who continued training scored significantly higher than the trainees who discontinued training on the measured variable, affiliation need.

The null hypothesis, there is no significant difference among groups in the age, and last grade completed categories was not rejected. There were significant differences found on the measured variable, affiliation need.

Heterosexuality Need Variable

Hypothesis

There is no significant difference between the heterosexuality need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There were no significant differences among the groups of the age, last grade completed in school, congruence of occupational choice with skill area training, and the continuation of training categories on the heterosexuality need variable (Table 26). There were no significant F ratios at or beyond the 0.05 level.

Discussion

The null hypothesis, there were no significant differences among groups of the age, last grade completed in school, congruence of
TABLE 26
DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE HETEROSEXUALITY NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>50.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>53.27</td>
<td>.675</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>51.00</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>52.20</td>
<td></td>
</tr>
<tr>
<td>Grade Completed</td>
<td>10 &amp; 11</td>
<td>60</td>
<td>50.13</td>
<td>.541</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>51.88</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>51.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>52.25</td>
<td>1.663</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>49.03</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>51.54</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>50.82</td>
<td>.0789</td>
</tr>
</tbody>
</table>

occupational choice with skill area, and continuation of training on the heterosexuality need variable, was not rejected. There were no significant differences among the groups on the measured variable, heterosexuality need.

Exhibition Need Variable

Hypothesis

There is no significant difference between the exhibition need and each of the following: age, last grade completed in school,
congruence of occupational choice with skill area training, and continuation of training.

Findings

There were no significant differences among the groups of the age, last grade completed in school, congruence of occupational choice with skill area training, and the continuation of training categories on the exhibition variable (Table 27). There were no significant F ratios at or beyond the 0.05 level.

| TABLE 27 |

DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE EXHIBITION NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>52.68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>50.91</td>
<td>.607</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>51.14</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>51.96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &amp; 11</td>
<td>60</td>
<td>52.20</td>
<td>.040</td>
</tr>
<tr>
<td></td>
<td>Completed</td>
<td>52</td>
<td>51.89</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>51.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>50.69</td>
<td>.118</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>52.21</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>51.21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>53.16</td>
<td>1.605</td>
</tr>
</tbody>
</table>
Discussion

The null hypothesis, there were no significant differences among groups of the age, last grade completed in school, congruence of occupational choice with skill area, and continuation of training on the exhibition need variable, was not rejected. There were no significant differences among the groups on the measured variable, exhibition need.

Autonomy Need Variable

Hypothesis

There is no significant difference between the autonomy need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There was a significant difference among the groups of the congruence of occupational choice with skill area training category on the autonomy need variable. Those trainees who were undecided about their occupational choice had a significantly higher mean score on the autonomy need variable than those trainees whose occupational choice was related to their skill area. A significant difference between the groups of the continuation of training category on the autonomy need variable was also found. Those trainees who continued training had a significantly lower mean score on the autonomy need than the trainees who discontinued training. These differences were significant at the 0.05 level. There were no significant differences
on the autonomy need variable among groups of the age and last grade completed categories (Table 28).

**TABLE 28**

DIFFERENCES AMONG TRAINEE'S AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE AUTONOMY NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>50.86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>49.05</td>
<td>1.01</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>51.31</td>
<td></td>
</tr>
<tr>
<td>Last</td>
<td>9 or less</td>
<td>46</td>
<td>49.24</td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>10 &amp; 11</td>
<td>60</td>
<td>52.27</td>
<td>1.887</td>
</tr>
<tr>
<td>Completed</td>
<td>12</td>
<td>52</td>
<td>49.44</td>
<td></td>
</tr>
<tr>
<td>Occupational</td>
<td>related</td>
<td>108</td>
<td>49.67</td>
<td></td>
</tr>
<tr>
<td>Choice</td>
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<td>16</td>
<td>50.69</td>
<td>3.205*</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>52.85</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>49.66</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>52.12</td>
<td>4.041*</td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level

Discussion

The null hypothesis, there is no significant difference among the groups in the congruence of occupational choice with skill area category and the autonomy need variable, was rejected. A significant difference between the autonomy need variable and congruence of occupational choice with skill area category was found. The null hypothesis, there is no significant difference between the groups in the
continuation of training category, was rejected. A significant difference between the autonomy need variable and continuation or discontinuation of training was found.

The null hypothesis, there is no significant difference among groups in the age, and last grade completed categories, was not rejected. There were no differences within the groups in each of the categories on the measured variable, autonomy need.

Aggression Need Variable

Hypothesis

There is no significant difference between the aggression need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There was a significant difference between groups in the continuation of training category and the aggression need variable. The trainees who discontinued training had a significantly higher mean score on the aggression need scale than the trainees who continued training. This difference was significant beyond the 0.01 level (Table 29). There were no significant differences on the aggression need variable among the groups of each of the following categories: age, last grade completed in school, and congruence of occupational choice with skill area training.
TABLE 29

DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE AGGRESSION NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>49.92</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>46.50</td>
<td>1.300</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>49.56</td>
<td></td>
</tr>
<tr>
<td>Last Grade completed</td>
<td>9 or less</td>
<td>46</td>
<td>47.59</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &amp; 11</td>
<td>60</td>
<td>50.68</td>
<td>.770</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>47.96</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>47.86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>49.56</td>
<td>3.021</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>51.82</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>47.44</td>
<td></td>
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<td></td>
<td>discontinued</td>
<td>51</td>
<td>51.92</td>
<td>9.286*</td>
</tr>
</tbody>
</table>

*Significant at or beyond the 0.01 level

Discussion

The null hypothesis, there is no significant difference between the groups in the continuation of training category and the aggression need variable, was rejected. There was a significant difference between the continuation of training and discontinuation of training on this variable.

The null hypothesis, there is no significant difference among groups in the age, last grade completed in school, and congruence of occupational choice with skill area training categories in the
aggression need variable, was not rejected. There were no significant differences within the groups in each of these categories on the measured variable, aggression need.

Change Need Variable

Hypothesis

There is no significant difference between the change need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There was a significant difference among the groups in the congruence of occupational choice with skill area training category and the change need variable. The trainees who were undecided about their occupational choice had a significantly higher mean score on the change need scale than the trainees whose occupational choice was congruent with their skill area training. This difference was significant at the 0.05 level. There were no significant differences on the change need variable within the groups of the following categories: age, last grade completed in school, and continuation of training (Table 30).

Discussion

The null hypothesis, there is no significant difference among the groups in the congruence of occupational choice with skill area training on the change need, was rejected. There was a significant
### Table 30

Differences among trainees' age, grade completed, congruence of occupational choice with skill area, and continuation of training on the change need variable

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
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<td>78</td>
<td>52.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>49.43</td>
<td>1.550</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>49.58</td>
<td></td>
</tr>
<tr>
<td>Last grade completed</td>
<td>9 or less</td>
<td>46</td>
<td>50.26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &amp; 11</td>
<td>60</td>
<td>51.25</td>
<td>3.76</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>50.80</td>
<td></td>
</tr>
<tr>
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<td>related</td>
<td>108</td>
<td>49.62</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>50.50</td>
<td>4.545*</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>54.76</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>50.79</td>
<td>.0059</td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>50.88</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level

difference among the groups in the congruence of occupational choice with skill area category on the measured variable, change need.

The null hypothesis, there is no significant difference among groups in the age, last grade completed in school, and continuation of training categories on the change need variable, was not rejected. There were no significant differences within the groups in each of the categories on the measured variable, change need.
Succorance Need Variable

Hypothesis

There is no significant difference between the succorance need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There were no significant differences among the groups of the age, last grade completed in school, congruence of occupational choice with skill area training, and the continuation of training categories on the succorance need variable (Table 31). All of the $F$ ratios were not significant at or beyond the 0.05 level.

Discussion

The null hypothesis using the endurance need variable was not rejected. There were no significant differences within the groups in each of the categories on the measured variable, succorance need.
### TABLE 31

DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE SUCCORANCE NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17-18</td>
<td>78</td>
<td>49.82</td>
<td>.394</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>48.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>49.96</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>9 or less</td>
<td>46</td>
<td>50.65</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 &amp; 11</td>
<td>60</td>
<td>48.47</td>
<td>1.479</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>49.69</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>49.50</td>
<td>.326</td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>50.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>49.06</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>continued</td>
<td>107</td>
<td>49.22</td>
<td>1.075</td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>50.10</td>
<td></td>
</tr>
</tbody>
</table>

**Abasement Need Variable**

**Hypothesis**

There is no significant difference between the abasement need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

**Findings**

There were no significant differences among the groups of the age, last grade completed in school, congruence of occupational choice
with skill area training, and the continuation of training categories on the abasement need variable (Table 32). All of the \( F \) ratios were not significant at or beyond the 0.05 level.

Discussion

The null hypothesis using the abasement need variable was not rejected. There were no significant differences within the groups in each of the categories on the measured variable, abasement need.

Table 32

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>( F )</th>
</tr>
</thead>
<tbody>
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<td>48.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>49.36</td>
<td>0.228</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>48.36</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>48.78</td>
<td></td>
</tr>
<tr>
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<td>0.557</td>
</tr>
<tr>
<td></td>
<td>Completed</td>
<td>52</td>
<td>49.54</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>48.77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>50.99</td>
<td>1.790</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>46.65</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
<td>49.23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>46.98</td>
<td>1.948</td>
</tr>
</tbody>
</table>
Deference Need Variable

Hypothesis

There is no significant difference between the deference need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Findings

There were no significant differences among the groups of the age, last grade completed in school, congruence of occupational choice with skill area training, and the continuation of training categories on the deference need variable (Table 33). All of the F ratios were not significant at or beyond the 0.05 level.

Discussion

The null hypothesis using the deference need variable was not rejected. There were no significant differences within the groups in each of the categories on the measured variable, deference need.

Summary

Hypothesis Five was partially rejected on the basis of the data gathered in this study. Significant differences were found among the groups of the occupational choice category on the following psychological need variables: affiliation, autonomy, and change. Trainees whose occupational choices were congruent with their skill area had a significantly higher mean score on affiliation need than those trainees
TABLE 33

DIFFERENCES AMONG TRAINEES' AGE, GRADE COMPLETED, CONGRUENCE OF OCCUPATIONAL CHOICE WITH SKILL AREA, AND CONTINUATION OF TRAINING ON THE DIFFERENCE NEED VARIABLE

<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>17-18</td>
<td>78</td>
<td>50.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>44</td>
<td>52.59</td>
<td>.695</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>36</td>
<td>50.42</td>
<td></td>
</tr>
<tr>
<td>Last Grade</td>
<td>9 or less</td>
<td>46</td>
<td>52.07</td>
<td></td>
</tr>
<tr>
<td>Grade Completed</td>
<td>10 &amp; 11</td>
<td>60</td>
<td>49.02</td>
<td>1.435</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>52</td>
<td>52.00</td>
<td></td>
</tr>
<tr>
<td>Occupational Choice</td>
<td>related</td>
<td>108</td>
<td>51.70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not related</td>
<td>16</td>
<td>50.94</td>
<td>2.527</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>34</td>
<td>48.26</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>continued</td>
<td>107</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>discontinued</td>
<td>51</td>
<td>49.00</td>
<td>3.542</td>
</tr>
</tbody>
</table>

whose occupational choice was not related to their skill area and those trainees who were still undecided about their occupational choice.

Trainees who were undecided about their occupational choice had significantly higher mean scores on the autonomy and change needs scales than those trainees whose occupational choice was either related or not related to their skill area. Significant differences were found between the continued training group and the discontinued training group on the following psychological need variables: order, intraception, nurturance, affiliation, autonomy, and aggression. Trainees who continued training had significantly higher mean scores on the
order, intraception, nurturance, and affiliation needs than those trainees who discontinued training. Those trainees who discontinued training had significantly higher mean scores on the autonomy and aggression needs scales than those trainees who continued training.

The remainder of Hypothesis Five was not rejected since no significant differences among groups of the age and last grade completed category were found. Eight psychological needs scales did not differentiate among the groups of any of the four categories. These needs were: achievement, dominance, endurance, heterosexuality, exhibition, succorance, abasement, and deference.

Chapter V will contain the summary of each chapter in the dissertation, the conclusion which can be made from the study, and the implications of these findings for guidance and future research.
CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

This chapter is divided into four parts. The first part of this chapter contains a brief summary of the study. The second part is concerned with conclusions based on the findings of this study. The third section of Chapter V is concerned with implications for guidance. The chapter concludes with recommendations for future research directly related to the subject of the present investigation.

Summary

Introduction and Problem for the Study

Previous research related to vocational and occupational variables have demonstrated the following: (1) a relationship between personality variables and occupational choice, (2) occupational groups do vary from one another in personality characteristics, (3) relationships between personality variables and vocational behavior such as choice of college, college major, and vocation, and (4) the importance of psychological needs to vocational personality types. The problem of this study was to determine the relationships among psychological needs, vocational maturity, and skill area training of MDTA trainees.
Hypotheses for the Study

1. There is no significant correlation between vocational maturity and each psychological need of the trainees.

2. There is no significant difference in vocational maturity between groups in each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

3. There is no significant difference in each psychological need between groups in each of the following skill training groups: Clerk-Typist, Cook, Food Service Worker, Auto Service Mechanic, Welder, Electrical Appliance Repair, Baker, General Office Clerk, and Sewing Machine Operator.

4. There is no significant difference between vocational maturity and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

5. There is no significant difference between each psychological need and each of the following: age, last grade completed in school, congruence of occupational choice with skill area training, and continuation of training.

Limitations for the Study

1. The inherent limits of the instruments used to measure vocational maturity and the psychological needs of the subjects used.

2. The limitations the experimenter bias phenomena had on the results of the study.

3. The trainees in the various skill areas cannot be assumed to have the same characteristics of those already employed in the occupational skill area.

Summary of Review of Literature

The review of literature in Chapter II centered around research related to vocational maturity, psychological needs theory, and
vocational choice theory where relevant to the previous mentioned topics. In summation of the review of research relevant to vocational maturity, there appears to be a relationship between vocational maturity and the following: (1) the number of extra curricular activities, (2) socio-economic level of occupational choice, (3) involvement in a guidance program, and (4) decision-making ability.

The developmental theory of vocational choice is based upon a process involving a series of decisions of a discernible developmental pattern. The concept of vocational maturity has been formulated with the basic assumption that vocational choice behavior changes systematically with age and grade as one proceeds through the developmental pattern. Other vocational choice theories have considered personality variables to be more important determinants of vocational choice behavior.

Procedure for the Study

The research design used in this study was based upon the principle of discovering what are the certain specified prevailing conditions. It was concerned with certain characteristics which can be identified and measured.

The setting for this study was the Columbus Adult Education Center, Columbus, Ohio, where a multiphase youth Manpower Development Training program was conducted. The subjects for this study were enrolled in the multiphased MDTA program.

The subjects used in this study were administered the Vocational
Development Inventory (VDI) and the Adjective Check List (ACL) during their first week of training. A record was obtained on each trainee concerning his age, last grade completed in school, his vocational choice when he entered training, and his continuing training for a month.

The data analyses in this study were programmed through a multiple regression program used by the IBM 7090 machine. This program was prepared by the programmer at the Computer Center at The Ohio State University. Hypothesis One was tested by the use of the Pearson product-moment correlation coefficient. Hypotheses Two and Three were tested by using a one-way analysis of variance. Hypotheses Four and Five were tested by a modified two-way analysis of variance to determine the interaction and error of measurement among the variables.

Findings of the Study

This study attempted to answer four questions. Each question will be presented and followed by a summary and discussion of the findings.

Is there a correlation between vocational maturity and psychological needs of MDTA trainees? Significant positive correlations between vocational maturity and the achievement and dominance psychological needs were found. There was no significant correlation coefficients found between vocational maturity and the following needs: endurance, order, intraception, nurturance, affiliation, heterosexuality, exhibition, autonomy, aggression, change, succorance, abasement, and
deference. The need to be outstanding in pursuits of socially recognized accomplishments and the need to be influential and controlling in individual relationships were related to the Vocational Maturity (VM) scale of the Vocational Development Inventory. An adolescent's involvement in the process of vocational choice, his orientation toward the problem of vocational choice, his independence in decision making, his preference for factors in vocational choice, and his conception of vocational choice were not related to the following psychological needs: endurance, order, heterosexuality, exhibition, autonomy, aggression, change, succorance, abasement, and deference. The VM scale was measuring developmental characteristics while the psychological needs scales of the ACL were measuring personality characteristics. A possible reason for this relationship is that the achievement and dominance needs scales are also developmental in nature, while the other thirteen scales were not developmental in nature.

Is there a difference in vocational maturity and psychological needs between groups in the various skill areas used in the study? Significant differences in vocational maturity and psychological needs were found between some of the skill areas. Table 34 shows the profile of each skill area and indicates if there were any significant differences between skill areas on the measured variables.

The following is a list of the skill groups indicating the vocational maturity and psychological needs variables in which they had a significantly higher or significantly lower mean score than other skill groups:
### TABLE 34

**PROFILE OF SKILL AREAS INDICATING SIGNIFICANT DIFFERENCES ON VOCATIONAL MATURITY AND PSYCHOLOGICAL NEEDS VARIABLES**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Vm</td>
<td>1b2a</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
<td>le2a</td>
<td>1a</td>
</tr>
<tr>
<td>Ach.</td>
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<td>la</td>
<td>lb</td>
<td>2a</td>
<td>lc</td>
<td>1d</td>
</tr>
<tr>
<td>Dom.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
<td></td>
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</tr>
<tr>
<td>End.</td>
<td>lb</td>
<td>la</td>
<td>lc</td>
<td>2a</td>
<td></td>
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</tr>
<tr>
<td>Ord.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
<td></td>
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<tr>
<td>Int.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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<tr>
<td>Nur.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
<td></td>
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<tr>
<td>Aff.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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<td>Nat.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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<td>Exh.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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<tr>
<td>Aut.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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</tr>
<tr>
<td>Agg.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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<tr>
<td>Cha.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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<td>Suc.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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<tr>
<td>Aba.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
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<td></td>
</tr>
<tr>
<td>Def.</td>
<td>lb</td>
<td>lb</td>
<td>lc</td>
<td>2a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The letters indicate the skill areas which were significantly difference than each other while the number 1 indicates significantly lower mean scores and the number 2 indicates significantly higher mean scores.*
1. General Office Clerk — significantly higher mean scores on vocational maturity, achievement, intraception, nurturance, and affiliation; and significantly lower mean scores on aggression and change.

2. Electrical Appliance Repair — significantly higher mean scores on vocational maturity, achievement, intraception, and change.

3. Welder — significantly higher mean scores on vocational maturity, intraception, and nurturance; and significantly lower mean scores on vocational maturity, achievement, and change.

4. Food Service — significantly higher mean scores on intraception, and autonomy; and significantly lower mean scores on vocational maturity, achievement, nurturance, affiliation, change and deference.

5. Baker — significantly higher mean scores on vocational maturity, achievement, and dominance; and significantly lower mean scores on vocational maturity and change.

6. Service Station Mechanic — significantly higher mean scores on vocational maturity and aggression; and significantly lower mean scores on achievement, order, intraception, nurturance, affiliation, and deference.

7. Sewing Machine Operator — significantly lower mean scores on vocational maturity, achievement, dominance, order, intraception, affiliation, change, and deference.

8. Cook — significantly higher mean scores on intraception, nurturance, affiliation, and deference; and significantly lower mean scores on vocational maturity, autonomy, and aggression.

9. Clerk-Typist — significantly higher mean scores on vocational maturity, order, and intraception; and significantly lower mean scores on vocational maturity and change.

There are differences between skill areas on the variables used in the study. These differences are not unique to each skill area as demonstrated by the previous list and Table 34. Five needs scales failed to distinguish among the various skill areas. These were: endurance, heterosexuality, exhibition, succorance, and abasement.
It is interesting to note differences in the needs of two skill areas that differ from each significantly on vocational maturity. The General Office Clerk skill area has significantly higher mean scores on vocational maturity, achievement need, intracception need, nurturance need, and affiliation need than the Sewing Machine Operator skill area. This means the General Office Clerk skill area has a high vocational maturity score and also has a greater need to:

1. Be outstanding in pursuits of socially recognized significance;
2. Engage in attempts to understand one's own behavior or the behavior of others;
3. Engage in behaviors which extend material or emotional benefits to others; and
4. Seek and sustain numerous personal friendships than the Sewing Machine Operator skill area.

These statements cannot be applied to other skill area combinations which differ significantly from each other on the vocational maturity variable because their profiles include other needs (Table 34).

It can be concluded that there are differences in vocational maturity and psychological needs among groups in the various skill areas used in the study. These differences were not unique to each skill area because there was an overlapping of needs from one skill area profile to another.

Is there a relationship between trainees' vocational maturity and each of the following: age, last grade completed in school, congruence of occupational choice with skill area and continuation of training? Significant differences among the groups within the last grade completed category on the vocational maturity variable were found. Those trainees who were graduated from high school had a
significantly higher mean score on the vocational maturity scale than those trainees who did not graduate from high school. No significant differences were found among the groups in the age, congruence of occupational choice with skill area, and the continuation of training categories. These results partially support other findings that vocational maturity is related with last grade completed in school. Contrary to other findings, this study found that vocational maturity is not related to age. The possible reason for this may be the fact that age range of the subjects used in this study was narrow. Congruence of occupational choice with skill area and the continuation of training have little relation to the vocational maturity scale. The reason for these results may be that, in an MDTA setting, these two categories were not affected by the vocational maturity of the trainees since they were not developmental in nature.

Is there a relationship between trainees' psychological needs and each of the following: age, last grade completed in school, congruence of occupational choice with skill area, and continuation of training? There were no significant differences among the groups in the congruence of occupational choice with skill area category on the following need variables: affiliation, autonomy, and change. Trainees whose occupational choices were congruent with skill area, have a need to seek and sustain numerous personal friendships. They have less need to act independently of others and to engage in behaviors which attack or hurt others than trainees whose occupational choices were incongruent with their skill area. These results would
support the concept that trainees, whose occupational choices were congruent with skill area seek more friends, are more conforming, and not too aggressive.

Congruence of occupational choice with skill area showed no relationship to the following psychological needs: achievement, dominance, endurance, order, intraception, nurturance, heterosexuality, exhibition, succorance, and deference.

There were significant differences between groups in the continuation of training category on the following need variables: order, intraception, nurturance, affiliation, autonomy, and aggression. Trainees who continued training have more need to place special emphasis on neatness, organization, and planning of their activities; more need to engage in attempts to understand their own behavior or the behavior of others; more need to engage in behavior which extends material or emotional benefits to others, and a higher need to seek and sustain numerous personal friendships than trainees who discontinued training. Trainees, who discontinued training, have a higher need to act independently of others, and a higher need to engage in behaviors which attack or hurt others, than trainees who continue training. Those trainees who have psychological characteristics which are more computable with deference to classroom activities have more opportunity to continue training than those trainees who have psychological characteristics which are less computable with deference to classroom activities. The needs scales can be used in an MDTA
setting to differentiate between those who continue training and those who discontinue training.

There were no significant differences among the groups of the age category and the last grade completed category on the following need variables: achievement, dominance, endurance, order, intraception, nurturance, affiliation, heterosexuality, exhibition, autonomy, aggression, change, succorance, abasement, and deference.

Five of the psychological needs scales failed to distinguish among the skill areas and the categories age, last grade completed in school, congruence of occupational choice with skill area, and continuation of training. These needs scales were endurance, heterosexuality, exhibition, succorance, and abasement.

Conclusions

1. The Vocational Development Inventory - Vocational Maturity scale appears to be related to the middle class values of the need to be outstanding in pursuits of socially recognized accomplishments (achievement need) and the need to be influential and controlling in individual relationships (dominance need).

2. It appears that a trainee's psychological needs can be met through his being in most any skill area since there was so much overlapping of the needs scales from one skill area to another.

3. The vocational maturity scale appears to be related to the developmental characteristic - last grade completed in school - of trainees in an MDTA setting.

4. Accepting the assumption that the purpose of the MDTA program is to train or retrain the unemployed, it appears that trainees with psychological characteristics which are compatible with deference to classroom activities continue training; whereas, those trainees who discontinue training during the first month demonstrate psychological characteristics which are less compatible to classroom activities.
Implications

1. The VM scale of the VDI appears to be related to the developmental characteristic, last grade completed in school, as well as the personality characteristics, the achievement need and the dominance need. Counselors should be aware of this relationship when they interpret the VM scale as it appears to be measuring values as well as developmental characteristics.

2. The results of the study point out that various skill areas differ in vocational maturity. Counselors and persons involved in the occupational choice process should be aware of these differences since this may affect one's level of job satisfaction.

3. Since a trainee's needs can be met through his entering most any skill area, MDTA programs should place more emphasis on activities which may be more influential in helping a trainee adjust to training and less emphasis on trying to meet his psychological needs.

4. The MDTA program used in this study appears to have dropouts which are similar to public school dropouts. The MDTA program is part of the Anti-Poverty Program and many of the trainees are disadvantaged youth who display socially unaccepted behavior to learning. Different approaches to teaching - learning in an MDTA setting are needed to help the disadvantaged unemployable youth.

5. The psychological needs scales are related more to continuation of training than age, last grade completed in school, and congruence of occupational choice with skill area. The needs scales can be used in an MDTA setting to differentiate between those trainees who continue training and those who discontinue training.

Recommendations

1. Replication of this study to determine the relationships among psychological needs, vocational maturity, and skill area training of public vocational school seniors can be used to point out differences or similarities between MDTA trainees and public vocational school seniors.
2. Replication of this study to determine the relationships among psychological needs, vocational maturity, and skill area training of employees in the various skill area occupations can be used to point out differences or similarities between MDTA trainees and those already employed in the skill area.

3. Additional personality inventories may be helpful in the identification of other personality traits related to vocational maturity.

4. Research involving random sampling of MDTA trainees over a period of time is needed to determine if the results of this study can be generalized for each skill area.
APPENDIX A

VOCATIONAL DEVELOPMENT INVENTORY: ATTITUDE SCALE

DIRECTIONS:

There are a number of statements about occupational choice and work listed in this booklet. Occupational choice means the kind of job or work that you think you will probably be doing when you finish all of your schooling.

If you agree or mostly agree with the statement, use your pencil to blacken the circle in the column headed T on the separate answer sheet. If you disagree or mostly disagree with the statement, blacken the circle in the column headed F on the answer sheet. Be sure your marks are heavy and black. Erase completely any answer you wish to change.

Part I

1. Once you choose a job, you can't choose another one.
2. In order to choose a job, you need to know what kind of person you are.
3. I plan to follow the line of work my parents suggest.
4. I guess everybody has to go to work sooner or later, but I don't look forward to it.
5. A person can do any kind of work he wants as long as he tries hard.
6. I'm not going to worry about choosing an occupation until I'm out of school.
7. Your job is important because it determines how much you can earn.
8. Work is worthwhile mainly because it lets you buy the things you want.
9. The greatest appeal of a job to me is the opportunity it provides for getting ahead.
10. I often daydream about what I want to be, but I really haven't chosen a line of work yet.

11. Knowing what you are good at is more important than knowing what you like in choosing an occupation.

12. Your parents probably know better than anybody which occupation you should enter.

13. If I can just help others in my work, I'll be happy.

14. Work is dull and unpleasant.

15. Everyone seems to tell me something different, until now I don't know which kind of work to choose.

16. I don't know how to go about getting into the kind of work I want to do.

17. Why try to decide upon a job when the future is so uncertain.

18. I spend a lot of time wishing I could do work that I know I cannot ever possibly do.

19. I don't know what courses I should take in school.

20. It's probably just as easy to be successful in one occupation as it is in another.

21. By the time you are 15, you should have your mind pretty well made up about the occupation you intend to enter.

22. There are so many things to consider in choosing an occupation, it is hard to make a decision.

23. I seldom think about the job I want to enter.

24. It doesn't matter which job you choose as long as it pays well.

25. You can't go very far wrong by following your parents' advice about which job to choose.

26. Working is much like going to school.

27. I am having difficulty in preparing myself for the work I want to do.

28. I know very little about the requirements of jobs.

29. The job I choose has to give me plenty of freedom to do what I want.
30. The best thing to do is to try out several jobs, and then choose the one you like best.

31. There is only one occupation for each person.

32. Whether you are interested in a particular kind of work is not as important as whether you can do it.

33. I can't understand how some people can be so set about what they want to do.

34. As long as I can remember I've known what kind of work I want to do.

35. I want to really accomplish something in my work—to make a great discovery or earn lots of money or help a great number of people.

36. You get into an occupation mostly by chance.

37. It's who you know, not what you know, that's important in a job.

38. When it comes to choosing a job, I'll make up my own mind.

39. Choose an occupation which gives you a chance to help others.

40. When I am trying to study, I often find myself daydreaming about what it will be like when I start working.

41. I have little or no idea of what working will be like.

42. Choose an occupation, then plan how to enter it.

43. I really can't find any work that has much appeal to me.

44. Choose a job in which you can someday become famous.

45. If you have some doubts about what you want to do, ask your parents or friends for advice and suggestions.

46. Choose a job which allows you to do what you believe in.

47. The most important part of work is the pleasure which comes from doing it.

48. I keep changing my occupational choice.

49. As far as choosing an occupation is concerned, something will come along sooner or later.

50. Why worry about choosing a job when you don't have anything to say about it anyway.
APPENDIX B

THE ADJECTIVE CHECK LIST

DIRECTIONS:

This booklet contains a list of adjectives. Please read them quickly and put an x in the box beside each one you would consider to be self-descriptive. Do not worry about duplications, contradictions, and so forth. Work quickly and do not spend too much time on any one adjective. Try to be frank, and check those adjectives which describe you as you really are, not as you would like to be.

1. absent-minded  16. artistic  31. cheerful
2. active  17. assertive  32. civilized
3. adaptable  18. attractive  33. clear-thinking
4. adventurous  19. autocratic  34. clever
5. affected  20. awkward  35. coarse
6. affectionate  21. bitter  36. cold
7. aggressive  22. blustery  37. commonplace
8. alert  23. boastful  38. complaining
9. aloof  24. bossy  39. complicated
10. ambitious  25. calm  40. conceited
11. anxious  26. capable  41. confident
12. apathetic  27. careless  42. confused
13. appreciative  28. cautious  43. conscientious
14. argumentative  29. changeable  44. conservative
15. arrogant  30. charming  45. considerate
| 46. contented  | 72. dull       | 98. fussy     |
| 47. conventional | 73. easy going | 99. generous  |
| 48. cool        | 74. effeminate | 100. gentle   |
| 49. cooperative | 75. efficient  | 101. gloomy   |
| 50. courageous  | 76. egotistical| 102. good-looking |
| 51. cowardly    | 77. emotional  | 103. good-natured |
| 52. cruel       | 78. energetic  | 104. greedy   |
| 53. curious     | 79. enterprising| 105. handsome |
| 54. cynical     | 80. enthusiastic| 106. hard-headed |
| 55. daring      | 81. evasive    | 107. hard-hearted |
| 56. deceitful   | 82. excitable  | 108. hasty    |
| 57. defensive   | 83. fair-minded| 109. headstrong |
| 58. deliberate  | 84. fault-finding| 110. healthy |
| 59. demanding   | 85. fearful    | 111. helpful  |
| 60. dependable  | 86. feminine   | 112. high-strung |
| 61. dependent   | 87. fickle     | 113. honest   |
| 62. despondent  | 88. flirtatious| 114. hostile  |
| 63. determined  | 89. foolish    | 115. humorous |
| 64. dignified   | 90. forceful   | 116. hurried  |
| 65. discreet    | 91. foresighted| 117. idealistic |
| 66. disorderly  | 92. forgetful  | 118. imaginative |
| 67. dissatisfied| 93. forgiving  | 119. immature |
| 68. distractible| 94. formal     | 120. impatient |
| 69. distrustful | 95. frank      | 121. impulsive |
| 70. dominant    | 96. friendly   | 122. independent |
| 71. dreamy      | 97. frivolous  | 123. indifferent |
124. individualistic
125. industrious
126. infantile
127. informal
128. ingenious
129. inhibited
130. initiative
131. insightful
132. intelligent
133. interests narrow
134. interests wide
135. intolerant
136. inventive
137. irresponsible
138. irritable
139. jolly
140. kind
141. lazy
142. leisurely
143. logical
144. loud
145. loyal
146. mannerly
147. masculine
148. mature
149. meek
150. methodical
151. mild
152. mischievous
153. moderate
154. modest
155. moody
156. nagging
157. natural
158. nervous
159. noisy
160. obliging
161. obnoxious
162. opinionated
163. opportunistic
164. optimistic
165. organized
166. original
167. outgoing
168. outspoken
169. painstaking
170. patient
171. peaceable
172. peculiar
173. persevering
174. persistent
175. pessimistic
176. planful
177. pleasant
178. pleasure-seeking
179. poised
180. polished
181. practical
182. praising
183. precise
184. prejudiced
185. preoccupied
186. progressive
187. prudish
188. quarrelsome
189. queer
190. quick
191. quiet
192. quitting
193. rational
194. rattlebrained
195. realistic
196. reasonable
197. rebellious
198. reckless
199. reflective
200. relaxed
201. reliable
129

202. resentful 228. show-off 254. suggestible
203. reserved 229. shrewd 255. sulky
204. resourceful 230. shrewd 256. superstitious
205. responsible 231. silent 257. suspicious
206. restless 232. simple 258. sympathetic
207. retiring 233. sincere 259. tactful
208. rigid 234. slipshod 260. tactless
209. robust 235. slow 261. talkative
210. rude 236. sly 262. temperamental
211. sarcastic 237. smug 263. tense
212. self-centered 238. snobbish 264. thankless
213. self-confident 239. sociable 265. thorough
214. self-controlled 240. soft-hearted 266. thoughtful
215. self-denying 241. sophisticated 267. thrifty
216. self-pitying 242. spendthrift 268. timid
217. self-punishing 243. spineless 269. tolerant
218. self-seeking 244. spontaneous 270. touchy
219. selfish 245. spunky 271. tough
220. sensitive 246. stable 272. trusting
221. sentimental 247. steady 273. unaffected
222. serious 248. stern 274. unambitious
223. severe 249. stingy 275. unassuming
224. sexy 250. stolid 276. unconventional
225. shallow 251. strong 277. undependable
226. sharp-witted 252. stubborn 278. understanding
227. shiftless 253. submissive 279. unemotional
| 280. | unexcitable | 287. | unselfish | 294. | whiny  |
| 281. | unfriendly | 288. | unstable  | 295. | wholesome  |
| 282. | uninhibited | 289. | vindictive | 296. | wise  |
| 283. | unintelligent | 290. | versatile | 297. | withdrawn  |
| 284. | unkind | 291. | warm | 298. | witty  |
| 285. | unrealistic | 292. | wary | 299. | worrying  |
| 286. | unscrupulous | 293. | weak | 300. | zany  |
APPENDIX C

SKILL OBJECTIVES OF SKILL AREAS

The following are skill objectives of the various youth multi-
occupational programs used in this study.

**Bakers** - Uses a recipe as a guide, bakes bread, rolls, biscuits and similar pastry sweets by weighing ingredients in mixer, kneading the dough, allowing the dough to rise. Places dough in proper heating receptacles, inserting in oven for required length of time to insure proper balancing at the correct temperature.

**Sewing Machine Operator** - Uses a heavy duty, high speed electric powered industrial sewing machine, performs the sewing operations on fabrics and various materials to produce shoes, draperies, upholstery, awnings and textile bags. Places spools of thread and wind bobbins into needle's eye. Starts machine and guides material through machine.

**Electrical Appliance Serviceman** - Services and installs major electrical appliances and equipment in customers' homes or establishments. Installs and repairs refrigerators, ranges, washing machines and dryers. Examines appliance to be repaired, takes apart if necessary to determine cause of defective operation. Replaces worn or defective parts and uses various types of testing equipment to ascertain that the appliance is working properly.

**Automobile Service Station Attendant/Mechanic** - Performs minor repair and tune-up of motor vehicles; replaces and adjusts fuel, electrical and cooling system components such as carburetor, fuel and water pumps, distributors, voltage regulator, coil and generator; replaces and adjusts system component parts such as shock absorbers, mufflers, brake shoes and wheel bearings; installs auto accessories such as oil and air filters, windshield wiper blades, fan belts and batteries; supplies cars or trucks with oil, water, air
and gasoline; changes oil and lubricates chassis; and changes and repairs tires.

Welder - Set up and operate welding equipment including acetylene, arc, and inert gas, to perform welding operations on both light and heavy gauge metal; weld a variety of metal and metal parts; perform welding operations on both flat and irregular surfaces, and on pipe; fit metal parts or pieces together prior to welding to insure accuracy and quality of weldment; perform all welding operations according to blue print specifications, when so directed.

Cook - Prepares, seasons, cooks by appropriate method; soups, meats, desserts, vegetables and other foodstuffs such as salads, gravies, sauces and dressings. Requisitions supplies as needed. Is typically hired in a hotel, restaurant or other mass feeding establishment. May assist chef or head cook. May be in charge of a specific type of food preparation.

Food Service Worker - Performs one or more of the following: Works in a kitchen, bakery, dining room, dish room, or diet kitchen in assisting in preparation and serving of foods; works with all types of basic dishes including meats, seafoods, eggs, poultry, vegetables, fruits, and special diet supplements. May open food packages; may apportion foods to customers. Assists chef or cook in preparing, slicing, carving, blending and other such functions. May keep records; may follow menus.

Clerk - Performs one or more of the following duties: Files correspondence, reports and records; types letters and reports; makes out bills, computes payroll; operates office machinery, compiles reports; addresses mail; sorts and distributes incoming mail; takes telephone calls; tabulates and posts data in record books; gives information to visitors, keeps supply inventory; and keeps simple record books.

Clerk-Typist - General clerical work requiring no special training except the ability to type 40-45 words per minute accurately. Will do copy work, type letters, reports and other matters from rough draft or corrected copy; files; makes out bills, answers telephone, sorts and distributes incoming mail, addresses outgoing mail and does routine clerical work.
BIBLIOGRAPHY

Books


Articles and Periodicals


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Yearbooks


Unpublished Material


Other Sources