THE SELF CONCEPT OF OCCUPATIONAL ABILITY AND RELATED CHARACTERISTICS IN COMMUNITY COLLEGE OCCUPATIONAL AND ACADEMIC STUDENTS

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This is to certify that the

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ABSTRACT

THE SELF CONCEPT OF OCCUPATIONAL ABILITY AND RELATED CHARACTERISTICS IN COMMUNITY COLLEGE OCCUPATIONAL AND ACADEMIC STUDENTS

By

Ronald Nels Oman

This study proposed to: (1) determine relationships among selected career development factors in community college students. These factors included perceived other's evaluation of occupational ability, perceived other's expectation of occupational choice, the self concept of occupational ability, occupational aspirations, and occupational plans. (2) Investigate relationships between these career development factors and socio-economic background, previous occupational experience, and previous occupational training. (3) Compare students on career development factors. These comparisons included male versus female, academic versus occupational, previous versus no previous occupational education, high versus low socio-economic status, and all possible interactions of these comparisons.

Subjects included 346 academic and 129 occupational freshman students of Jackson Community College, Jackson, Michigan.

Social interaction theories of George Herbert Mead provided the theoretical basis for this study.

The self concept of occupational ability and perceived other's evaluation of occupational choice were measured in two ways: by scale instruments and by answers to questions relating to socio-economic status levels of occupations. Self concept of occupational ability scales had been developed by Brookover and associates of Michigan State University for previous research. Perceived other's evaluations of occupational ability scales were devised by the researcher and were directly parallel to the self concept of occupational ability scales. Other career development and background measures were obtained through answers to questions relating to socio-economic levels of occupations.

Relationships were analyzed with Pearson Product-moment correlation coefficients. The level of significance for each separate test was $p < .001$. Differences were analyzed by four-way multivariate analysis of variance at the significance level of $p < .05$.

Major Findings

Approximately one-third of the students named a parent as the most significant other person influencing

occupational choice. Friends, teachers, work supervisors, and employers were also mentioned frequently.

The theoretical position of the study was partially supported by its findings. Meaningful relationships among scale scores indicated that the student evaluates his occupational ability in the same way he thinks his occupationally significant other does. This was true generally and in the occupation of the student's greatest interest.

Meaningful interrelationships on socio-economic measures indicated that when considering the socio-economic status level of his career potential, the student reflects the evaluation and expectation which he feels his occupationally significant other has for him.

Differences found between academic and occupational students indicated that academic students perceived their occupationally significant others to evaluate their career potentials higher and to expect higher levels of occupational choice of them. Conditioned on this, academic students considered their career potentials to be higher than did occupational students.

Differences were found between male and female students indicating that males perceived their occupationally significant others to evaluate them higher and to expect higher levels of occupational choice from them. Conditioned on this, males considered their career potentials to be higher than did females.

High socio-economic males and females demonstrated great variability on level of perceived other's evaluation of occupational ability and perceived other's expectation of occupational choice. Low socio-economic males and females were found to be quite similar on these two factors.

It was suggested these findings be considered when planning career guidance and occupational training programs in order to enhance the career development process. Also recommended was validation research.

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By

Ronald Nels Oman

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CHAPTER I

THE PROBLEM

The problem of this study is to investigate the occupational self concept and other factors thought to influence career choices of community college freshmen. Also sought are comparisons of academic and occupational students with regard to these factors.

This investigation is based in part on the social-interaction theories of George Herbert Mead[1] which hold that a person's self concept develops from interaction between himself and his social environment. It follows that the individual's self concept of his occupational ability develops from interaction between himself and key other persons to whom he relates most strongly. The individual will normally evaluate his occupational ability in the same way he thinks these significant others evaluate it. He will expect of himself what he thinks they expect of him. The individual internalizes these evaluations and

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[1]George Herbert Mead, Mind, Self and Society (Chicago: The University of Chicago Press, 1934), p. 158. (Hereinafter referred to as Mind, Self and Society.)

expectations. They become part of the evaluating definition of himself, which he actualizes through occupational aspiration (his ideal career) and ultimate occupational choice.

Brookover and Gottlieb[2] in discussing recruitment and career choice suggest three categories of factors: (1) self-identifications (capacities, interests, and preferences); (2) definitions of reality (which deals with the individual's perception of others, opportunities, and choice of occupation); and (3) reciprocal relations with significant persons (the obligations and rights of reciprocal relationships with others such as parents, teachers, or friends).

Questions to be Answered

The foregoing make it clear that many background factors influence career choice. It further suggests the questions underlying the hypotheses of this study. These questions are:

1. Who is the key person having the most influence on career choices?
2. How do community college students think their key others evaluate their occupational abilities?

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[2]Wilbur Brookover and David Gottlieb, A Sociology of Education (New York: American Book Company, 1964), p. 301. Cited by Carroll Wamhoff, "Self Concept of Vocational Ability: Its Relation to Selected Factors in Career Development" (unpublished Ph.D. dissertation, Michigan State University, 1966), p. 47. (Hereinafter referred to as "Self Concept of Vocational Ability.")

3. What career levels do they think their key others expect them to attain?
4. What careers best represent their abilities?
5. What are their ideal careers?
6. What careers do they really expect to attain?
7. Are the answers to these questions related to each other?
8. Finally, what differences, if any, are there between academic and occupational students?
9. Certain background factors, including socio-economic background, previous work experience, and previous occupational training have been thought to influence career development. This study seeks to determine: (a) if there are any relationships between these and the career development information just mentioned, and (b) if occupational and academic students differ, can these differences be explained by any one of these background factors or by any combination of them?

Purpose of the Study

The purpose of this study is to provide information on which to base community college programming. This information should provide additional insight into the career development process and provide information which can be used:

1. In community college career guidance programs.
2. In community college occupational curriculum development.
3. By teacher education institutions in preparing community college occupational instructors and counselors.
4. By community college occupational faculty for an understanding of the career development process; this will enhance their effectiveness as teachers.

Importance of the Problem

Four important concerns justify the present study.

1. The Human Resource. The individual today is looked upon as a human resource. The focus of legislation of the 1960's including the Economic Opportunity Act, the Manpower Development and Training Act, and the Vocational Education Acts of 1963 and 1968, has been toward helping the individual maximize his potential to better serve himself and others.

2. Demands on the Community College. More and more occupations require higher education. Unprecedented numbers of community colleges are being established to, in part, meet these requirements. Since the complex nature of our present society requires more highly trained individuals than ever before, a more detailed understanding of the variables associated with career development during

the college years may assist curriculum developers, instructors, and counselors in their efforts to serve students and society.

Sproull[3] has noted the significance and complexity of the junior community college movement. Blocker has indicated the uniqueness of the community college as it tries to serve educational needs neglected in secondary schools, four-year colleges, and universities. According to him the open door policies of most public community colleges encourage a heterogeneous student body with a broad cultural heritage.[4]

3. Need for Research. Sproull[5] has also noted that past research has been limited to identifying community college student characteristics and traits rather than providing data which could suggest programs and services to help these students successfully complete education and training beyond high school.

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[3]Kenneth Hugh Sproull, "The Relationship Between High School Self-Concept of Academic Ability and Subsequent Academic Achievement at the Community College" (unpublished Ph.D. dissertation, Michigan State University, 1966), p. 6. (Hereinafter referred to as "Concept of Academic Ability and Subsequent Academic Achievement.")

[4]Clyde E. Blocker, Robert H. Plummer, and Richard C. Richardson, Jr., The Two-Year College: A Social Synthesis (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965), pp. 14-15. (Hereinafter referred to as The Two-Year College.)

[5]Sproull, "Concept of Academic Ability and Subsequent Academic Achievement," p. 5.

He states that most studies have concentrated on comparing community college students with university students, while noting some research which indicates as much student variation within community colleges as between two- and four-year colleges. Sproull concludes that very little research has been of a theoretical nature whereby hypotheses of student behavior in the community college have been derived and tested.[6]

The community college, then, is a relatively new type of institution with a heterogeneous student body which serves varied needs. Little research has focused on career development processes in its students. This would appear to partially justify the present study.

4. Need to Understand the Self Concept. This study is important for as Super has concluded,

> . . . we know little about the constructs which individuals employ in thinking about themselves or about occupations. Even less is known about the manner in which self and occupational concepts are utilized in the making of vocational choice.[7]

Further, if adequate measures of the many dimensions of the self concept can be devised, further advances in its understanding will be possible.[8]

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[6] Ibid., p. 5.

[7] Donald Super, et al., Career Development: Self Concept Theory (New York: College Entrance Examination Board, 1963), p. 60.

[8] Ibid., p. 61.

The research assumptions of the Brookover[9,10,11] studies, have established the occupational self concept as a limiting factor in achievement and career development processes. Additional study is needed to verify these assumptions.

Delimitation

The findings of this research are technically limited to the cross-sectional population of this study which consists of 609 students from Jackson Community College who responded to the questionnaire during the period April 1 through July 30, 1970. Working with subjects from one institution has the obvious advantage of ensuring greater homogeneity of population characteristics. This

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[9] Wilbur B. Brookover, Ann Paterson, and Schailer Thomas, Self-Concept of Ability and School Achievement, U.S. Office of Education Cooperative Research Report Project No. 845 (East Lansing, Mich.: Office of Research and Publications, Michigan State University, 1962).

[10] Wilbur B. Brookover, Jean LePere, Donald Hamacheck, Schailer Thomas, and Edsel Erickson, Self-Concept of Ability and School Achievement, II, Report of Cooperative Research Project No. 1636, U.S. Office of Education, "Improving Academic Achievement Through Self-Concept Enforcement" (East Lansing, Mich.: Bureau of Educational Research Services, College of Education, Michigan State University, 1965).

[11] Wilbur B. Brookover, Edsel L. Erickson, and Lee M. Joiner, Self-Concept of Ability and School Achievement, III, Final Report on Cooperative Research Project No. 2831, U.S. Office of Education, "Relationship of Self-Concept to Achievement in High Schools" (East Lansing, Mich.: Human Learning Research Institute, Michigan State University, 1967). (Hereinafter referred to as Self-Concept, III.)

especially is true if one considers the fact that community colleges in striving to meet local needs may have educational programs not duplicated in other community college districts. Likewise, an institution may lack educational programs offered in other community college districts.

Since this investigation is of an exploratory nature, previously untested methods are employed as criterion measures.

General Theoretical Framework of the Study

This study is based on the symbolic interactionist theory of George Herbert Mead which is summarized in the following statement:

> I have pointed out then, that there are two general stages in the full development of the self. At the first of these stages, the individual's self is constituted simply by an organization of the particular attributes of other individuals toward himself and toward one another in the specific social acts in which he participates with them. But at the second stage in the full development of the individual's self that self is constituted not only by an organization of these particular individual attitudes, but also by an organization of the social attitudes of the generalized other or the social group as a whole to which he belongs.[12]

From Mead's point of view, persons will tend to behave in ways which they perceive others to consider appropriate for them. Mead stated that " . . . no hard and fast line can be drawn between our own selves and the

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[12]Mead, Mind, Self, and Society, p. 158.

selves of others. . . . "[13] He defined a Social Theory of Consciousness as: " . . . that particular character and aspect of the environment of the individual human experience which is due to human society, a society of other individual selves who take the attitude of the other toward themselves."[14]

Young people, from the symbolic interaction point of view, are guided in vocational development and subsequent career choice by perceived expectations of others. Mead's theory contends that the self concept is a dynamic process which is flexible and changes through the perceptual interaction of the individual and his social environment.

Brookover and others, have conducted longitudinal studies of school learning based on the symbolic interaction theory of behavior. These studies, through self report instruments, have attempted to tap a general self concept of academic ability and self concept of ability in specific subject areas. The basic postulates of this research are that school learning is limited by the student's self concept of his ability: through social interaction of significant other persons (parents, friends, other relatives) a student develops a concept of his ability level. In other words, if parents are important

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[13] Ibid., p. 164.

[14] Ibid., p. 171.

in the life of a student and that student perceives his parents as having a high regard for his ability, he likewise will have a high regard for his own ability; the self concept of ability is a necessary although not sufficient element in success.

The Self Concept Delimited

According to Brookover, the self concept refers to one's ability to achieve in a given set of tasks as compared to others engaged in the same tasks. The Brookover studies were concerned with the self concept of academic ability but suggested that other concepts of self may be tested, referring to other behavior areas which may be different than those involving school performance.

From the Brookover viewpoint, the self concept of ability is not to be considered as a trait or an entity or an underlying mental structure. Rather it refers to symbolic behavior and, as such, to an empirical event. When an individual publicly and literally refers to his ability to carry out specific tasks with reference to others, we observe what we refer to as "self-concept of ability behavior." Measurement of such behavior excludes statements of worthiness, desire, and aspirations. It also excludes other behavior measurements such as responses to a projective test, as questions about how a student likes school.[15]

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[15]Brookover, Erickson, and Joiner, Self-Concept, III, p. 9.

Role Relationships

One of Brookover's assumptions is that the student must perceive that others expect high achievement if he is to attempt high achievement. Because others may influence behavior in this way, it is important to determine who are those others that provide students with their self concepts. This person or persons may be referred to as "the significant other(s)."[16]

A person may learn that he is obliged by certain others to achieve at particular levels, or else jeopardize his relationship with them. Such a relationship is termed a "reciprocal role relationship"[17] in that it is based on reciprocity of actions. Such a relationship exists when the individual " . . . enacts a social role, which is defined with reference to another (reciprocal) role, as in the relationship between patient and doctor . . . " or of father and sons or friends.[18]

Kelman also notes, " . . . if an individual finds a particular relationship satisfying, he will tend to behave in such a way as to meet the expectations of the

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[16] Ibid., p. 14.

[17] Herbert C. Kelman, "Processes of Opinion Change," Public Opinion Quarterly, XXV (Spring, 1961), 64, as quoted in Brookover, Erickson, and Joiner, Self-Concept, III, p. 15.

[18] Ibid., p. 15.

other,"[19] he will behave according to what he perceives to be the obligations and rights of that relationship.[20]

The relevancy of the reciprocal role relationship rests upon the assumption that a student " . . . in organizing his behavior will consider supposed opinion and attitudes of others. He recognizes what people would say 'if they know' or what they will say 'when they know.'"[21] Brookover indicates belief that parents, friends, and teachers, under such conditions, will have their greatest influences over the behavior of the student.[22]

To summarize, the Brookover studies assessed the self concept from a social-interactional frame of reference. These studies, through self report instruments have attempted to tap a self concept of academic ability in general and in specific subject areas.

The Occupational Self Concept

Research on this construct was conducted on those students who had participated in the Self Concept of Academic Ability Studies when they were in the grades

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[19] Ibid., p. 16.

[20] Ibid., p. 15.

[21] Alfred R. Lindesmith and Alselm L. Strauss, Social Psychology (New York: The Dryden Press, 1956), p. 394, quoted in Brookover, Erickson, and Joiner, Self-Concept, III, p. 16.

[22] Brookover, Erickson, and Joiner, Self-Concept, III, p. 16.

seven through twelve and who were now two years post-high school. Direct information concerning career development and occupational choice was obtained.

This study was based on the same assumptions as the SCA studies. Accordingly, a scale patterned after that of the Brookover studies was developed to measure the construct "Self-Concept of Vocational Ability."[23]

This study was conducted by Wamhoff. His findings included: (1) no significant relationship between the self concept of vocational ability and socio-economic status levels; (2) parents are by far most often named as significant others in occupational choice; (3) vocational and non-vocational students do not differ significantly with regard to self concept of vocational ability; (4) no significant relationship between the self concept of vocational ability and levels of occupational choice.

Wamhoff speculated the self concept of vocational ability might not be related to socio-economic levels of

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[23]This study was organized by Wilbur B. Brookover of Michigan State University and received some financial support from the Human Learning Research Institute. Others participating in its development were John Major, Harro Kahler, and Richard Gigliotti. Carroll Wamhoff performed validation studies on the SCVA scales, was the major contributor to development of that scale, and had major responsibility for gathering data. This data is available for any follow-up studies.

occupations. Students preparing for occupations requiring less than baccalaureate degree education, may possess a vocational self concept equal to that of their four-year degree aspiring counterparts. He speculated that the self concept of vocational ability as measured by the SCVA scales operates independently of the socio-economic status level of one's chosen occupation.

Noting a limitation of his study, Wamhoff recommented development and testing of a scale instrument to measure perceived evaluation of vocational ability by significant other persons who are significant in occupational choice.[24]

Occupational Experience and Training

Borow has indicated that work experience may help a youth better understand what manner of person he is--what strengths, limitations, aspirations, and personal values characterize him. These personal attributes are frequently shaped and fortified by the work experience.[25]

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[24]Wamhoff, "Self Concept of Vocational Ability," pp. 124, 140-43.

[25]Henry Borow, "A Critical Assessment of Vocational Education: Some Unflattering Observations" (paper presented at the National Conference on Cooperative Vocational Education, conducted by the University of Minnesota under contract with the U.S. Office of Education, Minneapolis, February 26, 1969). (Hereinafter referred to as "A Critical Assessment.")

To summarize, the individual assigns to himself the judgment and values of significant other persons--those on whom he is dependent for emotional gratification, such as parents, peers, and relatives. The individual will evaluate his own behavior in terms of how he perceives significant other persons will evaluate that behavior. Certain values will be important to him because he perceives these values as important to his significant others. His concept of self will reflect his perception of how significant other persons think about him. Brookover and associates have developed scale measures of the self concept of academic ability in general and in specific academic subject areas. They also developed a scale to measure the self concept of vocational ability, and Wamhoff has recommended a similar instrument be developed to measure perceived others' evaluation of vocational ability. Vocational experiences, including training and work experience, are considered important in the change and development of the vocational self concept.

The theories, research findings, and conclusions presented herein suggest further study of the construct "Self Concept of Occupational Ability." The Wamhoff[26] study has suggested in part the objectives and procedures

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[26]Wamhoff, "Self Concept of Vocational Ability."

used in this study. Key definitions and the variables selected are listed and defined as follows.

Definitions

The significant other: the person upon whom the subject principally depends for emotional gratification in terms of his career plans and how well he does occupationally. This person may be a parent, or parents, a peer, a sibling, an instructor, a co-worker, a job supervisor, etc.

Occupational students are full-time freshmen who have reported themselves as participating in one of the occupational curricula offered by the college. Such curricula is designed to prepare them for careers requiring less than baccalaureate degree college preparation. Such programs include general business, secretarial training, practical nursing, technical, and law enforcement training.

Academic students are full-time freshmen who have reported themselves as participating in programs of study designed to prepare them for transfer to a four-year institution for completion of a baccalaureate degree. Such programs include liberal arts, science, engineering, education, and business administration.

Full-time freshman students are those students who meet Jackson Community College's criteria for a full-time freshman student: having enrolled in twelve or more semester hours of course work and having accumulated less than thirty hours prior to the semester in which enrolled. No age ranges or limitations are implied.

Career development (or vocational development) is the process of growth and learning which underlies the sequence of vocational behavior. This emphasizes the developmental nature of vocational choice and adjustment through various stages including vocational orientation, choice, entry, adjustment, and retirement.[27]

Variables Selected for the Study

Independent

Background (Control Variables.--

1. Socio-economic status (SES): a measure of the occupational level of the head of the student's household as determined by comparison with the scale developed by O. D. Duncan.

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[27]Donald Super, et al., Vocational Development: A Framework of Research (New York: Bureau of Publications, Columbia University, 1957), p. vii.

2. Occupational experience in paid employment (OEPE): the number of months work experience where the subject has been employed at least fifteen hours per week.
3. Previous occupational program participation (POPP): the number of semesters experience in a high school technical school, or college occupational or career training program.

Dependent

Career Development (Predictor) Variables.--

1. Self concept of occupational ability (SCOA): the evaluating definition the student has for his ability to perform occupational tasks as compared with others.
2. Perception of significant others' evaluation of occupational ability (POEV): the student's perception of how a significant other person evaluates his ability to perform occupational tasks in comparison with others.
3. Perception of significant other's expectation of occupational choice (POEX): the socio-economic status level of an occupation or cluster of occupations the student believes the significant other expects him to attain.

4. Occupational plans (OP): the socio-economic status level of an occupation or cluster of occupations the student believes he will attain ten years hence.
5. Occupational Aspirations (OA): the socio-economic status level of an occupation or cluster of occupations the student would like to attain ten years hence.

Assumptions of the Study

The first assumption is that self concept of ability is phenomenological--i.e., known to the subject. This assumption makes possible the use of a self-report instrument rather than projective techniques.[28] This assumption is supported by Wylie:

> . . . there is as yet no proof that one can predict behavior as well, let alone better, with unconscious-self-concept measures than with conscious-self-concept measures. The state of validation of unconscious-self-concept measures is even more parlous than is the state of validation of conscious-self-concept measures. Therefore the burden of proof is presently on the person favoring the addition of the unconscious self concept to the variables from which we try to predict behavior. Although it seems quite plausible that phenomenological theories could become more predictive

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[28]Ann Carlson Paterson, "An Evaluation of An Instrument Designed to Measure the Construct 'Self-Concept of (Academic) Ability'" (unpublished Ph.D. dissertation, Michigan State University, 1966), p. 33. (Hereinafter referred to as "An Evaluation.")

> by the addition of constructs concerning the non-phenomenal self, our point here is that this has not been demonstrated with the indices we now have.[29]

A second assumption is that the subject can be truthful and accurate in his responses--that there is an important degree of correspondence between the phenomenal self concept of ability and the responses of the subject on the self-report instrument.

> That any self report instrument would fail to tap self concept in its full complexity is obvious. But, the opposite position that what people tell us has no correspondence to their "true" feelings is equally untenable and will often lead us to overlook valuable data precisely because it is so easy to get.[30]

Summary

This chapter has been devoted to an overview of the present study. The study proposes to examine the career development process based on the social interaction theories of George Herbert Mead. These theories became the basis for the Brookover studies of the self concept of academic ability. This study focuses on the occupational self concept of community college freshmen. This construct is seen as an intervening variable between the student's perception of his vocationally significant

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[29]Ruth C. Wylie, The Self Concept: A Critical Survey of Pertinent Research Literature (Lincoln: University of Nebraska Press, 1961), pp. 319-20. (Hereinafter referred to as Critical Survey.)

[30]Paterson, "An Evaluation," p. 33.

"others" evaluation and expectation of him and the student's own occupational aspiration and choice. The present study uses a scale instrument developed by Brookover and associates.

The next chapter provides a review of pertinent research literature.

CHAPTER II

RELATED LITERATURE

The theories and findings most appropriate to this study have been described in the previous chapter. However, other research has important implications for an understanding of career development processes. In general, this research implies varying degrees of relationship between psychological traits and environmental factors. A search of the literature has revealed many studies based on the theoretical propositions of Ginzberg, Super, Holland, Roe, Hoppock, and Sarbin, to name a few. However, other than that of Wamhoff, none have been found to be based on a social-interactional approach to career development. Also, most of the literature reviewed seems to imply a self concept only in the most global sense, instead of a self concept of any specific ability. Studies dealing with it seem to consider the self concept as less of an evaluating definition of an ability and more of a constellation of attributes which a person ascribes to himself. The following paragraphs describe those aspects of the theories of Ginzberg, Super, Holland, and Roe which

are seen as most relevant to this study. Also included are research studies covering various aspects of the career development process from various theoretical and non-theoretical positions. These studies, generally, have been found to focus either on environmental aspects or personality aspects of career development; and they have been here classified according to that aspect emphasized most. Also included is a discussion of the nature of and problems in self-concept assessment.

Career Development Theories

Ginzberg[1] has contributed significantly to theories of career development. His theories acknowledge the work of Lazarfeld[2] which emphasized a genetic approach based on the assumption that the final occupational role can be understood only in terms of the stage of development through which the individual has passed.

Ginzberg has analyzed the process of occupational decision-making in terms of three main stages: (a) the fantasy stage where pre-adolescent's verbalize attitudes toward work in general; (b) tentative choice at age ten-twelve involving interests, values, capacities, and

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[1]Eli Ginzberg, et al., Occupational Choice, An Approach to General Theory (New York: Columbia University Press, 1951). (Hereinafter referred to as Occupational Choice.)

[2]Paul Lazarfeld, ed., Jugend und Beruf (Jena: C. Fisher, 1931). Cited in Ginzberg, et al., Occupational Choice.

transition stages; and (c) the reality period wherein the young adult (age 16-18) explores and tries to link his vocational decision making to reality, including the testing of his interests and values: the second stage of the reality period is that of "crystallization" (age 19-21) where the individual commits himself to an occupational objective. Finally, (age 21+) comes "specification" which involves specialization and planning within the area of choice.

The major conclusion of this theory is that "occupational choice is a developmental process,"[3] made up of a series of decisions over a number of years. The process of occupational choice is largely irreversible because the entire process of decision making cannot be repeated. Late decision will be limited by previous decision.

Ginzberg has further generalized that the process of occupational choice concludes in compromise. The individual's career decision must be a balance of the job market, income structure, social prestige, interests, capacities, etc., " . . . Hence, the compromise aspect of every occupational choice."[4] Ginzberg's theories include significant or "key" persons. Almost every individual is influenced in resolving various aspects of his career

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[3]Ginzberg, et al., Occupational Choice, pp. 187-88.

[4]Ibid., p. 185.

choice by the help he seeks from key persons or the pressures which these key persons exert upon him. According to him, parents often play a strategic role in the process of career choice. At other times, the key person is a relative or friend.[5] Also important is the identification rechanism, whereby individuals consciously imitate certain aspects in the key person or persons. Ginzberg considers childhood as a period which is typified by wholesale identification with some favored adult. Between ten and twelve, the child considers occupational choice in terms of his father's work. Between sixteen and eighteen, many adolescents give the impression of considering life and work similar to an enthusiastic teacher or other key person.

> The important role that values and goals begin to play in the occupational choice process at about the age of fifteen probably indicates that the individual is beginning to assume for himself some of the values of his parents and other key persons, and thereby to build his own system of values. In this process, he acts selectively. He seldom, if ever, adapts all the values of his model; he selects certain elements and incorporates them into his own structure.[6]

> These key persons influence in different ways the occupational choice of the adolescent. Some assume a dominant role by taking a strong position and trying to force the adolescent to follow their recommendations.[7]

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[5] Ibid., p. 36.

[6] Ibid., pp. 207-08.

[7] Ibid., p. 205.

Other key persons act as intermediaries or counselors. These key persons may be influential in occupational choice whether or not directly approached.[8]

Ginzberg considers it likely that one of the most serious handicaps of the lower socio-economic group is the absence of informed and sympathetic adults.

Through his Career, Pattern Studies, and subsequent works, D. E. Super[9] has made a significant contribution to vocational development theory. He has cited several approaches which have meaning for vocational psychology, including the individual trait and factor approach which has helped to clarify the role of various psychological factors in vocational behavior. However, he has concluded a need for contributions from "developmental" psychology and other social sciences. For example, he notes the life-stage studies of Buehler.[10] These studies take the approach that the life span is divided into broad age categories and tend to emphasize the functional aspects of the interaction of an individual with his environment.

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[8] Ibid., p. 206.

[9] D. E. Super, "A Developmental Approach to Vocational Guidance; Recent Theory and Results," The Vocational Guidance Quarterly, XIII, No. 1 (Autumn, 1964), 1-9. (Hereinafter referred to as "Developmental Approach.")

[10] Charlotte Buehler, Der menschliche Lebenslauf als psychologisches Problem (Leipzig: Hirzel, 1933). Cited in Super, "Developmental Approach," pp. 2-3.

Buehler's approach led to the identification of five life stages: growth (birth to about age 14), exploration (15-24), establishment (25-44), maintenance (45-64), and decline (65 and on).[11] Sociologists Miller and Form[12] used a similar approach. However, this interest (unlike Buehler's) focused exclusively in occupations. Studying a representative sample of men throughout their life spans they identified work periods, which they named initial (while still in school), trial (early full-time work which is often short lived), stable (normally in mature adulthood), and retirement (after giving up employment).

Super has also cited the significance of the research of Ginzberg and others[13] stating that this research team, composed of a psychologist, economist, sociologist, and a psychiatrist, "may be credited with effectively introducing the developmental approach to the study of vocational behavior."[14]

From a developmental approach, Super has systematically described elements of a self concept theory of vocational development.[15] He identifies these elements

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[11] Ibid.

[12] D. C. Miller and W. H. Form, Industrial Sociology (New York: Harper, 1951). Cited in Super, "Developmental Approach," p. 3.

[13] Super, "Developmental Approach," p. 3.

[14] Ginzberg, et al., Occupational Choice.

[15] Super, et al., Vocational Development, p. 11.

as the processes of formation, translation, and implementation of the self concept.

From a developmental approach, Super has systematically described elements of a self concept theory of vocational development. He identifies these elements as formation, translation, and implementation of the self concept. They include: (1) self concept formation, (2) self differentiation, (3) identification, (4) role playing, (5) reality testing, (6) translation of self concepts into occupational terms, and (7) implementing or actualizing the self concept.[16]

Osipow and others[17] have summarized the theory of Holland[18] as attempting to identify major life styles or behavioral orientations from which predictions may be made concerning career decisions. Holland's theory assumes six basic personal orientations to life including: realistic, intellectual, social, conventional, enterprising, and artistic. Holland suggests that each individual

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[16]D. E. Super, "Self Concepts in Vocational Development," Career Development: Self Concept Theory (New York: Bureau of Publications, Columbia University, 1963), pp. 11-14.

[17]Samual H. Osipow, Jefferson D. Ashby, and Harvey W. Wall, "Personality Types and Vocational Choice: A Test of Holland's Theory," Personnel and Guidance Journal (September, 1966), 37-38. (Hereinafter referred to as "Personality Types.")

[18]J. L. Holland, "A Theory of Vocational Choice," Journal of Counseling Psychology (1959, 1960), 35-45.

behaves in a manner which reflects one or two of these styles more strongly than others, and on this basis predictions about educational decisions and careers may be made. According to him, realistic types would tend to be engineers, farmers, and mechanics; intellectual types would include architects, mathematicians, and anthropologists; teachers, social workers, and nurses would primarily be social types; librarians, accountants, and secretaries illustrate the conventional type; those with enterprising personal orientations would include salesmen, lawyers, small businessmen, and industrial relations specialists. Lastly, artistic types would express themselves through careers as journalists, artists, and music teachers.

Ann Roe[19] has devised an occupational classification scheme using two sets of categories in an 8 x 6 celled table. Her classifications call for six vertical levels based on degrees of personal responsibility, autonomy, skill, and training. Also used is a horizontal set of eight occupational groups subdivided according to the primary focus of activity. She orders these along a continuum believed to express the intensity and nature of interpersonal activities of occupations so that the closer any two groups occur in the order, the more alike they are believed to be with regard to primary focus of activity.

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[19]Ann Roe, The Psychology of Occupations (New York: John Wiley and Sons, Inc., 1956). (Hereinafter referred to as Occupations.)

Roe explains her groups as follows: I. Service occupations. These include attending to tastes, need, and welfare of others--the focus is on interpersonal relationships with one person helping another; II. Business contact includes person to person relationships but is primarily concerned with face-to-face persuasive activities; III. Organization includes managerial and white-collar jobs with person-to-person relations largely on an institutionalized nature; IV. Technology includes engineering, production, and machine trades. Interpersonal relations are largely irrelevant; V. Outdoor includes farming, forestry, animal husbandry, etc. Interpersonal relations are largely irrelevant. VI. Science occupations are primarily concerned with scientific theory and medicine with some return to more specific interpersonal relations in the medical groups. VII. General cultural occupations are primarily concerned with preserving the cultural heritage, and include occupations in law, education, journalism, and the ministry. Interest is in human activities but in reference to groups rather than individuals. VIII. Arts and Entertainment include use of specific skills in creative arts, entertainment, and sports. Generally, the emphasis is on a relationship between one (or a small group) and a more general public. Interpersonal relationships are significant but not as direct as in Group I.

Roe considers this arrangement to be circular with Group VIII next to Group I as well as to Group VII. She states that ordering should predict relationships among several occupational choices of an individual and the probability of different kinds of changes in occupations during his lifetime, i.e., choices or changes would most often occur within the same occupational group, next most often within contiguous groups, and least most often within the most widely separated groups.

The occupational changes of 804 men over periods ranging up to twenty-two years were studied and found to follow the expectation of Roe's theory. When these subjects changed jobs, they were most likely to change within one group (68%). "When they left a group the frequency of their entering any other group varied inversely with the distance of that group from the original one."[20]

Studies of Career Development

Personality Factors

Many studies have investigated personality factors and their relationship to the career development process. Such factors as personal interests, value systems, ego

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[20]Ann Roe, et al., "Studies of Occupational History," Part I: "Job Changes and the Classification of Occupations," Journal of Counseling Psychology, XIII, No. 4 (1966), 387-93. (Hereinafter referred to as "Studies of Occupational History.")

identity, congruency of self and ideal self, social alienation, realism, occupational stereotypes, etc., have been studied as possible contributors to the career development process.

Kunert[21] investigated the relationship between personality and vocational choice on a sample of law, medicine, engineering, and theology students. He used a specially developed seventy-item Vocational Life Pattern Q-Sort technique which embraced recreational, occupational, interpersonal, and personal interests, values, motives, etc., in individual life patterns and concluded that relationships between personality variables and vocational choice could be delineated.

Sister Mary Davis[22] investigated two assumptions of Erickson's psychosocial theory of personality development. First, that a person with a high ego identity is ready to make a vocational choice involving a long-term commitment; and second, that a person with high ego involvement is able to reconcile what he expects from himself and what others expect from him. Three hundred subjects consisting of 100 each nurses, secretaries, and

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[21]Kenneth Kunert, "The Psychological Concomitants and Determinants of Vocational Choice," Dissertation Abstracts, XXVI (1965), 1172.

[22]Sister Mary Constance Davis, "Vocational Choice and Self-Others' Expectations Congruence as Functions of Ego Identity," Dissertation Abstracts, XXVI (1965), 1168.

sisters were administered Q-sorts, ego identity scales, and personal questionnaires. Conclusions were: congruence of self-expectation and perceived others' expectations cannot be considered a function of ego identity. However, making a vocational choice which involves long-term commitment is a function of ego identity.

Osipow and others[23] tested the adequacy of Holland's theory of vocational choice in a study of a broad segment of entering college freshmen at a large state university. In general their results supported the prediction that students choose occupations consistent with their personality type, although exceptions occur. The authors concluded that Holland's theory does appear to anticipate the choice of enough students to be of value in predicting vocational behavior.

Stewart[24] conducted a study of junior college vocational students to determine if students in trade or technical programs have patterns of scores on interest and personality scales which are distinctive from those of students in other vocational programs. He also sought to

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[23]Osipow, Ashby, and Wall, "Personality Types," pp. 37-42.

[24]Lawrence H. Stewart, "Characteristics of Junior College Students in Occupationally Oriented Curricula," Journal of Counseling Psychology, XIII, No. 1 (Spring, 1966), 46-52. (Hereinafter referred to as "Characteristics of Junior College Students.")

find if vocational students have patterns of scores which are different than those of a cross section of all junior college students. Two instruments, the Interest Assessment Scales (ISA) and the Omnibus Personality Inventory (OPI) were administered. The various vocational groups had significantly different interests. Significant differences were also revealed between the total group of vocational students and the junior college population in general. The various vocational groups differed significantly with regard to personality characteristics. The major findings of the study indicate that career choices of the trade-oriented students are systematically related to certain psychological variables.

Cover[25] assessed vocational maturity of a population of male high school students by use of the Neal Alienation Scale and Crites' Attitude Test, which was designed to measure involvement in the process of vocational choice, orientation toward the problem of choosing a vocation, independence from others in vocational decision making, preferences for certain factors in occupations, and understanding of the choice process. Results of the study indicated that the best predictors of vocational maturity were school ability, the belief that events have meaning, the ability to make a post high school

[25]John Allen Cover, "The Relationship of Alienation from Society and Selected Variables to Vocational Maturity in Male High School Seniors" (unpublished Ph.D. dissertation, University of Oregon, 1968).

decision, the absence of feelings of social isolation, the possession of previous work experience, and the feeling that events can be controlled.

Certain factors associated with vocational realism in teenage youth have been examined by Rosen.[26] She found the more realistic students had above average grades; plans to attend college, high socio-economic status; expectations to engage in a high-prestige occupation; and sex--girls are more realistic in terms of their education-training plans.

Olsen and Venema[27] developed a projective technique to: (1) identify youths' attitudes toward selected distributive, construction, service, and agricultural occupational aspirations. Among job corps enrollees and ninth grade pupils findings were as follows: (1) practically all subjects aspired to occupational levels higher than the occupations of their parents; (2) perceptions of how parents felt only slightly affected the occupational interests of the subjects; (3) most subjects seemed to view work largely from a basic need level--clothing, food,

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[26]Doris Rosen, "A Comparative Study of the Vocational and Educational Aspirations and Expectancies of Teenage Youth in the United States," Dissertation Abstracts, XXVI, No. 5 (1964), 2593.

[27]Leroy C. Olsen and William H. Venema, "Development of a Projective Technique for Obtaining Educationally Useful Information Indicating Pupils' Attitudes Toward Work and Occupational Plans," Final Report, June, 1968, Abstract of Research and Related Materials in Vocational and Technical Education (Columbus, Ohio: ERIC Clearinghouse, The Center for Vocational and Technical Education, Fall, 1969), p. 97.

shelter, etc. They exhibited little concern for fulfilling higher-level needs; (4) few expressed concern about abilities and aptitudes necessary for various jobs.

The authors concluded that more knowledge of occupations and of one's abilities and aptitudes are necessary for adequate occupational choice.

Environmental Factors

A second approach to the study of career development involves assessment of environmental factors in relation to career development processes. This involves a sociological approach wherein values, orientations, aspiration levels, etc. are seen as being developed out of interaction with a social system. Wamhoff[28] has cited the conclusion of Caplow "that career choices are not formulated internally by some mysterious personal or subconscious process, but rather that external values are developed within the social system and these values in turn affect a vocational choice."[29] Such factors as family socio-economic status, direction of mobility, parents' educational level, social environment, size of the community, school or college environment, are seen as

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[28]Wamhoff, "Self Concept of Vocational Ability," p. 25.

[29]Theodore Caplow, The Sociology of Work (Minneapolis: The University of Minnesota Press, 1954). Quoted from Wamhoff, "Self Concept of Vocational Ability," p. 25.

directly or indirectly influencing the career development process.

Smelser traced the socio-economic history of ninety-three California families for the period 1928 to 1946 to predict adolescent and adult personality measures of sons born in 1928. The families were classed into five groupings on the basis of socio-economic status and change in socio-economic status. Findings included: (a) Sons from high status, upwardly mobile; high status, stationary, and low status, upwardly mobile families choose high status occupations at age fifteen and a half and emphasized strength in their perceptions of themselves and their fathers. (b) Sons from high status, upwardly mobile families were the most aspiring as adolescents and the most dominant in their adult self appraisals. (c) Sons from downwardly mobile families ranked lowest in mean status of their adolescent occupational choices and perceived themselves as relatively weak. It was concluded that achievement level of the family was influential in the development of such personality factors as strength, power, self direction, and distance from others. Socio-economic history of the family was seen to be a significant factor in occupational achievement.[30]

The relationship between parents' occupational aspirations for their children and selected

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[30]William T. Smelser, "Adolescent and Adult Occupational Choice as a Function of Family Socio-Economic History," Sociometry, XXVI (December, 1963), 393-409.

demographic characteristics of the parents was examined by Hartman and others.[31]

Data were collected from 157 high school seniors in 1948. These respondents were interviewed again in 1956 and 1967. By 1967, 94 of the respondents had become parents and had expressed occupational aspirations for their oldest child. Findings indicated that the parents' achievements of their own aspirations relative to residence, migration, performance, and educational attainment between 1948 and 1967 were not related to the occupational aspirations they held for their children.

The relationship between father's occupations and offspring's vocational preference has been a matter of much study. Many studies have shown that occupational aspirations of students were related to parent's vocational level. Mowsesian and others,[32] traced the relationship of 147 superior students and their father's occupations over a four-year period in which the students attended high schools in Wisconsin. Findings showed that both male and

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[31]John J. Hartman, et al., "Relationship of Selected Socio-Demographic Characteristics and Parental Occupational Aspirations for Their Children," Abstract of Research and Related Materials in Vocational and Technical Education (Columbus, Ohio: ERIC Clearinghouse, The Center for Vocational and Technical Education, Fall, 1969), pp. 98-99.

[32]Richard Mowsesian, Brian R. G. Heath, and John W. M. Rothney, "Superior Students' Occupational Preferences and Their Fathers' Occupations," Personnel and Guidance Journal, (November, 1966), 238-42.

female superior students tended to state vocational preferences at the professional level early and maintain these preferences throughout their high school careers. Their occupational preferences; in general, were at a higher level than the occupations of their fathers. These results also suggest that theories of vocational development, such as those of Super or Ginzberg, which imply plodding through developmental stages during early adolescence do not apply to the superior student population of this study.

Astin[33] has studied the effects of different college environments on career choice. Her findings support the hypothesis that the student's career choice comes to conform to the dominant or model career choice found in his college environment. For example, if a student is interested in engineering and attends a technological college, he increases his chances of remaining in engineering. Astin cites a work by Holland and Nichols which has shown that the more heterogeneous and inconsistent the college environment, the greater the number of shifts among the student body. This study also revealed that aspirations toward classes as Social (teaching, social service, etc.) and Enterprising (sales, managerial, career, etc.)

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[33]Helen S. Astin, "Patterns of Career Choices Over Time," Personnel and Guidance Journal, XLV, No. 6 (February, 1967), 541. (Hereinafter referred to as "Career Choices.")

are most prone to change, while Intellectual (physical and biological sciences, mathematics, etc.) show the most stability.[34]

Cooley and Becker[35] used data obtained from Project Talent in an attempt to describe the junior college student. Junior college, non-college, and four-year college students were compared on eight measures of general aptitude and seven socio-cultural variables. Discriminant analysis showed there is a tendency for junior college students to be more like non-college students in terms of ability, and more like four-year college students in terms of economic factors. The authors concluded that ability and environmental factors are very much involved in determining whether a student goes to a four-year college, a junior college, or no college at all.

In another study of student characteristics, social characteristics of high school juniors and seniors planning post-high school occupational training were studied by

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[34]J. S. Holland and R. C. Nichols, "Explorations of a Theory of Vocational Choice: III, A Longitudinal Study of Change in Major Field of Study," Personnel and Guidance Journal, XLIII (1964), 235-42.

[35]William W. Cooley and Susan J. Becker, "The Junior College Student," Personnel and Guidance Journal, (January, 1966), 454-69. (Hereinafter referred to as "Junior College Student.")

Bowles and Slocum.[36] Students planning post-high school business education; vocational education; some college, and college graduation were identified and compared on school experiences and attitude toward school, family background, peer group relationships, and occupational expectations. The findings implied that school experiences, instead of enhancing upward social and economic mobility, actually tended to reinforce the handicap of having come from low socio-economic backgrounds. Findings included:

1. Students planning business and vocational training had relatively low self images of their scholastic and intellectual abilities as compared to college-bound students.

2. Students planning business and vocational training were in between the college-bound and non-college-bound students on interest in schoolwork, satisfaction with school, and grade level. Students planning post-high school business or vocational training had generally been unsuccessful and uninterested in school but planned to enter occupations for which their planned training would

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[36]Roy T. Bowles and Walter L. Slocum, "Social Characteristics of High School Students Planning to Pursue Post High School Vocational Training, Final Report No. 17," Abstract of Research and Related Materials in Vocational and Technical Education (Columbus, Ohio: ERIC Clearinghouse, The Center for Vocational and Technical Education, Spring, 1969), p. 563. (Hereinafter referred to as "Social Characteristics.")

prepare them. A significant minority, however, showed incongruity between educational and occupational plans.

In a study to evaluate the significance of aspirations in predicting occupational attainment, Bohlen and Voesting[37] collected data from a longitudinal study of 152 male and female school seniors interviewed in 1948 and re-interviewed in 1956. Data analysis suggested that occupational aspirations are not good predictors of the type of occupation attained. Only 35 per cent of male subjects and 15 per cent of female subjects were found to be employed in the occupational category which they preferred as high school seniors. Such social and personal characteristics as: (1) farm or non-farm residential background; (2) socio-economic status in parents at high school graduation; (3) educational background of both parents; (4) frequency of discussion of future plans with parents; (5) discussion with persons other than parents about future occupation; and (6) having been employed on a job while in high school, seemed to have little relationship with congruency of occupational aspirations and attainments.

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[37]Joe M. Bohlen and Dean R. Voesting, "Congruency Between Occupational Aspirations and Attainment of Iowa Young People Interim Report," Abstract of Research and Related Materials in Vocational and Technical Education (Columbus, Ohio: ERIC Clearinghouse, The Center for Vocational and Technical Education, Fall, 1969), p. 99.

Olien and Donahue[38] studied the effect of socio-economic stimuli in the occupational and educational aspirations and attainments of over 1600 women who had graduated from Minnesota high schools in 1956, and discovered that: (1) occupational aspirations were significantly related to occupational attainment; (2) occupational aspirations do not differ significantly by residence (farm, country, town) but that occupational attainment does; (3) daughters of white collar workers realize higher levels of occupational attainment than daughters of blue collar workers; (4) relationship of educational attainment to educational expectations was high; and (5) educational attainment of girls is significantly related to education of both parents.

The authors concluded that factors which contribute to different levels of occupational and educational attainment of males are basically the same for females.

Stevic and Uhlig[39] examined the concepts which Appalachian youth have concerning their expected life's

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[38]C. Olien and G. A. Donahue, "Occupational and Educational Attainment of Women as Related to High School Occupational Expectations and Background Factors," Abstracts of Research and Related Material in Vocational and Technical Education (Columbus, Ohio: ERIC Clearinghouse, The Center for Vocational and Technical Education, Winter, 1969), pp. 335-36.

[39]Richard Stevic and George Uhlig, "Occupational Aspirations of Selected Appalachian Youth," Personnel and Guidance Journal, XLV, No. 5 (January, 1967), 435-39.

work. The authors compared these youth with native dwellers of a city and Appalachian migrants to that city. Findings included: (a) Appalachian youth have significantly lower aspiration levels than do "urban" youth; (b) Appalachian youth have different role models and different definitions of success than do those who have migrated out of the Appalachian areas; (c) one of the major problems in raising the occupational aspirations of Appalachian youth lies in their lack of information and opportunity rather than lack of ability.

In a study based on the career development theories posited by Ginzberg, Phillips[40] found:

1. A relationship between the number of sources of information used in making a vocational choice, and agreement between occupational choice and vocational interests.

2. A positive relationship existed between social class and congruency of occupational choice and vocational interest. It was concluded that middle-class boys have tentative occupational choices more consistent with their inventoried vocational interests than do lower-class boys.

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[40]Leonard Phillips, "A Study of the Relations Between Tentative Occupational Choice--Vocational Interest Congruency and selected Variables" (unpublished Ed.D. thesis, Michigan State University, 1965).

Phillips offered two propositions to explain this finding:

1. Young people may internalize the mobility orientation of society and their tentative occupational choices. Expectations may reflect this mobility orientation regardless of their chances of realizing their expectations.

2. Middle class youngsters may have the opportunity to learn the pattern of interests associated with the most sought-after occupations to a greater degree than lower-class youngsters.

The Problem of Studying the Self Concept

Super quoted Brayfield as saying, "The self concept is a central feature of vocational development and a most viable one. It is also a locus for sloppy work."[41] Super agreed, stating that self concept theory is not easily made operational.[42] Ruth Wylie[43] seems to agree. She has reviewed and classified over 400 empirical studies of the self concept giving major emphasis to the conscious self concept, sometimes called the phenomenal

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[41]A. H. Brayfield, "Counseling," in Annual Review of Psychology, ed. by P. R. Farmsworth, et al., n.p. Quoted in Super, "A Developmental Approach," p. 8.

[42]Super, "A Developmental Approach," p. 8.

[43]Wylie, Critical Survey, pp. 3-114.

self, as theorized by Lecky,[44] Rogers,[45] and Snygg and Combs.[46] Her volume contains much description of the problems inherent in the measure of the self concept. She states that those most commonly studied aspects of the phenomenal self include self satisfaction, self esteem, self favorability, congruence between self and ideal self, and discrepancies between self and ideal self. However, these terms are so intertwined and overlapping that they can only be studied as a group.

Wylie considers it naive to assume that a subject's self report responses are determined only by his phenomenal field since such responses may also be influenced by: (a) what the subject wishes to reveal to the experimentor, (b) his intent to disclose attitudes or perceptions he really does not have, (c) his response habits, and (d) other situational factors.

Wylie lists several instruments for evaluating the self concept including Q-sorts, rating scales, questionnaires, adjective check lists, and self evaluating rating

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[44] P. Lecky, Self Consistency, A Theory of Personality (New York: Island Press, 1945). Cited by Wylie, Critical Survey, pp. 3-114.

[45] C. R. Rogers, Client-Centered Therapy (Boston: Houghton-Mifflin, 1951). Cited by Wylie, Critical Survey, pp. 3-114.

[46] D. Snygg and A. W. Combs, Individual Behavior: A New Frame of Reference for Psychology (New York: Harper, 1949). Cited by Wylie, Critical Survey, pp. 3-114.

scales. She reports techniques which have included: (a) omnibus type questionnaires purporting to measure self acceptance and acceptance of others; (b) self-minus-ideal self discrepancy scores to index self regard; (c) questionnaires for inferring overall or general self regard; (d) those instruments which attempt to tap the self concept directly by asking the subject how he feels about his standing or stated characteristics; (e) semantic differential scaling; (f) graphic rating scales; (g) rating scales with descriptive adjectives to demarcate scale ranges; and (h) questionnaires in which the subject indicates how frequently an item characterizes him.

She concludes the majority of these techniques have been used only once or twice.

Of importance for this study, Wylie noted that there are few scales which appear to have been aimed at self evaluation of some specific ability or performance.[47]

Self Concept Research

Since the original works of Super, discussed early in this chapter, a great many studies have investigated the relationship of the self concept to various indices of career development. Such investigations have included the relationship between self-ideal, self-congruity and

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[47]Wylie, Critical Survey, p. 65.

occupational choice, the self concept in relation to occupational-role-concept, clarity of self concept, etc. These studies, for the most part, have a psychological basis. The social or social-psychological processes of interaction in the formation of the self concept have largely been ignored as a research endeavor.

A study by Davis,[48] using an adjective check list, explored the differences between self concept and occupational-role-expectation of women students in nursing and social work. Theodore Sarbin's "Role Theory,"[49] served as the theoretical framework. This theory, Davis described as taking the position that self and role interact in that the self strives for consistency and therefore selects those roles compatible with the self-concept. Role experiences, then, either do or do not reinforce the self-concept. Findings included: (a) greater proportion of nursing students than social work students had fathers or another relative who served as an occupational role model, (b) a significant positive relationship existed between the students' self-concepts and the role

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[48]Anne Joe Davis, "Self-Concept, Occupational-Role Expectations and Occupational Choice in Nursing and Social Work," Dissertation Abstracts (1968), 3414-A, 3415-B. (Hereinafter referred to as "Role Expectations and Occupational Choice.")

[49]Theodore R. Sarbin, "Role Theory," Handbook of Social Psychology, Vol. I (Cambridge, Mass.: Addison-Wesley Co., 1954), pp. 223-58. Cited in Davis, "Role Expectations and Occupational Choice," pp. 3414-A, 3415-B.

expectations for their chosen occupations. Social work students characterized themselves, primarily as independent, spontaneous, and assertive. They characterized the role of the social worker with same or similar adjectives. Nursing students, for the most part, described themselves as dependable, methodical, capable, and conscientious with a tendency to be submissive and seeking subordinate roles. Their major expectations of the nursing role called for a person similar to their own self-descriptions.

Applying Super's self concept implementation theory of occupational choice, Morrison[50] used Q-sort methodology with samples of nursing trainees and teacher trainees to assess congruency of self concept and chosen occupational role. Both groups described themselves, their chosen occupational role, and an occupational role they had not chosen. Both groups showed a significantly greater similarity between their self-perceptions and perceptions of their chosen occupational roles than between their self-perceptions and perceptions of the occupational role they had not chosen.

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[50]Richard L. Morrison, "Self-Concept Implementation in Occupational Choices," Journal of Counseling Psychology, IX, No. 3 (Fall, 1962), 255-60.

Findings of a study by Oppenheimer[51] supported Super's thesis and Morrison's findings that people prefer occupations they perceive to be congruent with their self concepts. In addition, self-esteem was found to be positively related to the degree of agreement between self-concepts and occupational preferences. Subjects with low self-esteem showed a tendency to prefer occupations perceived as congruent with their ideal self-concepts rather than occupations perceived as congruent with their self-concepts.

Wamhoff[52] has reported several studies designed to measure self concept versus ideal self concept in relation to occupational choices. One such study by Wheeler " . . . indicated that the individual sees his probable and ideal occupational choices as being more congruent with his ideal self concept than his self concept."[53] Another study was by Armstrong,[54] who tested college sophomores, juniors,

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[51]Ernest A. Oppenheimer, "The Relationship Between Certain Self-Constructs and Occupational Preferences," Journal of Counseling Psychology, XIII, No. 2 (Summer, 1966), 191-97.

[52]Wamhoff, "Self Concept of Vocational Ability," pp. 36-39.

[53]Charles Lawrence Wheeler, Jr., "Relationships Among Self-Concepts, Ideal Self-Concepts and Stereotypes of Probable and Ideal Occupational Choices" (unpublished Ph.D. dissertation, University of Southern California, 1967). As quoted in Wamhoff, "Self Concept of Vocational Ability," p. 37.

[54]Jack Lynn Armstrong, "The Interrelationships Among Self and Occupational Concepts of Male College

and seniors to determine their general self concept, ideal self concept, and vocational self perception. He found, in general, that a person viewed himself in his vocational role as being more like the person he would like to be than the person he is at present. Blocker and Schutz,[55] in a study of 135 twelfth grade boys, found that both self and ideal self descriptions tended to resemble stereotypes attributed to higher interest occupations.

As previously mentioned, studies of occupational self concepts have largely taken a trait and factor approach. Yet, the importance of the perceptions of others to one's self concept formation has been indicated by the findings of Brookover and Wamhoff as reported in the previous chapters. Therefore, assessment of the self concept of occupational ability from a social-interactional frame of reference appears to be an appropriate topic for study.

Students in Three Stages of Vocational Preparation" (unpublished Ph.D. dissertation, University of Minnesota, 1964). As cited in Wamhoff, "Self Concept of Vocational Ability," p. 38.

[55]D. H. Blocker and R. A. Schutz, "Relationships Among Self-Descriptions, Occupational Stereotypes, and Vocational Preferences," Journal of Counseling Psychology, VIII (1961), 314-417. As cited in Wamhoff, "Self Concept of Vocational Ability," p. 36.

CHAPTER III

RESEARCH PROCEDURES

The research procedures of this study will be discussed under four general headings: (1) Research Setting and Identification of the Population; (2) Hypotheses to be Tested; (3) Instrumentation; and (4) Procedures for Treatment of the Data.

Research Setting and Identification of Population

The Setting

The Jackson Community College student body comes primarily from an urban setting. The boundaries of the college are contiguous with those of Jackson County, which is classified as a standard metropolitan statistical area (SMSA) as of the 1960 United States census. This is based on United States Bureau of Census criteria which require: (1) a central city of 50,000 or more inhabitants, (2) economic and social relationships with contiguous counties which are metropolitan in character, (3) a non-agricultural labor force of at least 75 per cent, and (4) an unbroken

chain of minor civil divisions of at least 150 persons per square mile.

Bureau of Census figures cited Jackson County as having a 58 per cent urban population, compared with a state average of 73 per cent; approximately 6 per cent were Negro as compared with a state average of 9.2 per cent. These figures showed a fairly light population density of 189 persons per square mile as compared with over 700 in some counties of the metropolitan Detroit area. Seventy-five per cent of Jackson County's labor force was classed as manufacturing or white collar, compared with a state average of 78 per cent. The number of workers at a poverty level compared favorably with the state average of 16 per cent. Sixteen per cent of Jackson County's labor force was reported to be in the $10,000 or over wage bracket as compared with a state average of 17 per cent.[1]

The above information suggests a social and economic climate characterized by a notable lack of extremes.

Identification of the Population

The total population of this study consisted of 262 male Caucasian and 213 female Caucasian students who were classified as full-time freshmen students of Jackson Community College during the 1970 spring semester.

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[1]U.S., Department of Commerce, County and City Data Book, 1967, A Statistical Abstract Supplement (Washington, D.C.: Bureau of the Census, 1967).

Eighty-three per cent of these subjects reported themselves as having attended one of the fourteen high schools in Jackson County. Of the 475 respondents, 79, or 17 per cent, indicated they had attended high schools outside of Jackson County. In all but five cases, these high schools were in adjacent Hillsdale, Lenawee, or Calhoun counties. The criteria of a full-time freshman student included: (a) enrollment for twelve semester hours or more at the beginning of the 1970 spring semester, and (b) an accumulation of less than thirty semester hours of credit prior to the 1970 spring semester.

Academic students included male and female subjects who reported themselves as participating in a program of study designed to prepare them for transfer to a four-year institution for completion of a baccalaureate degree. Such programs were limited to those named "liberal arts," "science," "engineering," "education," and "business administration."

Occupational students consisted of those who reported themselves as participating in a program of study designed to prepare them for careers requiring less than baccalaureate degree college preparation for initial entrance. Such programs were limited to those named "general business," "secretarial training," "practical nursing," "technical," and "law enforcement."

The college registrar provided the names, age, sex, home high school, and curriculum of 537 full-time

freshmen subjects who reported themselves as academic students and 150 full-time freshmen who reported themselves as occupational students. Class schedules for each student were examined to verify that courses being taken were consistent with reported programs of study. Discrepancies were checked through counselors and vocational/technical department chairmen who maintained lists of students enrolled in their various occupational programs.

Eliminated from the lists were the names of students who had dropped out of school, and students with class schedules which were judged to be atypical of either occupational or academic students. For example, ten students were found to be taking all music courses, all art courses, or all physical education courses. The names of thirty-nine black students were eliminated because of evidence indicating race as a strong factor influencing self concepts and related variables.[2] Foreign students were not included because of language difficulties.

The foregoing efforts produced a population of 477 academic and 132 occupational subjects.

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[2]Richard J. Morse, "Self-Concept of Ability, Significant Others and School Achievement of Eighth Grade Students: A Comparative Investigation of Negro and Caucasian Students" (unpublished Masters thesis, Michigan State University, 1963).

Hypotheses to be Tested

The basic problem of this thesis is the assessment of the construct "Self Concept of Occupational Ability" within a social-psychological frame of reference.

This study takes the position that the self concept of occupational ability evolves through interaction with a significant other person or persons. The individual internalizes the evaluations he perceives others to have for his ability to achieve in occupational tasks. Likewise, he internalizes the expectations which he believes important other persons have for his career. It follows then, that the self concept of occupational ability will serve to limit the career goals an individual will set for himself. Accordingly, the following research hypotheses are stated:

H_1 Community college freshman academic students will exhibit a positive relationship between self concept of occupational ability (SCOA) and:

a. Perception of significant other's evaluation of occupational ability (POEV),

b. Perception of the significant other's expectation of occupational choice (POEX),

c. Occupational plans (OP), and

d. Occupational aspirations (OA).

H_2 Community college freshman occupational students will exhibit a positive relationship between self concept of occupational ability (SCOA) and:

a. Perception of significant other's evaluation of occupational ability (POEV),

b. Perception of significant other's expectation of occupational choice (POEX),

c. Occupational plans (OP), and

d. Occupational aspirations (OA).

H_3 Community college freshman academic students will exhibit a positive relationship between perception of significant other's evaluation of occupational ability (POEV) and:

a. Perception of significant other's expectation of occupational choice (POEX),

b. Occupational plans (OP), and

c. Occupational aspirations (OA).

H_4 Community college freshman occupational students will exhibit a positive relationship between perception of significant other's evaluation of occupational ability (POEV) and:

a. Perception of significant other's expectation of occupational choice (POEX),

b. Occupational plans (OP), and

c. Occupational aspirations (OA).

H_5 Community college freshman academic students will exhibit a positive relationship between perception of significant other's expectation of occupational choice (POEX) and:

a. Occupational plans (OP), and

b. Occupational aspirations (OA).

H_6 Community college freshman occupational students will exhibit a positive relationship between perception of significant other's expectation of occupational choice (POEX) and:

a. Occupational plans (OP), and

b. Occupational aspirations (OA).

H_7 Community college freshman academic students will exhibit a positive relationship between occupational plans (OP) and occupational aspirations (OA).

H_8 Community college freshman occupational students will exhibit a positive relationship between occupational plans (OP) and occupational aspirations (OA).

The theoretical position of this study and research findings reviewed herein suggest certain background factors as significant in the career development of an individual. External values are developed within an individual's social system; and these values, in turn, affect occupational and career choice. Socio-economic status is often reported as directly or indirectly influencing career development. However, the "Self Concept of Vocational Ability" as measured in the Wamhoff study was found to be independent of socio-economic factors. The influence of socio-economic background in career development, therefore, needs further assessment.

Likewise, occupational experiences, including training and actual work experience, are posited as significant factors in career development. These experiences provide opportunities for reality testing whereby the individual may confirm or reject hypotheses about himself, clarify his role as a potential worker, and sharpen his occupational motives, aspirations, and plans.[3]

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[3]Borow, "A Critical Assessment."

Accordingly, the following research hypotheses are stated:

H_9 Community college freshman academic students will exhibit a positive relationship between socio-economic status level and:

a. Self concept of occupational ability (SCOA),

b. Perception of significant other's evaluation of occupational ability (POEV),

c. Perception of significant other's expectation of occupational choice (POEX),

d. Occupational plans (OP), and

e. Occupational aspirations (OA).

H_{10} Community college freshman occupational students will exhibit a positive relationship between socio-economic status and:

a. Self concept of occupational ability (SCOA),

b. Perception of significant other's expectation of occupational ability (POEV),

c. Perception of significant other's expectation of occupational choice (POEX),

d. Occupational plans (OP), and

e. Occupational aspirations (OA).

H_{11} Community college freshman academic students will exhibit a positive relationship between occupational experience in paid employment (OEPE) and:

a. Self concept of occupational ability (SCOA),

b. Perception of significant other's evaluation of occupational ability (POEV),

c. Perception of significant other's expectations of occupational choice (POEX),

d. Occupational plans (OP), and

e. Occupational aspirations (OA).

H_{12} Community college freshman occupational students will exhibit a positive relationship between occupational experience in paid employment (OEPE) and:

a. Self concept of occupational ability (SCOA),

b. Perception of significant other's evaluation of occupational ability (POEV),

c. Perception of significant other's expectation of occupational choice (POEX),

d. Occupational plans (OP), and

e. Occupational aspirations (OA).

H_{13} Community college freshman academic students will exhibit a positive relationship between previous occupational program participation (POPP) and:

a. Self concept of occupational ability (SCOA),

b. Perception of significant other's evaluation of occupational ability (POEV),

c. Perception of significant other's expectation of occupational choice (POEX),

d. Occupational plans (OP), and

e. Occupational aspirations (OA).

H_{14} Community college freshman occupational students will exhibit a positive relationship between previous occupational program participation (POPP) and:

a. Self concept of occupational ability (SCOA),

b. Perception of significant other's evaluation of occupational ability (POEV),

c. Perception of significant other's expectation of occupational choice (POEX),

d. Occupational plans (OP), and

e. Occupational aspirations (OA).

This study takes the position that occupational and academic students may differ in many aspects of career development. Also, studies by Stewart[4] and Bowles and Slocum[5] suggest that occupational and academic students may differ with respect to personality characteristics and environmental experiences. Accordingly, it is hypothesized that:

H_{15} Community college freshman academic and freshman occupational students will exhibit significant differences in:

a. Self concept of occupational ability (SCOA),

b. Perception of significant other's evaluation of occupational ability (POEV),

c. Perception of significant other's expectation of occupational choice (POEX),

d. Occupational plans (OP), and

e. Occupational aspirations (OA).

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[4]Stewart, "Characteristics of Junior College Students."

[5]Bowles and Slocum, "Social Characteristics."

Data Collection Procedures

Stage One

Cooperation was obtained from appropriate department chairmen in the college's Vocational/Technical Division. Instruments were then administered to all students in selected occupational classes. Permission was obtained from the chairman of the Department of Communications in the Arts and Sciences Division, and questionnaires were administered to all students attending thirty-six sections of freshman composition.

Stage Two

Stage two consisted of follow-up telephone calls and finally a mailing of the questionnaire to all identified subjects who had not as yet participated due to absence from class. Results of data collection procedures were as follows (Table 1):

TABLE 1.--Results of data collection.

	Academic Students	Occupational Students	All Students
Identified Population	477	132	609
Number and Percentage of Usable Replies:			
Males	198	64	262
Females	148	75	213
Total	346 (72%)	129 (98%)	475 (78%)

Instrumentation

Self Concept of Occupational Ability Scales

The self concept of occupational ability (SCOA) refers to the subject's evaluation of his ability to perform occupational tasks in comparison with others. This includes: (a) overall occupational ability in a general sense (SCOA-G), and (b) ability in areas of specific occupational interest (SCOA-I). SCOA-G and SCOA-I were assessed by the Brookover scale instruments designed for the Wamhoff study.[6] These scales were patterned in form and style after the Self Concept of Academic Ability scales used in the Brookover studies[7] and were likewise based on the social-interactional theory of self-concept formation. The scales were empirically derived from a pretest analysis of a pool of selected items. Items are coded from five to one with the higher self concept alternatives receiving the higher values. The scales are shown as Exhibits A-1, A-2, A-3, and A-4.

Internal consistency reliability was measured by three methods: Guttman Scalogram Analysis, Hoyt's Analysis of Variance, and Correlations of Total Scales with Scales Scores. This was all done by the Brookover team when the scale was originally developed.

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[6]Wamhoff, "Self Concept of Vocational Ability."

[7]Brookover, Erickson, and Joiner, Self Concept, III.

EXHIBIT A-1.--SCOA-G Males.

HOW YOU SEE YOURSELF

Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

13. How do you rank yourself in your ability to do any job that you want to do?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

14. Do you think you have the ability to do any job you desire?

    a. yes, definitely
    b. yes, probably
    c. not sure either way
    d. no, probably not
    e. no, definitely not

15. If you could have any job in the world, how well would you be able to do the job, as compared to all others that are in that occupation?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

16. Assuming that you have already acquired the training necessary, where would you rank yourself in ability to do any job?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

EXHIBIT A-1.--SCOA-G Males (Continued).

17. Do you feel you have the ability to succeed in any occupation you undertake?

    a. yes, definitely
    b. yes, probably
    c. uncertain
    d. no, probably not
    e. no, definitely not

18. Compared to your best friends how well do you feel you can do on any job?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

EXHIBIT A-1.--SCOA-G Females.

Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

13. How do you rank yourself in your ability to do any job that you want to do?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

14. Do you think you have the ability to do any job that you desire?

    a. yes, definitely
    b. yes, probably
    c. not sure either way
    d. no, probably not
    e. no, definitely not

15. How do you rate yourself in your ability to do a job you would want in comparison to your classmates who have similar interests?

    a. I am among the best
    b. I am above average
    c. I am average
    d. I am below average
    e. among the poorest

16. If you could have any job in the world, how well would you be able to do the job, as compared to all others that are in the same occupation?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

17. Given that you have already acquired the training necessary, where would you rank yourself in ability to do any job?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

EXHIBIT A-2.--SCOA-I Males.

Now consider the occupation of your greatest interest. Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

19. How would you rank yourself in ability, in comparison to all others in the occupation of your greatest interest?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

20. Do you feel you have the ability to complete training necessary in the occupation of your greatest interest?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

21. For the job of your greatest interest how do you think you would rank in ability with all others?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

22. After 5 years of working at the job of your greatest interest where do you think you will rank in comparison with others who have held the same job for 5 years?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

EXHIBIT A-2.--SCOA-I Males (Continued).

23. For those occupations in which you are interested, do you feel you have the ability to do well?

    a. yes, definitely
    b. yes, probably
    c. uncertain
    d. no, probably not
    e. no, definitely not

24. Compared to your best friends how well do you feel you can do in the occupation of your greatest interest?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

EXHIBIT A-2.--SCOA-I Females.

Now consider the occupation of your greatest interest. Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

18. Where do you think you would rank in your ability to do your favorite job?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

19. How would you rank yourself, in ability in comparison to all others in the occupation of your greatest interest?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

20. For the job of your greatest interest how do you think you would rank in ability with all others?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

21. After 5 years of working in the job of your greatest interest where do you think you would rank in comparison with others who have held the same job for 5 years?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

EXHIBIT A-2.--SCOA-I Females (Continued).

22. Compared to others your age how would you rate yourself in knowledge of the job of your greatest interest?

    a. I have complete knowledge
    b. I have more knowledge than most
    c. about the same as others
    d. less than others
    e. almost none

23. For those occupations in which you are interested, do you feel you have the ability to do well?

    a. yes, definitely
    b. yes, probably
    c. uncertain
    d. no, probably not
    e. no, definitely not

24. Compared to your best friends, how well do you feel you can do in the occupation of your greatest interest?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

EXHIBIT A-3.--POEV-G Males.

Now answer the following questions as you think THIS SIGNIFICANT PERSON would answer them.

Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

34. How does this significant person rank your ability to do any job that you want to do?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

35. Does he/she think you have the ability to do any job you desire?

a. yes, definitely
b. yes, probably
c. not sure either way
d. no, probably not
e. no, definitely not

36. If you could have any job in the world, how well does, this significant person think you would be able to do the job as compared to all others that are in the occupation?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

37. Given that you have already acquired the necessary training, where would he/she rank you in ability to do any job?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

EXHIBIT A-3.--POEV-G Males (Continued).

38. Does he/she feel you have the ability to succeed in any occupation that you undertake?

    a. yes, definitely
    b. yes, probably
    c. uncertain
    d. no, probably not
    e. no, definitely not

39. Compared to your best friends how well does this significant person feel that you can do any job?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

EXHIBIT A-3.--POEV-G Females.

Now answer the following questions as you think this SIGNIFICANT PERSON would answer them.

Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

34. How does this significant person rank you in your ability to do any job that you want to do?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

35. Does he/she think you have the ability to do any job that you desire?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

36. How does this significant person rate you in your ability to do a job you would want in comparison to your classmates who have similar interests?

a. I am among the best
b. I am above average
c. I am average
d. I am below average
e. I am among the poorest

37. If you could have any job in the world, how well does he/she think you would be able to do the job, as compared to all others that are in that occupation?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

EXHIBIT A-3.--POEV-G Females (Continued).

38. Given that you have already acquired the training necessary, where would this significant person rank you in ability to do any job?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

EXHIBIT A-4.--POEV-I Males.

Now consider the occupation of your greatest interest. Please read carefully and answer each question as you think the significant person would answer by circling the letter in front of the statement which best answers each question.

40. How would this significant person rank you in ability compared to all others in the occupation of your greatest interest?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

41. Does he/she feel you have the ability to complete training necessary in the occupation of your greatest interest?

    a. yes, definitely
    b. yes, probably
    c. uncertain
    d. no, probably not
    e. no, definitely not

42. For the job of your greatest interest how does this person think you would rank in ability with all others?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

43. After 5 years of working at the job of your greatest interest, where do you think he/she would rank you in comparison with others who have held the same job for 5 years.

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

EXHIBIT A-4.--POEV-I Males (Continued).

44. For those occupations in which you are interested, does he/she feel you have the ability to do well?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

45. Compared to your best friends, how well does he/she feel you can do in the occupation of your greatest interest?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

EXHIBIT A-4.--POEV-I Females.

Now consider the occupation of your greatest interest and answer each of the following questions as you think this significant person would answer.

Please read carefully and answer by circling the letter in front of the statement which best answers each question.

39. Where do you think this significant person would rank you in your ability to do your favorite job?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

40. How would he/she rank you in ability in comparison to all others in the occupation of your greatest interest?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

41. For the job of your greatest interest how do you think he/she would rank you in ability with all others?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

42. After 5 years of working the job of your greatest interest where does he/she think you will rank in comparison with others who have held the same job for 5 years?

    a. among the best
    b. above average
    c. average
    d. below average
    e. among the poorest

EXHIBIT A-4.--POEV-I Females (Continued).

43. Compared to others your age how would this significant person rate you in knowledge of the job of your greatest interest?

a. I have complete knowledge
b. I have more knowledge than most
c. about the same as others
d. less than others
e. almost none

44. For those occupations in which you are interested, does he/she feel you have the ability to do well?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

45. Compared to your best friends how well does this significant person feel you can do in the occupation of your greatest interest?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

Guttman Scalogram analysis is a technique which assures that all items selected for a scale instrument are derived from the same universe of content. Scale items which deviate from this universe of content are considered to be "errors." From knowing only the total score of the scale one should be able to reproduce the responses to each individual item. The Guttman index is thus a Reproducibility Coefficient which is the ratio of error to correct predictions; ideally, it should not exceed .10, which when subtracted from 1.00 gives an acceptable reproducibility coefficient of .90.[8] The Guttman technique, then, by definition assures high internal consistency reliability.[9]

A second approach to assessing internal consistency reliability involves use of the Hoyt method of reliability determination applied to both scales for the two sexes. This method compares error variance to individual variance. Generally speaking, if error variance is less than 10 per cent of the variance attributed to individuals--i.e., reliability equals .90 or better--the test is considered very good. This test is considered a variation

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[8]William J. Goode and Paul K. Hatt, Methods in Social Research (New York: McGraw-Hill, 1952), pp. 285-95.

[9]Paterson, "An Evaluation."

of the Kuder-Richardson formulas and it has the advantage of using raw data.

Finally, scale scores were correlated with total scores.

Results of the measures are shown in the totals below (Table 2).

TABLE 2.--Coefficients of reproducibility, Pearson Product moment correlation coefficients of scale scores with total scores, and Hoyt's analysis of variance reliability coefficients for self-concept of vocational ability scales, post high school data.*

	Coefficient of Reproducibility	Correlation of TS w/ss	Hoyt's Analysis of Variance Reliability
SCVA-G			
Males	.89	.951	.837
Females	.88	.907	.838
SCVA-I			
Males	.914	.943	.859
Females	.903	.943	.843

*Carroll H. Wamhoff, "Self Concept of Vocational Ability: Its Relation to Selected Factors in Career Development" (unpublished Ph.D. dissertation, Michigan State University, 1966), p. 78.

Reproducibility coefficients for the Self Concept Vocational Ability scales indicate a high consistency in the pattern of responses leading to the conclusion of high internal consistency reliability.

Guttman scaling does not permit one to differentiate the relative contribution of items to the total score. Each item is considered to possess equal weight.[10]

Figures for the Hoyt method of reliability determination are below the desired .90 level, but this may be the result of the relatively few items in the scales.

Scales to Assess Perception of Significant Other's Evaluation of Occupational Ability (POEV)

Perception of significant other's evaluation of occupational ability (POEV) refers to the subject's perception of how a significant other person evaluates his ability to perform occupational tasks in comparison with others. This includes: (a) perception of the significant other's evaluation in a general sense (POEV-G), (b) perception of the significant other's evaluation in areas of specific occupational interest (POEV-I). POEV-G and POEV-I were assessed by scale instruments. These scales were not theoretically derived; but, in the manner suggested by Paterson,[11] were designed as intentionally parallel versions of the SCOA scales derived for the Wamhoff study. For example, item 1 on the SCOA-G scales for females reads:

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[10]Wamhoff, "Self Concept of Vocational Ability," p. 79.

[11]Paterson, "An Evaluation," p. 64.

"Where do you think you would rank in your ability to do any job that you want to do?" The parallel question for the POEV-G scale for females reads: "How does this significant person rank you in your ability to do any job that you want to do?" The POEV scales were administered as part of the pilot study involving nine each occupational and academic male and female subjects, for a total of thirty-six students.

Internal Consistency Reliability

The scales were analyzed for reproducibility coefficiencies as shown in Table 3.

TABLE 3.--Guttman Scalogram Analysis; coefficients of reproducibility for perception of significant other's evaluation of occupational ability scales.

	Coefficient of Reproducibility
POEV-G	
Males	.92
Females	.89
POEV-I	
Males	.91
Females	.85

The male POEV scales were above the recommended level of .90, while female POEV scales approached this level.

Two judges were asked to evaluate the SCOA and POEV scales. One, a research consultation staff member in the College of Education, appraised the scales as straight forward and recommended the use of parallel scales stating that any end-of-questionnaire bias will be different if the order of the questions in both scales is not left parallel. The other judge, an assistant professor of psychology at Jackson Community College evaluated the instruments as having adequately tapped the self concept.

The Career Chart

Several questions required subjects to identify occupations which could be coded according to levels of socio-economic status. Analysis of pilot study results indicated ambiguous responses to the open-end questions originally used. Accordingly a career chart (see Exhibit B) was devised as a means of assuring consistency of responses across subjects. The horizontal categories of this chart were derived from Ann Roe's occupational classification scheme,[12] described in Chapter II of this study.

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[12] Roe, Occupations.

EXHIBIT B.--Career Chart.

I. Public and Private Services	II. Business Contact	III. Business Organization	IV. Technology	V. Outdoor	VI. Science and Health	VII. General and Cultural	VIII. Arts and Entertainment
a.	a.	a.	a. Chemical Engineer	a.	a. Dentist Physician, Surgeon Osteopath	a. Lawyer Judge	a. Architect
b. Social Scientist	b.	b. Bank Manager Personnel Manager Insurance Manager Labor Relations Worker	b. Civil Engineer Electrical Engineer	b. Conservationist Farm and Home Management Adv.	b. Natural Scientist Pharmacist	b. College Professor Editor Reporter	b.
c.	c. Stocks and Bonds Salesman	c. Accountant Credit Man Purchasing Agent Store Buyer or Department Manager	c. Airplane Pilot Airplane Navigator Manager in a Manufacturing Plant	c.	c. Chemist Optometrist Chiropractor Veterinarian	c. Public School Teacher	c. Author Designer
d. Social Worker Recreation and Group Worker, Welfare Worker	d. Insurance Agent Real Estate Agent Manufacturer's Salesman, Advertising Salesman	d. Small Factory Owner Gov't. Administrator, Retail Store Manager, Secretary in an Office	d. Draftsman Radio Operator Photoengraver Construction Manager	d.	d.	d. Librarian	d. Actor, Actress Artist Sports Official Art Teacher
e. Railroad Conductor Mail Carrier Therapist Religious Worker	e.	e. Bookkeeper Store Floor Manager Union Official Bank Teller	e. Building Contractor Railroad Engineer Typesetter, Toolmaker Manufacturing Foreman	e.	e. Undertaker Testing Technician Lab Technician	e. Clergyman	e. Athlete Musician Photographer Music Teacher
f. Policeman Detective	f. Auctioneer Retail Sales Person	f. Small Store Owner Cashier Dispatcher Office Machine Operator	f. Surveyor Electrician Construction Foreman	f.	f. Medical Technician Dental Technician Nurse	f.	f. Dancer Dancing Teacher Window Decorator
g. Fireman Sheriff Midwife	g. Merchandise Demonstrator Sales Clerk	g. Building Superintendent, Service Station Manager, Restaurant Manager, Bill Collector	g. Trained Machinist Plumber Sheetmetal Worker Railroad Foreman	g. Farm Owner Tenant Farmer Fisherman Gardener	g. Dietician Nutritionist	g.	g. Entertainer
h. Practical Nurse Personal Servant Attendant Housekeeper	h. Newsboy	h. Baggage Man Shipping Clerk Telegraph Messenger	h. Brickmason Craneman Excavator Operator Heat Treater	h. Farm Foreman	h.	h.	h.
i. Barber, Beautician Bartender, Waitress Cook, Taxi Driver, Service Station Attendant	i.	i.	i. Carpenter Auto Mechanic Truck Driver Factory Machine Operator	i. Farm Manager	i.	i.	i
j. Janitor	j. Peddler	j	j. Coal Miner General Laborer Construction Laborer	j. Farm Laborer Equipment Washer and Greaser	j	j	j

The vertical cells are based on Duncan's Socio-Economic Index for All Occupations.[13] Under each category are ten cells. Occupations listed in each cell fall within a ten-point spread on the Duncan Scale. For example, under Category IV, "Technology," cell j lists Coal Miner, General Laborer, and Construction Laborer. All fall within 0 to 10 on Duncan's scale. Cell a shows Chemical Engineer, which falls in the 90 to 100 spread. Response cells were coded from 10 to 1 with the higher occupational alternatives receiving the higher values. If none of the choices on the chart seemed appropriate, the subject had the option of writing in the appropriate job title. Write-ins were indexed according to Duncan's scale and scored on the 10 to 1 continuum in the same manner as the career chart.

Reliability and Validity.--Use of Roe's occupational classification categories is justified in that it presents an orderly and logical classification arrangement which is theoretically based and has been empirically verified.[14] Use of the Duncan scale for assessing socio-economic status levels of occupations is consistent with previous research studies of the self-concept from a

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[13]O. D. Duncan, "A Socio-Economic Index for All Occupations," in Occupations and Social Status, ed. by A. J. Reiss (Glenco, Ill.: The Free Press, 1961). (Hereinafter referred to as "Socio-Economic Index.)

[14]Roe, et al., "Studies of Occupational History," pp. 387-93.

social-psychological frame of reference which have served as a basis for this study.[15] Duncan's scale is based on the interrelationships of three factors: income, education, and occupations. This index was constructed to predict the prestige ratings of occupations, not individuals. Duncan's position is this:

> We have, therefore, the following sequence: a man qualifies himself for occupational life by obtaining an education; as a consequence of pursuing his occupation, he obtains income. Occupation, therefore, is the intervening activity linking income to education. If we characterize an occupation according to the prevailing levels of education and income of its incumbents, we are not only estimating its "social status," and its "economic status," we are also describing one of its major "effects." It would not be surprising if an occupation's "prestige" turned out to be closely related to one or both of these factors.[16]

An obvious disadvantage is that the occupations comprising Duncan's index are based on a National Opinion Research Center (NORC) study of the 1950 labor force, and today's occupational scene is, of course, vastly different. For this reason, only occupational titles of a general nature were used for the Occupations Chart. Even so, a certain amount of intuition on the part of the researcher and advice from the vocational guidance staff of Jackson Community College was necessary, both in the construction of the Occupations Chart and in its interpretation.

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[15]Brookover, Erickson, and Joiner, Self Concept, III.

[16]Duncan, "Socio-Economic Index," pp. 116-17.

Self Concept of Occupational Ability by Socio-Economic Status Level (SCOA-SES)

A third measure of the self concept of occupational ability was related to the socio-economic status level of the occupation which the subject feels is closest to his ability. This was measured by questions which used the aforementioned career chart in the following manner:

> Consider your interests and assume you can get the necessary training and experience. From the Career Chart, select the job you feel is closest to your ability.
>
> Look at the Occupational Categories at the top of the chart. Is this job listed under:
>
> a. Category I, Public and Private Services
> b. Category II, Business Organization
> c. Category III, Business Organization
> d. Category IV, Technology
> e. Category V, Outdoor
> f. Category VI, Health and Science
> g. Category VII, General and Cultural
> h. Category VIII, Arts and Entertainment
>
> Look at the box in which the job title is listed. Is this job title listed in:
>
> a. Box a
> b. Box b
> c. Box c
> d. Box d
> e. Box e
> f. Box f
> g. Box g
> h. Box h
> i. Box i
> j. Box j
>
> Write this job title on the line below:
>
> _____
>
> OR
>
> If none of the choices seemed appropriate, write in the appropriate job title on the line below:
>
> _____

Responses to the occupational categories question (as in the first question above) were not analyzed. The sole purpose of the categories question was to help the respondent more efficiently choose the appropriate box (second question), which represented the socio-economic status level of his chosen occupation.

Questions to Assess Perception of Significant Other's Evaluation of Occupational Ability as it Relates to Socio-Economic Status Level (POEV-SES)

This construct was measured by questions which use the career chart as follows:

> Assume you can get the necessary training and experience. From your career chart select the occupation this significant person feels is closest to your ability.
>
> Look at the Occupational Categories at the top of the chart. Is this job listed under:
>
> a. Category I, Public and Private Services
> b. Category II, Business Contact
> c. Category III, Business Organization
> d. Category IV, Technology
> e. Category V, Outdoor
> f. Category VI, Science and Health
> g. Category VII, General and Cultural
> h. Category VIII, Arts and Entertainment
>
> Look at the box in which the job title is listed. Is the job title listed is:
>
> a. Box a
> b. Box b
> c. Box c
> d. Box d
> e. Box e
> f. Box f
> g. Box g
> h. Box h
> i. Box i
> j. Box j
>
> Write this job title on the line below:
>
> _____

OR

If none of the choices seemed appropriate, write in the appropriate job title on the line below:

_____

Perception of Significant Other's Expectation of Occupational Choice (POEX)

This construct is defined as the socio-economic status level of an occupation or cluster of occupations the subject believes the significant other expects him to attain. This was measured by the following question which used the same format as SCOA-SES and POEV-SES question:

> From the Career Chart select the occupation coming closest to what he/she expects you to be doing 10 years from now.

Occupational Plans (OP) and Occupational Aspirations (OA)

Occupational plans (OP) are defined as the socio-economic status level of an occupation or cluster of occupations the subject believes he will attain ten years hence. Occupational aspirations (OA) represent the socio-economic status level of an occupation or cluster of occupations the student would ideally like to attain ten years hence. These two constructs were elicited in the same manner as above. The occupational aspirations (OA) question was:

> Your Ideal Career. Consider your interests and assume you can get the necessary training and experience. From your career chart select the job coming closest to what you would ideally like to be doing 10 years from now.

The occupational plans (OP) question was:

> Your Expected Career. Sometimes our expected career cannot be the same as our ideal career. From your career chart select the job coming closest to what you really expect to be doing 10 years from now.

Socio-Economic Status (SES) refers to the occupational level of the head of the subject's household as it ranks socially and economically with all other occupations. Socio-economic status (SES) was identified by the following question:

> From the Career Chart select the job title which comes closest to describing the occupation of the person who supports you. (If this person is not now working, use the last job held).

Occupational Experience in Paid Employment (OEPE) was defined as the number of months work experience where the subject has been employed at least fifteen hours per week. This was determined to be the minimum number of hours which would provide a meaningful work experience. This was determined through the following questions:

> Since you began working, how many months have you worked at a job of 15 hours per week or more?
>
> a. None
> b. 1-6 months
> c. 7-12 months
> d. 13-18 months
> e. 19-24 months
> f. 25 months or more
>
> How many of these months were spent working on a job which was related to the career plans you now have?
>
> a. None
> b. 1-6 months
> c. 7-12 months
> d. 13-18 months
> e. 19-24 months
> f. 25 or more months

Previous Occupational Program Participation (POPP) was defined as the number of semesters experience in a high school, technical school, or college occupational career training program. This information was obtained through the following question:

Your Previous Occupational Training and Experience

Following are some of the occupational career training programs typically offered in high schools, technical schools, and colleges:

Automotive Repair	Machine Trades
Bookkeeping/Accounting	Electronics
Data Processing	Office Education
Drafting	Printing
Electricity	Retailing and Salesmanship
Food Service	Service Station Operation
Hospitality	Cooperative (on-the-job training)

Before attending Jackson Community College, how many semesters were you enrolled in one or more occupational programs of this nature?

a. 0-1 semester
b. 2-3 semesters
c. 4-5 semesters
d. 6 semesters or more

The Significant Other Person in Occupational Choice

This is the person upon whom the subject principally depends for emotional gratification in terms of his career plans and how well he does occupationally. The individual may take upon himself the ideas, beliefs, and evaluations of this person and use them as a frame of reference for evaluating his own behavior. This person may be a parent, a peer, a sibling, an instructor, a co-worker, a job supervisor, etc.

This significant other person was identified by the following question:

Significant Other Person in Occupational Choice

> Most of us relate to a person who is important to us and whose judgments about our careers we value. Please indicate the one significant person whose judgment about your occupational choice you value most.
>
> a. A parent
> b. A brother or sister
> c. A husband or wife
> d. Another relative
> e. A personal friend
> f. An employer or supervisor
> g. A co-worker
> h. A teacher
> i. Some other adult

Socio-economic status level of the significant other person was determined by comparison with the Duncan scale. Socio-economic status level of the significant other person was identified by the following question:

> From the Career Chart select the job title which comes closest to the occupation of this significant person.

Perception of Significant Other's Expectation of Occupational Choice (POEX)

This is defined as the socio-economic status level of an occupation or cluster of occupations the student believes the significant other expects him to attain. The construct was measured by a question which used the same format as SCOA-SES POEV-SES:

> From the Career Chart select the occupation coming closest to what he/she expects you to be doing 10 years from now.

The complete instrument, including other questions to elicit pertinent background information, is included as Appendix A.

Analysis of Data

Hypotheses one through fourteen were concerned with analyzing relationships between the variables chosen for this study and were tested using the total population of the study. Procedures were as follows:

a. The population was classified into four groups: (1) academic males, (2) academic females, (3) occupational males, and (4) occupational females.

b. Data were coded and punched on IBM cards; correlational analyses were performed on all subjects in each of the four groups using the CDC 6500 computer at the Michigan State University Computer Center. Use of the MDSTAT routine permitted analysis of subjects for whom some data was missing. As a result, the number of subjects varied slightly in each analysis.

c. Correlation coefficients were computed using raw scores.

d. A significance level of .001 was desired for each of seventy simple correlation coefficients.

This gave a significance level of probability .07 for the entire set of correlations.

e. Means, standard deviations, skewness, and kurtosis were also computed.

Hypothesis fifteen involved the question, "Do academic and occupational students differ on the predictor variables of SCOA, POEV, POEX, OA, and OP?" Also, it was decided to see if any existing differences could be attributed to type of student, sex, socio-economic background, vocational experience, or some combination of these control variables. Three-way and four-way multivariate analyses of variance were selected as appropriate techniques for answering these questions.

In Chapter III, an account has been given of the research procedures involved in the present study. Specifically discussed were: (1) the methods used to identify the population under study, (2) the hypotheses to be tested, (3) the procedures used in design of the instrument, and (4) a designation of the statistical procedures employed to test the hypotheses. Results of this investigation are reported in the following chapter.

CHAPTER IV

DATA ANALYSIS

The results of data analysis are presented in this chapter. The hypotheses identified in Chapter III are summarized in sequential order followed by relevant statistical data. The chapter is concluded with a brief summary of research findings.

Relationships Between Predictor Variables

These hypotheses investigated the interrelationships between each of the predictor variables. To test these hypotheses, the total population of the study was classified by type of student (academic or occupational) and within these classifications by sex.

H_1 and H_2

These hypotheses investigated the relationships between each of the three self concept of occupational ability measures, and each of the other predictor variables. Results of data analysis are shown in Tables 4 and 5.

TABLE 4.--Correlations between self concept of occupational ability measures and other predictor variables: academic students.

Predictor Variables	SCOA Measures					
	SCOA-G		SCOA-I		SCOA-SES	
	N	r	N	r	N	r
POEV-G						
Males	193	.63*	194	.55*	189	.15
Females	144	.59*	144	.60*	139	-.08
POEV-I						
Males	193	.47*	194	.58*	189	.24
Females	145	.46*	145	.55*	145	-.11
POEV-SES						
Males	189	.11	190	.08	185	.68*
Females	142	-.03	142	.04	138	.52*
POEX						
Males	184	.12	185	.01	181	.67*
Females	141	-.06	141	.03	138	.44*
OA						
Males	191	.12	191	.08	188	.68*
Females	146	-.06	146	.03	142	.38*
OP						
Males	190	.16	190	.13	186	.62*
Females	145	-.09	145	-.05	140	.51*

*Significant at < .001 level.

TABLE 5.--Correlations between self concept of occupational ability measures and other predictor variables: occupational students.

Predictor Variables	SCOA Measures					
	SCOA-G		SCOA-I		SCOA-SES	
	N	r	N	r	N	r
POEV-G						
Males	58	.52*	59	.52*	58	.24
Females	65	.73*	65	.68*	65	-.11
POEV-I						
Males	58	.44*	59	.55*	58	.15
Females	64	.59*	64	.71	64	-.05
POEV-SES						
Males	57	-.05	58	.20	58	.77*
Females	64	.02	64	.03	64	.73*
POEX						
Males	56	-.03	57	.14	57	.79*
Females	64	-.04	64	-.03	64	.41*
OA						
Males	60	-.14	61	.01	61	.56*
Females	64	-.07	64	-.20	64	.53*
OP						
Males	61	.07	62	.06	62	.50*
Females	64	-.04	64	.02	64	.44*

*Significant at < .001 level.

SCOA-G/SCOA-I and POEV-G/POEV-I scores are all based on scale measures. Significant relationships exist at the .001 level. POEV-SES, POEX, OA, and OP scores are all based on socio-economic status levels of occupations. All are significantly related at the .001 level with SCOA-SES, which is also scored on the basis of socio-economic status levels of occupations. No relationships exist between scores based on scale measures and scores based on socio-economic level measures. Factors involved in producing this finding will be dealt with in the discussion section of this chapter.

H_3 and H_4

These hypotheses investigated relationships between each of the three measures of Perception of Significant Other's Evaluation of Occupational Ability and other predictor variables. Results of data analysis are shown in Tables 6 and 7. Relationships exist between scores based on socio-economic status levels of occupations. No relationships exist between scores based on scale measures and scores based on socio-economic level measures. This will be dealt with in the discussion section of this chapter.

Academic females exhibit a weaker relationship between POEV-SES and OA (.31) than do occupational females (.61). However, differences in correlations are not statistically significant.

TABLE 6.--Correlations between Perception of Significant Other's Evaluation of Occupational Ability and other predictor variables: academic students.

Predictor Variables	POEV Measure					
	POEV-G		POEV-I		POEV-SES	
	N	r	N	r	N	r
POEX						
Males	185		185	.08	184	.78*
Females	141	.04	141	.16	141	.70*
OA						
Males	189	.11	189	.03	186	.56*
Females	142	-.14	63	-.22	141	.31*
OP						
Males	188	.22	188	.10	185	.59*
Females	142	-.13	142	-.04	140	.45*

*Significant at < .001 level.

TABLE 7.--Correlations between Perception of Significant Other's Evaluation of Occupational Ability and other predictor variables: occupational students.

Predictor Variables	POEV Measures					
	POEV-G		POEV-I		POEV-SES	
	N	r	N	r	N	r
POEX						
Males	56	.26	56	.11	57	.81*
Females	64	-.003	63	.02	63	.58*
OA						
Males	58	.08	57	.15	56	.65*
Females	64	-.08	63	-.22	63	.61*
OP						
Males	58		58		57	.74*
Females	64	-.11	63	.004	63	.37*

Significant at the < .001 level.

H_5 and H_6

These hypotheses investigated relationships between Perception of Significant Other's Expectation of Occupational Choice (POEX) and Occupational Aspirations (OA) and Occupational Plans (OP). These variables are all scored on the basis of socio-economic levels of occupations. Correlations are statistically significant for all groups except academic females (see Table 8).

TABLE 8.--Correlations between Perception of Significant Other's Expectation of Occupation Choice (POEX) and Occupational Aspirations (OA) and Occupational Plans (OP): all students.

Predictor Variables	Academic		Occupational	
	N	r	N	r
OA				
Males	181	.62*	56	.62*
Females	140	.27	64	.53*
OP				
Males	183	.69*	57	.78*
Females	139	.67*	64	.46*

*Significant at < .001 level.

H_7 and H_8

These hypotheses investigated relationships between Occupational Aspirations (OA) and Occupational Plans (OP). The variables are all scored on the basis of socio-economic levels of occupations and all

correlations are statistically significant except in the case of academic females (see Table 9).

TABLE 9.--Correlations between Occupational Aspirations (OA) and Occupational Plans (OP): all students.

Predictor Variables	Academic		Occupational	
	N	r	N	r
OP				
Males	187	.63*	61	.56*
Females	144	.24	64	.56*

*Significant at < .001 level.

A significant relationship between occupational plans and aspirations was not demonstrated in the case of females. In addition, the magnitude of relationship is much greater for occupational females (.56) than academic females (.24).

Summary

Hypotheses 1 through 8 were concerned with investigating relationships between the self concept (predictor) variables chosen for this study. Significant relationships were found to exist, although method of measurement appeared to be a significant element in magnitude of relationship. Relationships were found to exist between several variables which were based on scale measures. Also, relationships were found to exist between several variables which were measured by socio-economic status

levels of occupations according to Duncan's scale.[1] No relationships were found to exist between variables with differing measures.

The Self Concept of Occupational Ability (SCOA) as measured by scales was found to be related to Perception of Significant Other's Evaluation of Occupational Ability (POEV) as measured by scales. The Self Concept of Occupational Ability and Perception of Significant Other's Evaluation of Occupational Ability as measured by socio-economic status levels of occupations were significantly related.

Relationships were also demonstrated to exist between: (a) Self Concept of Occupational Ability (SES measured), (b) Perception of Significant Other's Expectation of Occupational Choice (SES measured), (c) Occupational Aspirations (SES measured), and (d) Occupational Plans (SES measured).

However, female academic students in this category consistently exhibited a weaker relationship between Occupational Aspirations (what they would ideally like to do) versus other predictor variables than did any other group of subjects. This was the only group which did not register a significant relationship in: (a) Occupational Aspirations versus Occupational Plans, and (b) Occupational

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[1]Duncan, "Socio-Economic Index," pp. 116-17.

Aspirations versus Perception of Significant Other's Expectation of Occupational Choice.

Relationship Between Background (Control) Variables and Self Concept (Predictor) Variables

Background factors (control variables) selected for this study include Socio-Economic Status level (SES), Occupational Experience in Paid Employment (OEPE), and Previous Occupational Program Participation (POPP). Predictor variables selected include: (a) the Self Concept of Occupational Ability (SCOA), (b) Perception of Significant Other's Evaluation of Occupational Ability (POEV), (c) Perception of Significant Other's Expectation of Occupational Choice (POEX), (d) Occupational Plans (OP), and (e) Occupational Aspirations (OA). To test the hypotheses, the total population of the study was classified by type of student (occupational or academic) and within those classifications, by sex.

H_9 and H_{10}

These hypotheses were concerned with a positive relationship between socio-economic status levels and each of the predictor variables. No positive correlations significant at the .001 level were found between socio-economic status and any of the predictor variables (see Tables 10 and 11).

TABLE 10.--Correlation between socio-economic status and predictor variables: academic students.

Predictor Variables	Males		Females	
	N	r	N	r
SCOA-G	195	.10	145	.05
SCOA-I	195	.02	145	.02
SCOA-SES	189	.08	140	-.09
POEV-G	192	.13	142	.03
POEV-I	192	.10	143	.04
POEV-SES	188	.12	140	-.05
POEX	184	.15	139	-.04
OA	190	.04	143	-.03
OP	189	.20	142	-.14

TABLE 11.--Correlation between socio-economic status and predictor variables: occupational students.

Predictor Variables	Males		Females	
	N	r	N	r
SCOA-G	58	-.07	65	.04
SCOA-I	58	.08	65	-.21
SCOA-SES	59	.13	65	.04
POEV-G	57	.08	65	.09
POEV-I	56	.009	64	.10
POEV-SES	56	.13	64	.07
POEX	55	-.03	64	-.04
OA	57	.28	64	.05
OP	57	-.01	64	.005

The role of socio-economic status in career development was further tested by asking subjects to use the career chart to identify the occupation of the person they chose as their "significant other person in occupational choice." This measure was correlated with all predictor variable measures. No positive correlations significant at the .001 level were found between socio-economic status of significant other and any of the predictor variables (see Tables 12 and 13).

TABLE 12.--Correlation between socio-economic status of significant other and predictor variables: academic students.

Predictor Variables	Males		Females	
	N	r	N	r
SCOA-G	186	-.04	141	-.05
SCOA-I	187	.06	141	.002
SCOA-SES	183	.12	136	.23
POEV-G	187	-.04	140	-.11
POEV-I	187	.007	141	.02
POEV-SES	183	.13	138	.23
POEX	179	.20	137	.19
OA	182	.14	139	.21
OP	182	.24	138	.20

TABLE 13.--Correlation between socio-economic status of significant other and predictor variables: occupational students.

Predictor Variables	Males		Females	
	N	r	N	r
SCOA-G	57	.23	64	-.23
SCOA-I	58	.30	64	-.23
SCOA-SES	57	.21	64	.26
POEV-G	57	-.03	64	-.19
POEV-I	57	.11	63	-.14
POEV-SES	57	.08	63	.15
POEX	56	.03	63	.22
OA	56	.05	63	.30
OP	57	.06	63	.30

H_{11} and H_{12}

These hypotheses were concerned with a positive relationship between occupational experience in paid employment and each of the predictor variables. Only for occupational males were positive correlations significant at the .001 level found between occupational experience in paid employment and any of the predictor variables (see Tables 14 and 15).

No other correlations approached this level. This one significant correlation may be questioned when one considers the discrepancy between SCOA-G and SCOA-I (.51 versus .16); this is despite the fact that occupational males demonstrated a high relationship between scores on the two scale measures (.71). This one significant finding therefore appears to be a spurious one.

TABLE 14.--Correlation between occupational experience in paid employment and predictor variables: academic students.

Predictor Variables	Males		Females	
	N	r	N	r
SCOA-G	197	.03	148	-.01
SCOA-I	197	.06	148	-.06
SCOA-SES	191	.03	143	-.11
POEV-G	194	.12	144	.10
POEV-I	194	.16	145	.06
POEV-SES	190	.12	142	-.07
POEX	185	.05	141	-.07
OA	190	.02	146	.04
OP	189	.04	145	-.11

TABLE 15.--Correlation between occupational experience in paid employment and predictor variables: occupational students.

Predictor Variables	Males		Females	
	N	r	N	r
SCOA-G	62	.51*	64	.07
SCOA-I	63	.16	64	.27
SCOA-SES	62	.03	64	-.13
POEV-G	58	.24	64	-.001
POEV-I	58	.09	63	.22
POEV-SES	57	.05	63	-.23
POEX	56	.07	63	-.01
OA	60	.12	63	-.27
OP	61	.06	63	.04

*Indicates significance at less than the .001 level.

H_{13} and H_{14}

These hypotheses were concerned with a positive relationship between previous occupational program participation and each of the predictor variables. As demonstrated in Tables 16 and 17, no positive correlations at the .001 level of significance were found to exist.

TABLE 16.--Correlations between previous occupational program participation and predictor variables: academic students.

Predictor Variables	Males		Females	
	N	r	N	r
SCOA-G	195	.10	147	.007
SCOA-I	195	-.02	147	-.001
SCOA-SES	189	.08	142	.07
POEV-G	193	.13	143	.10
POEV-I	193	.10	144	.06
POEV-SES	189	.12	141	-.07
POEX	184	.15	140	-.07
OA	190	.009	145	-.08
OP	189	-.06	144	-.03

TABLE 17.--Correlations between previous occupational program participation and predictor variables: occupational students.

Predictor Variables	Males		Females	
	N	r	N	r
SCOA-G	61	.04	65	.02
SCOA-I	62	.10	65	.06
SCOA-SES	61	.13	65	.03
POEV-G	58	.08	65	-.04
POEV-I	58	.23	64	-.02
POEV-SES	57	.16	64	.13
POEX	55	.004	64	.08
OA	59	-.04	64	-.09
OP	60	-.07	64	.01

To summarize, H_9 through H_{14} were concerned with investigating relationships between self concept (predictor) variables and certain background (control) variables including Socio-economic Status, Previous Occupational Program Participation, and Occupational Experience in Paid Employment. No relationships were found to exist between control and predictor variables.

H_{15}

This hypothesis investigated differences between academic and occupational students with regard to predictor variables. Four-way multivariate analysis of variance was used to test hypothesized differences and investigate interactions of control variables in those differences. The only predictor variables analyzed were those which could be scored according to socio-economic status levels of occupations. Scale measures were not used because they have different numbers of items for each sex and are, therefore, scored differently making it impossible to compare across levels of the predictor variables. Predictor variables were ranked in an order believed to be consistent with the theory of this study, which considers the occupational self concept as an intervening variable between perception of other's evaluations and resultant occupational choice. The order was as follows:

1. Perception of Significant Other's Evaluation of Occupational Ability (POEV-SES)
2. Perception of Significant Other's Expectation of Occupational Choice (POEX)
3. Self Concept of Occupational Ability (SCOA-SES)
4. Occupational Aspirations (OA)
5. Occupational Plans (OP)

The four control variables selected were:

1. Type of Student (Academic or Occupational)
2. Sex
3. Socio-Economic Level (SES)
4. Previous Occupational Education Program

Proportional cell frequencies were employed. Within occupational students, the maximum number available in some cells was eight students and within academic students, the maximum number in some cells was nineteen students. In cells with more than eight or nineteen, subjects were randomly selected from the total number in that cell. The only questionnaires used were those having complete data on the variables being analyzed. It was felt this did not introduce additional bias into the analysis, because those eliminated were considered equivalent to those who originally chose not to complete questionnaires. An over-all significance level of $p < .05$ was desired. Design of the analysis is shown on the following table:

TABLE 18.--Design of multivariate analysis: cell identifications and frequencies*

Cell	Type	Sex	SES	POPP	N
	Student	M or F	Hi or Lo	Yes or No	
1	Academic	M	High	Yes	19
2	Academic	M	High	No	19
3	Academic	M	Low	Yes	19
4	Academic	M	Low	No	19
5	Academic	F	High	Yes	19
6	Academic	F	High	No	19
7	Academic	F	Low	Yes	19
8	Academic	F	Low	No	19
9	Occupational	M	High	Yes	8
10	Occupational	M	High	No	8
11	Occupational	M	Low	Yes	8
12	Occupational	M	Low	No	8
13	Occupational	F	High	Yes	8
14	Occupational	F	High	No	8
15	Occupational	F	Low	Yes	8
16	Occupational	F	Low	No	8
				Total	216

*Two-tailed analysis, p. .05.

The multivariate ANOVA procedure does not assume independence for each variable analyzed. Rather it offers a test of the F ratio for all predictor variable conditioned upon the preceding predictor variables as ordered by the investigator. Findings partially sustain the hypothesis of differences between types of students. For analyzed variables, raw scores of academic students exceeded those of occupational students. Using the step down F procedure, academic and occupational subjects were found to differ on level of POEV-SES; level of POEX, when conditioned upon POEV; and level of SCOA-SES, when conditioned on POEV-SES and POEX. However, with regard to OA and OP scores conditioned on the above scores, no significant difference was found between academic and occupational students.

TABLE 19.--Compared academic and occupational subjects on predictor variables.

Predictor Variables	Academic Students	Occupational Students	Level of Significance for Step-Down Fs.
POEV-SES	7.68	6.10	P .0001*
POEX	7.63	5.81	P .0233*
SCOA-SES	7.57	5.89	P .0042*
Occupational Aspirations	7.62	6.14	P .1446
Occupational Plans	7.28	5.67	P .2100
		P for Overall F Test	.0001

*Significant beyond the .05 level.

Male and female subjects were compared. For the variables analyzed, raw scores of males exceeded those of females. Using the step-down F procedure, males and females were found to differ on level of POEV-SES; level of POEX, when conditioned on POEV, and level of SCOA-SES, when conditioned on POEV-SES and POEX. However, with OA and OP conditioned upon the above scores, no significant differences were found between male and female students (see Table 20).

TABLE 20.--Comparison of male and female subjects on mean scores of predictor variables.

Predictor Variables	Males	Females	Level of Significance For Step-Down Fs.
POEV-SES	7.26	6.53	.0047*
POEX	7.33	6.11	.0036*
SCOA-SES	7.24	6.21	.0361*
O A	7.38	6.38	.1500
O P	6.99	5.95	.4256
		P for Overall F Test	.0003

*Significant at the < .05 level.

High and low socio-economic status subjects were compared, with no significant differences on the predictor variables. Comparison of subjects with and without previous occupational education program experience failed to disclose significant differences.

In addition to the four main effects hypothesis described above, interactions of control variables were examined as possible sources of difference.

Six 2-way interaction hypotheses were tested, four 3-way interaction hypotheses were tested, and one 4-way interaction hypothesis was tested. Only one 2-way interaction hypothesis yielded significant differences at the < .05 level. Subjects compared on interaction of sex and socio-economic status levels were found to differ on level of POEV-SES and at level of POEX, when conditioned on POEV-SES. No significant differences were found to exist with respect to the other variables (see Table 21).

TABLE 21.--Interaction of sex and SES: high and low SES male and females compared on mean score of predictor variables.

Predictor Variables	Males		Females		Level of Significance For Step-Down Fs.
	Hi SES	Lo SES	Hi SES	Lo SES	
POEV-SES	7.57	7.00	6.36	6.67	.0472*
POEX	7.58	6.60	5.97	6.26	.0521*
SCOA-SES	7.60	7.00	6.02	6.39	.2263
O A	7.63	7.14	6.52	6.25	.1913
O P	7.25	6.75	6.15	5.77	.3964
			P for Overall F Test <		.0413

*Significant beyond the < .05 level.

High SES males scores consistently above other groups. High SES females consistently ranked last on scores. Scores of low SES males and females appear to

vary together, always in between scores of high SES of subjects. The following graphs portray the interaction of SES and SEX for the two variables where significant differences were found to occur.

Summary of H_{15} Analysis

Predictor variables scored according to Socio-economic status levels were used for this analysis. Occupational and Academic students were found to differ with regard to POEV-SES, POEX, and SCOA-SES as an interrelated set, each conditioned on the foregoing variables. Occupational aspirations and plans, when conditioned on the other variables, did not show significant differences between academic and occupational students.

Males and females differed significantly on Mean Scores of POEV-SES, POEX, and SCOA-SES. No difference was found to exist on level of occupational aspirations and plans.

Subjects were compared on the interaction of Sex and Socio-Economic Status and were found to differ significantly on levels of POEV-SES and POEX. Male high SES students exhibited the highest scores, while females exhibited the lowest. As the preceding graphs show, with high socio-economic status there is a great deal of variability between males and females. With low socio-economic status there is little variability between males and females.

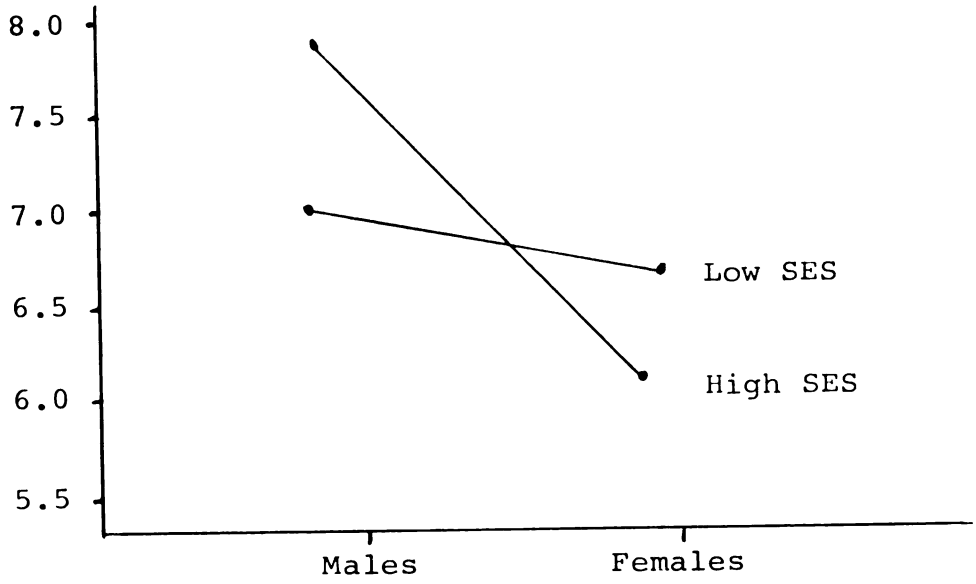

Figure 1.--Graphic portrayal of sex x SES interaction on POEV-SES mean scores.

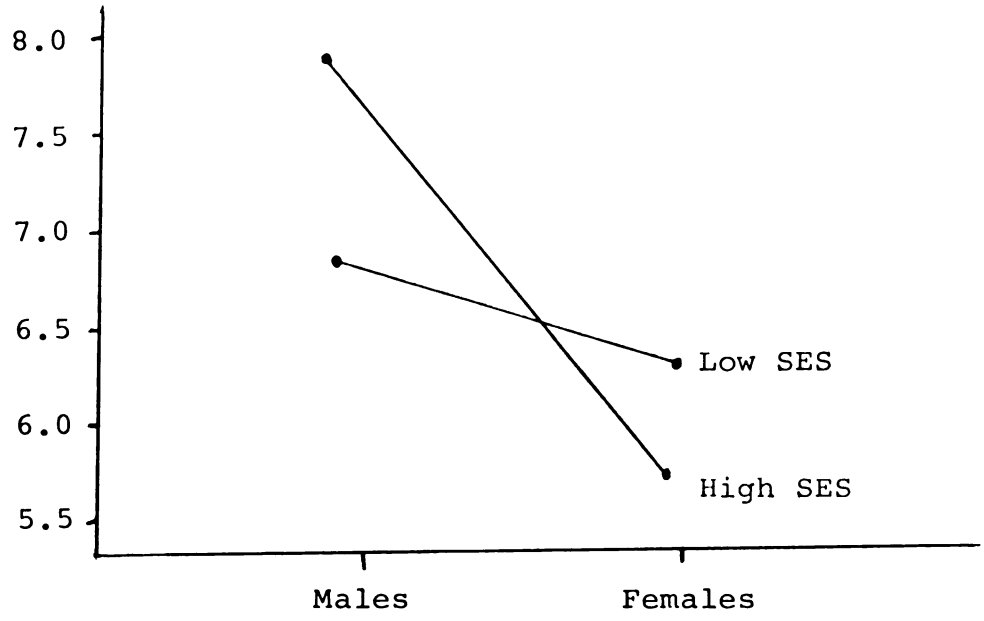

Figure 2.--Graphic portrayal of sex x SES interaction on POEX mean scores.

The Significant Other

A parent was most often identified as the one significant other person considered to be the most important in occupational choice by all categories of subjects. However, those named next most often varied by type of student. A high proportion of academic males named teachers, a high proportion of occupational males named an employer or supervisor. Academic females named a teacher and friend in almost equal proportions. A high proportion (21.5%) of occupational females named a friend (see Table 22).

Discussion

Parents were most often named as the vocationally significant other person. However, the majority was not overwhelming, ranging from 34 to 40 per cent. Work supervisors, teachers, and friends were often named at the occupationally significant other person in career choice.

It has been speculated that parental influence on career development deminishes as the students grow older. This of course cannot be concluded from these

TABLE 22.--Number and proportion of those indicated as the One Significant Person whose judgment about occupational choice was most valued by the respondent.

Significant Person	Academic Males		Occupational Males		Academic Females		Occupational Females	
	%	N	%	N	%	N	%	N
Parent	37.3	72	39.0	23	33.6	49	40.0	26
Sibling	6.7	13			6.2	9	1.5	1
Spouse	2.1	4	1.7	1	3.4	5	10.8	7
Other Relative	5.7	11	6.8	4	2.7	4	4.6	3
Personal Friend	12.4	24	10.2	6	19.2	28	21.5	14
Employer or Supervisor	6.2	12	15.3	0	4.8	7	4.6	3
Co-worker	2.6	5			2.7	4	6.2	3
Teacher	19.2	37	22.0	13	18.5	27	6.2	3
Other Adult	7.8	15	5.1	3	8.9	13		4
TOTAL		193		59		146		65
No Answer on Self*		5		5		2		0
TOTAL		198		64		148		65

*Not included in Calculation.

findings but it is interesting to note the frequency with which persons other than parents are named as the occupationally significant other.

Of special importance is the finding that occupational male students frequently mentioned an employer or supervisor. This means cooperative occupational programs, given the right kinds of work supervisors, have the capability to exert profound influence on the career development of students.

Lack of significant relationships between career development measures based on scale instruments and career development measures based on socio-economic levels of occupations lends support to the contention of Wamhoff[1] that different kinds of constructs are being measured. The socio-economic questions may be measuring career development factors as they relate to occupational levels. The scale instruments may be measuring career development variables which operate within occupational levels. One must also consider it possible that the parallel nature of the Self Concept and the Perceived Other's Evaluation scales contributed to the meaningful relationships found in the two scale instrument scores across all subjects.

Findings of Hypotheses 3, 5, 7, 15, while by no means conclusive, suggest differences among certain

[1]Wamhoff, "Self-Concept of Vocational Ability," p. 88.

specified groups; for example, high socio-economic males and females demonstrated a high degree of variability regarding perceived other's evaluation and expectation, while low socio-economic males and females were found to be quite similar. Surprisingly, high socio-economic females demonstrated the lowest perceived evaluation and expectation by their occupationally significant other.

Also, in the testing of Hypotheses 3, 5, and 7, academic females exhibited a weak relationship between occupational aspirations and perceived other's evaluation. They exhibited no relationship between aspirations and perceived other's expectation of occupational choice. They also showed no relationship between occupational aspirations and occupational plans.

These findings suggest important differences in specified groups. Perceived role obligations or perceptions of available occupational options will normally differ across different kinds of groups. Since catering to the educational needs of specialized groups is increasingly becoming a function of community colleges, the findings here might be worthy of further study.

The findings of Hypotheses 9 and 14 are quite surprising, as are some of the findings of Hypothesis 15. Socio-economic levels of parents or other significant persons related to none of the SES measured or scale measured career development factors under study. Also,

no differences were found between high and low socio-economic students. The only significant finding was that high SES males and females demonstrated more variability with regard to perceived other's evaluation and expectation levels than did low SES students. This is quite surprising since much research has identified socio-economic status as a limiting or enhancing factor in career aspirations and choice.

However, Wamhoff[2] also found no relationships between socio-economic status of occupations and scale measures of the occupational self concept. He concluded the occupational self concept operated independently of socio-economic status levels of occupations.

Also, this study found no relationship between length of time in previous occupational experience and any of the career development variables under study. However, this is not conclusive since other key factors appear not to have been identified. In retrospect, it appears that the design of this study was not sufficient to acquire appropriate data.

However, the researcher believes he can say without proof that this finding has implications for the quality of work experience programs in high schools and community colleges, since it demonstrates that

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[2]Ibid., p. 141.

merely putting in time on a job does not appear to enhance the career development process.

Time spent in an occupational education program did not relate to any of the career development variables, nor did it account for student differences. However, it appears the design of this study did not provide the data necessary for a meaningful conclusion.

The researcher believes, however, that the present findings make it appropriate to ask if social-psychological aspects of career development are getting enough emphasis in the planning of occupational education programs.

The findings of Hypothesis 15 indicate no group differences on occupational aspirations and plans when these two factors are conditioned on perceived other's evaluation, perceived other's expectation and the occupational self concept, in that order. This does not mean student differences were not found to exist on aspirations and plans. It means any differences were not conditioned on the preceding ranked variables. Some groups analyzed did in fact differ on occupational aspirations and plans. However, according to the statistical test used, these differences were not a function of the occupational self concept or perceived evaluation and expectation.

In both the set of scale-measured and the set of socio-economically measured, predictor variables, all

groups analyzed demonstrated meaningful relationships between perceived others evaluation and expectation, and the occupational self concept. Beyond this, relationships were less consistent across groups.

Thus, in the analysis of both relationships and differences, occupational aspirations and plans seem to operate in a manner different from the other predictor variables of this study. This finding casts some doubt on the postulate of this study relating the occupational self concept to ultimate career choice. Apparently other variables need to be considered.

Summary

Chapter IV has been devoted to a presentation and discussion of this study's findings. Three sets of hypotheses were examined. Findings were presented and summarized for each set. The first set dealt with relationships between pairs of predictor variables. The second set dealt with relationships between background (control) variables and predictor variables. The third set examined how groups of subjects differ on predictor variable scores.

Appendix B is a table which classifies students by sex and shows comparisons of Mean Scores on all nine predictor variables of this study. Appendix C summarizes the multivariate analysis of variance tests.

The final chapter will provide a summary of this research, list conclusions, and discuss implications and recommendations for educational practice.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study was based in part on the social-interaction theories of George Herbert Meade which hold that a person's self concept develops from interaction between himself and his social environment. It follows that the individual's self concept of his occupational ability develops from interaction between himself and key other persons to whom he relates most strongly. The individual will normally evaluate his occupational ability in the same way he thinks these significant others evaluate it. He will expect of himself what he thinks they expect of him. The individual internalizes these evaluations and expectations. They become part of the evaluating definition of himself, which he actualizes through occupational aspiration (his ideal career) and ultimate occupational choice.

The Problem

This study focused on community college freshmen and sought certain career development information. This included scale measures of their occupational self-concepts

and answers to the following questions: Who is the key person having the most influence on their career choices? How do students think their key others evaluate their occupational abilities? What career levels do they think their key others expect them to attain? What careers do they think best represent their abilities? What are their ideal careers? What careers do they really expect to attain? Are the answers to these questions related to each other? Finally, what differences, if any, are there between academic and occupational students.

Certain background factors, including socio-economic background, previous work experience and previous occupational training have been thought to influence career development. This study sought to determine if there were any relationships between these and the career development information just mentioned. Also, if occupational and academic students differed, could the differences be explained by any of these background factors or by any combination of them?

Procedures

The population of this study included two categories of caucasian, native American, freshman males and females from Jackson Community College. This included 477 academic students who were preparing for transfer to a four-year college and 132 occupational students who were preparing for careers requiring less than a

baccalaureate degree for initial entry. Returns came from 346, or 72 per cent, of the academic students; 129, or 98 per cent, of the occupational students participated.

Data was collected by asking students to complete a questionnaire consisting of demographic, personality assessment, and career choice questions. Personality assessment questions had been analyzed for reliability in a previous research. Other questions were formulated and analyzed for reliability on the basis of a pilot study for the present research. Each subject answered twelve multiple choice questions to indicate how he rated his occupational abilities in general and in his area of strongest interest. These questions had been designed for an earlier study.[1]

The subject identified one significant other person having the most influence on his occupational choice. Twelve multiple choice questions were answered to indicate how the student thought this "significant other" would rate his occupational ability in general and in the area of greatest occupational interest. These questions were parallel versions of those developed for the Wamhoff study.

Students were asked for information related to socio-economic levels of occupations. For this purpose

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[1]Wamhoff, "Self Concept of Vocational Ability."

a career chart was developed. This chart used Roe's eight occupational groups.[2] Under each group classification, occupation titles were grouped in cells. Each cell represented a 10-point spread of socio-economic rankings based upon an index developed by O. D. Duncan.[3] For example, under the "Business Organization" category, cells ranged from low (baggage man, shipping clerk, etc.) to high (bank manager, personnel manager, ect.).

The student was asked to select from the chart the job which, given the necessary training and experience came closest to his ability; his career potential, in other words. This provided a second measure of the occupational self concept--one which related to socio-economic levels of occupations. Subjects also used the chart to indicate their own socio-economic backgrounds, their ideal careers, and their expected careers.

The career chart was used to identify perceived evaluation by the significant other, i.e., "What occupation does your significant other think comes closest to your abilities?" Also identified was perceived expectation of occupational choice by the significant other, i.e., "What does he/she really expect you to do?"

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[2]Roe, et al., "Studies of Occupational History," pp. 387-93.

[3]Duncan, Socio-Economic Index, pp. 109-275.

In summary, answers to the questionnaire provided the following information:

a. Demographic information relating to age, sex, student classification, etc.

b. Background factors including:

   1. Socio-economic status level
   2. Number of months occupational experience in paid employment
   3. Number of months previous occupational program participation

c. The identity of the significant other person considered by the student to be most influential in his occupational choice

d. Career development factors measured by scale instruments including:

   1. The student's occupational self concept in general and in a field of interest
   2. How the student perceives his significant other to evaluate his occupational ability in general and in the field of his interest

e. Five career development factors measured according to socio-economic levels of occupations; these include the following:

   1. Perceived "other's" evaluation of occupational level of ability

2. Perceived "other's" expectation of occupational choice
3. The occupational self concept (career potential)
4. Occupational aspirations (ideal career)
5. Occupational plans (expected career)

Major Findings

In this study there are six major findings. The first five are based on separate analysis of four groups: Academic males, academic females, occupational males, and occupational females. Findings are as follows:

1. A parent was most often named as the one most significant other person influencing occupational choice by 33 to 40 per cent of participating students. Others were named proportionally less than a parent but frequently enough to deserve mention.
   a. Many academic males also indicated a teacher
   b. Employers, supervisors, and teachers were also frequently mentioned by occupational males
   c. Academic females also frequently named a teacher or friend
   d. A friend was also frequently indicated by occupational females

2. The occupational self concept was positively related to perceived evaluation by the significant other. This was true in all four groups analyzed. This finding is based on interrelationships among the career development factors measured by scale instruments including:
   a. The student's occupational self concept in general
   b. The student's occupational self concept in his field of interest
   c. Perceived significant other's evaluation of occupational ability in general
   d. Perceived significant other's evaluation of occupational ability in the student's field of interest

Each of the above factors was positively related to the other three.

3. For all males and occupational females, the five socio-economically measured career development factors were positively and meaningfully interrelated. These factors were:
   a. Perceived significant other's evaluation of occupational ability
   b. Perceived significant other's expectation of occupational choice

c. Occupational self concept

d. Occupational aspirations

e. Occupational plans

For academic females the following exceptions were found:

a. No significant relationships between occupational aspirations and occupational plans

b. No significant relationships between occupational aspirations and perceived other's expectation of occupational choice

c. Only a weak relationship between occupational aspirations and perceived other's evaluation of occupational ability

4. The three background factors of this study related neither to scale-measures or SES-measured career development factors

a. Socio-economic status level did not relate to any of the career development factors

b. Previous occupational training did not relate to any of career development factors

c. Previous occupational experience did not relate to any of the career development factors

5. No relationships were found between scale-measured and socio-economically measured career development factors.
6. The following findings involve a set of group comparisons. Socio-economically measured variables were ranked in an order believed consistant with the theory of this study which considers the occupational self-concept as an intervening variable between perceived other's evaluation and resultant occupational choice. The order was as follows:
   a. Perceived other's evaluation of occupational ability
   b. Perceived other's expectation of occupational choice
   c. The occupational self-concept
   d. Occupational aspirations
   e. Occupational plans

Each variable was considered to be conditioned on all those preceding it in rank order.

Findings were as follows:

a. Academic students enjoyed higher perceived other's evaluations than did occupational students.
b. Conditioned on perceived evaluation, academic students felt their others' expected higher

levels of occupational achievement than did occupational students.

c. Conditioned on perceived evaluation and expectation, academic students had higher occupational self-concepts than did occupational students.

d. The two groups, however, did not differ on aspirations or plans when conditioned on the three preceding variables.

e. Males and females were compared and found to differ in precisely the manner described above. Males exhibited the higher scores.

f. High and low socio-economic groups were compared and found not to differ.

g. Students with and without previous occupational experience were compared and found not to differ.

h. Sex and socio-economic status when considered together did account for differences as follows:

   1. High socio-economic students varied considerably; high socio-economic males exhibited the highest perceived evaluations and expectations by their "other," while high SES females were lowest.

2. Low SES males and females were in between with males only slightly higher than females.

i. No group comparisons accounted for differences in occupational aspirations or occupational plans level.

Conclusions

The following five conclusions can be substantiated by this study's findings:

1. Community college students are not generally consistant with regard to their most significant other person in occupational choice. Many relate to a parent but many also relate to teachers, friends, work supervisors, and employers.
2. The student does evaluate his ability to achieve in occupational tasks in the same way he thinks his "other" does. This is true generally and in his occupational interest area. This conclusion is based on the fact that scale scores for all students were meaningfully interrelated.
3. The student, when considering his career potential, reflects the evaluation and expectation he feels his "other" has for him. This conclusion is based upon meaningful

interrelationships found to exist between the students' evaluations of their career potentials and their "others" perceived evaluations and expectations. In this case, all three factors were assessed according to socio-economic levels of occupations.

4. Academic students, as a group, perceive their "others" to evaluate their career potentials higher and to expect higher levels of occupational choice from them than do occupational students. Academic students, conditioned on this, consider their career potentials to be higher than do occupational students.
5. Male students, as a group, perceive their "others" to evaluate them higher and to expect higher levels of occupational choice from them than do females. Males, conditioned on this, consider their career potentials to be higher than do females.

Implications and Recommendations for Educational Practice

It would appear that the information provided here could be considered in developing career guidance programs as well as occupational curriculums. The methodology here used could also be applied to elicit better understanding of students being served. Better understanding of

students can only result in better educational programming. Following are seven implications and recommendations for educational practice.

1. Career guidance programs need to account for the influence of significant others throughout the career development process. The present study concludes that expectations and evaluations of significant others are related to the occupational self concepts of students. This study was concerned with community college students. However, as pointed out by Ginsburg and others[4] career development is a lifelong process. The influence occupationally significant others have on career development undoubtedly starts in infancy and continues through advanced age. This raises the question, what can be done to condition the influence these significant others have on the career development of students? Educators have long attempted to involve parents in the academic education of students. Education programs might be developed which condition parents with awareness of their influence on career development in their children. In such programs, parents could learn how to provide their children with experiences which would enhance the career choice process.

2. Career guidance programs must take into account the contributions which persons other than parents

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[4]Ginzberg, et al., Occupational Choice, pp. 187-88.

make to career development. In this study a parent was most often named as the significant other person influencing occupational choice. However, this was true for only 33 to 40 per cent of the subjects. Many students named other persons including work supervisors, teachers, and friends.

Occupational males frequently mentioned an employer or work supervisor as the occupationally significant other. This indicates the employee-supervisory relationship may affect career development. It therefore seems appropriate to recommend that criteria of cooperative training work stations include high standards for supervisors of student trainees.

Teachers were often mentioned as being occupationally significant in career development. Through university courses and workshops, faculty should be conditioned to relate their instruction more closely to the occupational choice process. This refers to academic and occupational instructors at all instructional levels.

3. Academic students need a special kind of occupational counseling. The fourth conclusion of this study was that academic students perceived higher evaluations and expectations from their significant others and had higher occupational self concepts than did occupational students. This is not necessarily a happy conclusion for academic students. Blocker indicates for

every three students who plan transfer to a four-year college (criteria of an academic student for the present study). One actually does.[5] Many may drop out for financial reasons. However, Cooley and Becker studied community college students and found their academic abilities to be more similar to non-college students than to four-year students.[6] Many community college students who do not transfer simply have had unrealistic aspirations and are forced into the painful decision to modify their goals. They are often unsure about what their new goals should be. These students who must change their plans are in critical need of sympathetic and realistic occupational counseling. This is not counseling which merely matches bodies to existing jobs, but counseling which takes into account how the student sees himself and how he thinks others see him. This kind of counseling helps the student make his adjustment with the least possible trauma. Such counseling must be done by both occupational faculty and student personnel services.

4. Female students need more comprehensive academic, occupational, and career guidance programs than are now available in the community college. We live in a two-job economy. We are at present in the midst of a

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[5]Blocker, Plummer and Richardson, The Two-Year College, pp. 240-24.

[6]Cooley and Becker, "Junior College Student," pp. 454-69.

movement for women's equality with men. Women's role in occupations is becoming more significant with the availability of career opportunities which until a few years ago did not exist. With expanding technology, women will have career opportunities undreamed of even today.

Yet the female students of this study consider themselves inferior to men with regard to perceived evaluations and expectations by their occupationally significant other. They also were inferior to men on level of their occupational self concept. This may be due to perceived role obligations and perceptions of available occupational options for women. Such perceptions may be associated with the occupationally significant other as this study contends. They may also reflect inadequate programming at the community college. Astin[7] found that student's career choices came to conform to dominant or model choices found in the college environment. It seems reasonable to conclude that regardless of their aspiration levels, student's choices will reflect careers of which they are aware and for which they have an opportunity to prepare. Accordingly, it recommended that the community college make every effort to provide adequate occupational programming for women including up-to-date career guidance information and services.

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[7]Astin, "Career Choices," p. 541.

5. It is recommended that the occupational self concept and influence of occupationally significant others be taken into account in the design of curriculum and guidance services for the disadvantaged. Blocker predicted that it is the culturally deprived and technologically unemployed from which community colleges must recruit students for vocational and technical programs.[8] This is becoming true. Much federal legislation has been passed containing provisions to support training programs for college-age disadvantaged students. These students bring with them the greatest challenge an educational institution can face.

Not only will vocational education programs need to be relevant for future jobs, but these programs must account for social-psychological limitations of the disadvantaged student being trained.

It seems reasonable to speculate that many a disadvantaged student from a ghetto culture will come to the community college without an occupationally significant other. This student may possess an occupational self concept only in the most general sense, if at all. Preparing such a disadvantaged person for new and demanding careers involves more than teaching him skills. Ways must be found to help him relate to the society which he is preparing to enter so he will not slip back into ghetto ways. Once training is over this person must learn to see

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[8]Blocker, Plummer, and Richardson, Two-Year College, p. 275.

himself from a different perspective than he ever thought existed. Hopefully, he will find new vocationally significant others who will help him understand his new world.

This implies much individual counseling by trained guidance personnel and sympathetic occupational faculty. It also implies carefully designed curriculum experiences which will allow the student to proceed, little by little, one success at a time toward his occupational goal, and toward an increased occupational self concept level.

6. New approaches to student assessment are needed. Open-door and open-admissions policies commonly found in community colleges of course result in a wide variety of student problems with which to contend. "Canned" solutions which always worked in the past are becoming increasingly difficult to apply to complex problems of a heterogeneous student body.

Community college student personnel staffs routinely assess student potential by administering academic ability tests and career preference tests. It seems reasonable to let the student assess <u>his own</u> potential in a manner similar to this study. This could provide one more item of information about the student to help a college enhance his chances for success.

7. A final recommendation is that the occupational self concept based on social-interaction theory be assessed within other community college populations in a manner

similiar to that of the present study. This could provide validity data for the present study and provide opportunities for the improvement of research techniques used in assessing the occupational self concept.

The chief contribution of the present study has been to point up the significance of perceived evaluation and expectation of the occupationally significant other as they relate to the student's evaluation of his ability to perform occupational tasks. This study further suggests a way to assess the characteristics of entering community college students so that curriculum developers and counselors can understand their students and thereby provide more efficient programming to help them reach their career potentials.

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APPENDICES

APPENDIX A

COVER LETTER AND QUESTIONNAIRE

Jackson Community College

2111 EMMONS ROAD ● PHONE 517-787-0800

JACKSON, MICHIGAN 49201

June 22, 1970

This year Mr. Nels Oman, the Chairman of our Business Department, is conducting a survey of students at Jackson Community College. It would be helpful if you could be included in this survey.

The information you provide will help us better understand and serve future students of Jackson Community College.

You need not give us your name. Simply answer the questionnaire and return it to the College no later than July 10. A stamped, addressed envelope is enclosed for your convenience.

Thank you very much for your cooperation.

Sincerely yours,

F. Harold Matthews

F. Harold Matthews, Dean
Vocational And Technical Education

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JACKSON COMMUNITY COLLEGE

STUDENT QUESTIONNAIRE

Dear Student:

This is a study to assess backgrounds, attitudes towards themselves, and future plans of students at Jackson Community College. The information you provide will result in a better understanding of and service to students like you.

Please read carefully the directions on each part of the questionnaire. Then answer the questions as accurately as you can. A Career Chart has been enclosed to help you answer those questions dealing with your goals, career expectations, and career aspirations.

To be valid, it is essential that all students in this study complete and return this questionnaire which should take only a short time to fill in. When you have completed the questionnaire, return it to the College using the stamped, addressed envelope provided. The number in the upper right-hand corner of this questionnaire will be checked against our master list, torn off, and discarded before responses are analyzed. Your complete privacy is thereby assured, and you may feel free to answer all questions. It is not necessary to write your name on this questionnaire.

Your help in this study is greatly appreciated.

Nels Oman

Nels Oman, Chairman
Jackson Community College
Business Department

YOUR BACKGROUND--Circle the statement which best answers each question.

1. Your age:

   a. 18 - 20
   b. 21 - 23
   c. 24 - 26
   d. 27 - 30
   e. 31 - 35
   f. 36 - 40
   g. 41 - 45
   h. 46 - 50
   i. 51 - 55
   j. 56 or older

2. Your sex:

   a. Male
   b. Female

3. Who supports you?

   a. Your father
   b. Your mother
   c. Your spouse
   d. Yourself
   e. Other

Spring 1970

4. At the beginning of this/semester how many semester hours of work were you taking?

   a. 12 or more
   b. Less than 12

5. How many semester hours of course work were you taking at the end of the Spring 1970 semester?

   a. Under 12
   b. 12 - 15
   c. 16 or more

6. How many semester hours of vocational or technical courses (i.e. secretarial science, automotive, industrial technology, business , distributive education, etc.) did you take during the the spring, 1970 semester.

   a. 0 - 4 hours
   b. 5 - 8 hours
   c. 9 - 11 hours
   d. 12 or more hours

7. Is your program of study leading to: (select one)

   a. A one-year certificate
   b. An Associate in Arts or an Associate in Science Degree
   c. An Associate Degree in an applied field such as business, technology, nursing, etc.
   d. An Associate in General Studies degree
   e. No particular certificate or degree

From the CAREER CHART select the job title which comes closest to describing the occupation of the person who supports you. (if this person is not now working, use the last job held)

8. Look at the Occupational Categories at the top of the chart. Is his/her job title listed under:

   a. Category I, Public and Private Service
   b. Category II, Business Contact
   c. Category III, Business Organization
   d. Category IV, Technology
   e. Category V, Outdoor
   f. Category VI, Health and Science
   g. Category VII, General and Cultural
   h. Category VIII, Arts and Entertainment

9. Look at the box in which his/her job title is listed. Is this job title listed in:

   a. Box a
   b. Box b
   c. Box c
   d. Box d
   e. Box e
   f. Box f
   g. Box g
   h. Box h
   i. Box i
   j. Box j

9a. Write in this job title on the line below:

_____

OR

9b. If none of the choices seemed appropriate, write in the appropriate job title on the line below:

_____

YOUR PREVIOUS OCCUPATIONAL TRAINING AND EXPERIENCE

Following are some of the occupational career training programs typically offered in high schools, technical schools, and colleges:

Automotive Repair
Bookkeeping/Accounting
Data Processing
Drafting
Electricity
Food Service
Hospitality
Machine Trades
Electronics
Office Education
Printing
Retailing and Salesmanship
Service Station Operation
Cooperative (On-the-job Training)

10. Before attending Jackson Community College, how many semesters were you enrolled in one or more occupational programs of this nature?

    a. 0 - 1 semester
    b. 2 - 3 semesters
    c. 4 - 5 semesters
    d. 6 semesters or more

11. Since you began working, how many months have you worked at a job of 15 hours per week or more?

a. None
b. 1 - 6 months
c. 7 - 12 months
d. 13 - 18 months
e. 19 - 24 months
f. 25 months or more

12 How many of these months were spent working on a job which was related to the career plans you now have?

a. None
b. 1 - 6 months
c. 7 - 12 months
d. 13 - 18 months
e. 19 - 24 months
f. 25 months or more

HOW YOU SEE YOURSELF

Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

13. How do you rank yourself in your ability to do any job that you want to do?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

14. Do you think you have the ability to do any job you desire?

a. yes, definitely
b. yes, probably
c. not sure either way
d. no, probably not
e. no, definitely not

15. If you could have any job in the world, how well would you be able to do the job, as compared to all others that are in that occupation?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

16. Assuming that you have already acquired the training necessary, where would you rank yourself in ability to do any job?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

17. Do you feel you have the ability to succeed in any occupation you undertake?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

18. Compared to your best friends how well do you feel you can do on any job?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

Now consider the occupation of your greatest interest. Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

19. How would you rank yourself in ability, in comparison to all others in the occupation of your greatest interest?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

20. Do you feel you have the ability to complete training necessary in the occupation of your greatest interest?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

21. For the job of your greatest interest how do you think you would rank in ability with all others?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

22. After 5 years of working/at the job of your greatest interest where do you think you will rank in comparison with others who have held the same job for 5 years

a. among the best
b. above average
c. average
d. below average
e. among the poorest

23. For those occupations in which you are interested, do you feel you have the ability to do well?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

24. Compared to your best friends how well do you feel you can do in the occupation of your greatest interest?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

Consider your interests and assume you can get the necessary training and experience. From the Career Chart, select the job you feel is closest to your ability.

25. Look at the Occupational Categories at the top of the chart. Is this job listed under:

a. Category I, Public and Private Services
b. Category II, Business Contact
c. Category III, Business Organization
d. Category IV, Technology
e. Category V, Outdoor
f. Category VI, Health and Science
g. Category VII, General and Cultural
h. Category VIII, Arts and Entertainment

26. Look at the box in which the job title is listed. Is this job title listed in:

a. Box a
b. Box b
c. Box c
d. Box d
e. Box e
f. Box f
g. Box g
h. Box h
i. Box i
j. Box j

26a. Write this job title on the line below:

_____

OR

26b. If none of the choices seemed appropriate, write in the appropriate job title on the line below:

_____

Your Ideal Career. Consider your interests and assume you can get the necessary training and experience. From your career chart select the job coming closest to what you would ideally like to be doing 10 years from now.

27. Look at the Occupational Categories at the top of the chart. Is this job listed under:

a. Category I, Public and Private Services
b. Category II, Business Contact
c. Category III, Business Organization
d. Category IV, Technology
e. Category V, Outdoor
f. Category VI, Health and Science
g. Category VII, General and Cultural
h. Category VIII, Arts and Entertainment

28. Look at the box in which the job title is listed. Is the job title listed in:

a. Box a	f. Box f
b. Box b	g. Box g
c. Box c	h. Box h
d. Box d	i. Box i
e. Box e	j. Box j

28a. Write this job title on the line below:

_____

OR

28b. If none of the choices seemed appropriate, write in the appropriate job title on the line below:

_____

Your Expected Career. Sometimes our expected career cannot be the same as our ideal career. From your career chart select the job coming closest to what you really expect to be doing 10 years from now.

29. Look at the Occupational Categories at the top of the chart. Is this job listed under:

a. Category I, Public and Private Services
b. Category II, Business Contact
c. Category III, Business Organization
d. Category IV, Technology
e. Category V, Outdoor
f. Category VI, Science and Health
g. Category VII, General and Cultural
h. Category VIII, Arts and Entertainment

30. Look at the box in which the job title is listed. Is the job title listed in:

a. Box a	f. Box f
b. Box b	g. Box g
c. Box c	h. Box h
d. Box d	i. Box i
e. Box e	j. Box j

30a. Write this job title on the line below:

_____

OR

30b. If none of the choices seemed appropriate, write in the appropriate job title on the line below:

_____

SIGNIFICANT OTHER PERSON IN OCCUPATIONAL CHOICE

31. Most of us relate to a person who is important to us and whose judgements about our careers we value. Please indicate the <u>one significant person</u> whose judgement about your occupational choice you value most.

a. A parent
b. A brother or sister
c. A husband or wife
d. Another relative
e. A personal friend
f. An employer or supervisor
g. A co-worker
h. A teacher
i. Some other adult

From the Career Chart select the job title which comes closes to the occupation of this <u>significant person</u>.

32. Look at the Occupational Categories at the top of the chart. Is this job listed under:

a. Category I, Public and Private Service
b. Category II, Business Contact
c. Category III, Business Organization
d. Category IV, Technology
e. Category V, Outdoor
f. Category VI, Science and Health
g. Category VII, General and Cultural
h. Category VIII, Arts and Entertainment

33. Look at the box in which the job title is listed. Is the job title listed in:

a. Box a
b. Box b
c. Box c
d. Box d
e. Box e
f. Box f
g. Box g
h. Box h
i. Box i
j. Box j

33a. Write this job title on the line below:

_____

OR

33b. If none of the choices seemed appropriate, write in the appropriate job title on the line below:

_____

Now answer the following questions as you think THIS SIGNIFICANT PERSON would answer them.

Please read carefully and answer each question by circling the letter in front of the statement which best answers each question.

34. How does this significant person rank your ability to do any job that you want to do?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

35. Does he/she think you have the ability to do any job you desire?

a. yes, definitely
b. yes, probably
c. not sure either way
d. no, probably not
e. no, definitely not

36. If you could have any job in the world, how well does, this significant person think you would be able to do the job as compared to all others that are in the occupation?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

37. Given that you have already acquired the necessary training, where would he/she rank you in ability to do any job?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

38. Does he/she feel you have the ability to succeed in any occupation that you undertake?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

39. Compared to your best friends how well does <u>this significant person</u> feel that you can do any job?

a. among the best
b. above average'
c. average
d. below average
e. among the poorest

Now consider the occupation of your greatest interest. Please read carefully and answer each question as you think the significant person would answer by circling the letter in front of the statement which best answers each question.

40. How would this significant person rank you in ability compared to all others in the occupation of your greatest interest?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

41. Does he/she feel you have the ability to complete training necessary in the occupation of your greatest interest?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

42. For the job of your greatest interest how does this person think you would rank in ability with all others?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

43. After 5 years of working at the job of your greatest interest, where do you think he/she would rank you in comparison with others who have held the same job for 5 years?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

44. For those occupations in which you are interested, does he/she feel you have the ability to do well?

a. yes, definitely
b. yes, probably
c. uncertain
d. no, probably not
e. no, definitely not

45. Compared to your best friends, how well does he/she feel you can do in the occupation of your greatest interest?

a. among the best
b. above average
c. average
d. below average
e. among the poorest

Assume you can get the necessary training and experience. From your career chart select the occupation this significant person feels is closest to your ability.

46. Look at the Occupational Categories at the top of the chart. Is this job listed under:

a. Category I, Public and Private Services
b. Category II, Business Contact
c. Category III, Business Organization
d. Category IV, Technology
e. Category V, Outdoor
f. Category VI, Science and Health
g. Category VII, General and Cultural
h. Category VIII, Arts and Entertainment

47. Look at the box in which the job title is listed. Is the job title listed in:

a. Box a
b. Box b
c. Box c
d. Box d
e. Box e
f. Box f
g. Box g
h. Box h
i. Box i
j. Box j

47a. Write this job title on the line below:

_____

OR

47b. If none of the choices seemed appropriate, write in the appropriate job title on the line below:

_____

From the Career Chart select the occupation coming closest to what he/she expects you to be doing 10 years from now.

48. Look at the Occupational Categories at the top of this chart. Is this job listed under:

a. Category I, Public and Private Services
b. Category II, Business Contact
c. Category III, Business Organization
d. Category IV, Technology
e. Category V, Outdoor
f. Category VI, Science and Health
g. Category VII, General and Cultural
h. Category VIII, Arts and Entertainment

49. Look at the box in which the job title is listed. Is the job title listed in:

a. Box a
b. Box b
c. Box c
d. Box d
e. Box e
f. Box f
g. Box g
h. Box h
i. Box i
j. Box j

49a. Write this job title on the line below:

_____

OR

49b. If none of the choices seemed appropriate, write in the appropriate job title on the line below:

_____

50. How many semester hours had you completed at Jackson Community College befor the start of the Spring, 1970, semester?

a. 0 - 12
b. 13 - 17
c. 18 - 24
d. 25 - 30
e. 30 or more

51. What curriculum have you been following?

Curriculum: (Transfer)	(Occupational)
a. Liberal Arts	f. Business
b. Science	g. Secretarial
c. Engineering	h. Foote Nursing Student
d. Education	i. Practical Nursing
e. Business Administration	j. Technical
	k. Law Enforcement

END

APPENDIX B

RAW SCORE COMPARISONS OF ACADEMIC AND OCCUPATIONAL STUDENTS ON MEAN SCORES OF PREDICTOR VARIABLES

TABLE B-1.--Raw score comparisons of academic and occupational students on mean scores of predictor variables.

Variables	Academic Males N=152	Occupational Males N=64	Academic Females N=108	Occupational Females N=108
POEV-G	25.40	23.75	20.88	20.94
POEV-I	26.84	24.41	29.24	28.84
POEV-SES	7.90	6.62	7.48	5.60
POEX	7.91	6.50	7.10	5.13
SCOA-G	24.38	23.84	19.49	18.69
SCOA-I	25.96	25.31	28.59	27.66
SCOA-SES	7.80	6.69	7.31	5.10
O.A.	7.94	6.81	7.30	5.48
O.P.	7.59	6.40	6.97	4.94

APPENDIX C

SUMMARY OF 4-WAY MULTIVARIATE ANALYSIS OF VARIANCE

TABLE C-1.--Summary of 4-way multivariate analysis of variance.

PART I: SIGNIFICANT DIFFERENCES AT $p < .05$

Variable	Main Effects		Interaction Effects
	Academic vs. Occupational PL < .0001*	Males vs. Females PL < .0003*	Sex x SES PL < .0413*
1. POEVSES	.0001*	.0047*	.0472*
2. POEX	.0233*	.0036*	.0521*
3. SCOA SES	.0042*	.0361*	.2263
4. OA	.1446	.1500	.1913
5. OP	.2100	.4256	.3964

PART II: NON-SIGNIFICANT DIFFERENCES AT $p < .05$

Effects

Main Effects:	high SES vs. low SES	$p < .5584$
Main Effects:	Previous Occupational Education vs. No Previous Occupational Education	$p < .2986$
2-Way Interaction Effects:	Type x Sex	$p < .2806$
2-Way Interaction Effects:	Type x SES	$p < .5175$
2-Way Interaction Effects:	Type x Prev. Occ. Educ.	$p < .0966$
2-Way Interaction Effects:	Sex x Prev. Occ. Educ.	$p < .5381$
2-Way Interaction Effects:	SES x Prev. Occ. Educ.	$p < .4945$
3-Way Interaction Effects:	Type x Sex x SES	$p < .1320$
3-Way Interaction Effects:	Type x SES x Prev. Occ. Ed.	$p < .5576$
3-Way Interaction Effects:	Type x Sex x Prev. Occ. Ed.	$p < .5447$
3-Way Interaction Effects:	Sex x SES x Prev. Occ. Ed.	$p < .0633$
4-Way Interaction Effects:	Type x Sex x SES x Prev. Occ. Educ.	$p < .5423$