SELF - CONCEPT OF VOCATIONAL ABILITY ITS RELATION TO SELECTED FACTORS IN CAREER DEVELOPMENT

> Thesis for the Degree of Ph. D. MICHIGAN STATE UNIVERSITY CARROLL H. WAMHOFF



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This is to certify that the

thesis entitled

SELF-CONCEPT OF VOCATIONAL ABILITY

ITS RELATION TO SELECTED FACTORS IN CAREER DEVELOPMENT

presented by

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has been accepted towards fulfillment of the requirements for

<u>Ph.D.</u> degree in <u>Education</u>

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ABSTRACT

SELF-CONCEPT OF VOCATIONAL ABILITY ITS RELATION TO SELECTED FACTORS IN CAREER DEVELOPMENT

Ву

Carroll H. Wamhoff

The major problem of this study centered upon two concerns. One was an identification and assessment of the construct "self-concept of vocational ability" (SCVA), the second was concerned with the relationship of this construct to other factors said to influence the career development of individuals.

The problem of this thesis evolved through a critical review of literature pertaining to the empirical relationships between the self-concept and vocational choice/ development. Extensive research concerning the self-concept of academic ability (SCAA) and its relationship to academic achievement had been conducted at Michigan State University. Since the focus of those investigations was upon academic self-concepts rather than vocational self-concepts, they did not directly approach the specific interest of this study. However, they did provide a pattern for the identification and measurement of a self-concept. The sample for this investigation consisted of 361 individuals, 139 males and 222 females. All were Caucasian, complete school data was available for each of them from grade eight through high school and two years post high school. They were residents (or had been during their high school years) of a midwestern city of approximately 120,000 population.

An orientation based upon the symbolic interactionist theory to human behavior was developed. Nine general hypotheses were obtained and tested from that theoretical orientation, Two scales were developed to measure the SCVA, Questionnaire items were created to identify the Self Evaluation of occupational level ability, the perceptions of others of occupational level ability and, the analysis of significant other categories within this operational frame of reference. The association of the SCVA to the SCAA was described among such groupings as vocational and non-vocational students and, college four year, college two year or less, and non-college individuals. The relationship of the SCVA was further analyzed in terms of its relationship to other variables related to vocational development. These variables included vocational interests, aspirations and expectations, and socio-economic status levels.

Summary of Findings

A substantial relationship was found to exist between the Self Evaluation variables and the perceptions of others of the evaluation and expectation of occupational level ability for both males and females. On the other hand there was little relationship between data from the SCVA scales and the perceived evaluations of others of occupational level ability.

Parents are the most frequently listed category of significant others in terms of academic endeavors and vocational careers. The proportion of males and females who list parents <u>first</u> as academic significant others is greater than the proportion of males and females who list parents first as vocational significant others.

The SCVA was highly correlated with the SCAA for college males only. Besides this group, however, the strength of relationship between the two self-concept variables diminished.

The SCVA of individuals who were classified as vocational students was equal to those calssified as non-vocational students. Conversely, the SCAA of individuals who were classified as vocational students is not equal to the SCAA of individuals who were classified as non-vocational students.

The SCVA was found to be unrelated to several factors often utilized by others in the study of vocational development. For example, no significant relationship was found between the SCVA and socio-economic status (SES) of vocational significant others or the SES of parents. These findings support the contention that the SCVA may operate irrespective of the SES of various occupations or the SES of significant others.

SELF-CONCEPT OF VOCATIONAL ABILITY ITS RELATION TO SELECTED FACTORS IN CAREER DEVELOPMENT

Ву

Carroll H. Wamhoff

A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

College of Education

35/373 9. 1. 19

ACKNOWLEDGEMENTS

Thanks are in order for the many individuals who helped make this study possible. In particular, I am indebted to Dr. Wilbur B. Brookover for his guidance and continued support as director of the dissertation and a member of my guidance committee. In addition, I wish to express my thanks to Dr. Lawrence Borosage, chairman of my guidance committee for his encouragement and suggestions throughout my entire doctoral study program.

Others to whom accolades must be given include Dr. Andrew Porter, for his statistical and analytical assistance, Glen Foster, untiring computer consultant and Marilyn Zeigler, friend and thorn.

I am grateful to my three fine sons, Fred, Jeff and Brian who were patient and loving while the preparation of this manuscript took priority over normal family life.

Above all I am grateful to Marlene, my wife. It was for her and because of her that it all was possible.

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CHAPTER I

DESCRIPTION OF THE PROBLEM

Introduction

The self-concept, particularly self concept of vocational ability, and its relationship to various factors which contribute to an individuals' vocational development is the major thrust of this research. This study will seek a more definitive understanding of the origin, development and dynamics of self concept theory.

Much of the investigation conducted by behavioral scientists has been focused upon the individual, his inferred innate abilities and aptitudes. And while the career aspirations and decisions of youth has been one of the most frequently studied dimensions in the brief history of the social sciences, most research efforts have failed to study careers as consequences of an individual's relationships with others. Most research has been within the tradition of trait psychology wherein career decisions are viewed as a function of personal attributes such as aspiration level, motivation, aptitudes, affective self concepts, and so forth. Other studies, more sociological, have emphasized social status, race, religion, labor market, education and other career norms. Economic considerations have

also received special attention. Rarely, however, have investigators of career development patterns given major attention to the social-psychological processes of interaction between an individual and others in his social environment.

One of the important features of the present study is that sequential data (grade 8 through two years post high school) on social psychological variables is used in testing relevant hypotheses. This approach circumvents one of the main methodological limitations of many other career studies. For example, most researchers in career development have either conducted post hoc studies where subjects are asked to report factors important in choices already made, or they have studied factors assumed to be important but not validated by observation or fluctuations of progress towards the career development of the subjects.

Theoretical perspectives most pertinent to this study appear in the literature under the rubrics of reference group theory and symbolic interactionism. The research studies conducted by Brookover and associates¹ which focused upon self concept of academic ability and school achievement and were based upon the interactional theory of

¹Wilbur B. Brookover, Edsel L. Erickson, and Lee M. Joiner, <u>Self Concept of Ability and School Achievement</u>, III Report of Cooperative Research Project No. 2831, U. S. Office Of Education, "Relationship of Self Concept to Achievement in High School" (East Lansing: Educational Publication Services, College of Education, Michigan State University, 1967).

George Herbert Mead provide the main framework for further analysis in the present study. Additional references are drawn from representative studies of career development, particularly those derived from the vocational development theories posited by Super.²

Statement of the Problem

The major problem of this study centers upon two major concerns; first, the identification and assessment of the construct - "self-concept of vocational ability" based upon a social-psychological frame of reference, and secondly, to investigate the relationship of this construct with other factors said to influence career development of individuals. This study presents an alternative to the non-theoretical approaches and inconsistency of measurement in the research of a vocational self-concept while utilizing the resources of sequential data bearing upon vocational development.

The investigation of self, ideal self, general selfconcept and other self-concept constructs are voluminous and diverse (see Chapter II). As a result a variety of procedures are utilized in the definition and measurement of them. The research on self-concept of academic ability

²Donald Super, et al., <u>Vocational Development</u>: <u>A Framework of Research</u> (New York: Bureau of Publications, Teachers College, Columbia University, 1957), Chapters III and IV.

conducted by Brookover and associates³ which provides the background and the longitudinal aspect to this present study is an example of a more consistant and theoretically oriented approach to the study of the self-concept. The present study adopts this same procedure and extends it to the construct "self-concept of vocational ability."

Objectives of the Study

A major objective of this research was to identify the construct self-concept of vocational ability, from a phenomenological, straight forward, self report approach. The self-concept as defined here, cannot exist without the individual himself being aware ot it; it involves awareness by definition. Therefore, the assessment of self-concept of vocational ability was made through the use of a newly developed self report instrument.

According to past research, self-concept of academic ability results from an individual's perception of the evaluation significant others hold of their ability. The second objective of this study was to find if this proposition was also applicable with regard to an individual's self-concept of vocational ability. In connection with this objective the question is asked, What relationship, if any, does the socio-economic status of significant

³Brookover, loc. cit.

others have upon the individuals' self-concept of vocational ability?

A third objective addressed itself to the investigation of occupational interests in their association with the self concept of vocational ability. Is the individual's self-concept of vocational ability related to the level of vocational interests?

A fourth objective drawing from the theoretical framework of Brookover and associates was the investigation of the association which exists between an individual's self concept of vocational ability and his self concept of academic ability.

Aspirations and expectations/plans have been studied by several researchers in their role in career choice and development. The fifth objective of this study was to investigate the difference between career aspirations, expectations/plans and self-concept of vocational ability and to learn of the inner relationships of these three factors.

Vocational courses at the high school level purport to teach occupational skills and to expand occupational outlook horizons. The sixth objective of this study was to compare self-concept of vocational ability levels among students formerly enrolled in vocational career courses with those who did not enroll in such courses.

General Theoretical Framework of the Study

The theoretical framework of this study is derived from the symbolic interactionist theory of George Herbert Mead.⁴ Essentially this theory holds that man's mind and self are a reflection of the society in which he lives. An individual acquires his self-consciousness and his basic ideas and values in the process of interacting with significant people in his life who either explicitly or implicitly encourage certain kinds of behavior and discourage other kinds.

Much of social psychology typifies the interpersonal approach to understanding the self i.e.--the focus is not upon individuals, but upon interaction between individuals or groups. Thus, the consequence of being human is that an individual becomes an object to himself because of his social nature.

While all attitudes are rooted in social experience, self attitudes are thought to be a product of interaction in a special sense. First, theories of self development emphasize the individual's perception of how other persons see him. Second, they focus attention on the process by which he compares his ideas about himself with the expectation he believes others have concerning what he should

⁴George Herbert Mead, Mind, Self and Society (Chicago: The University of Chicago Press, 1934).

be like. These features were stressed in one of the earliest treatments of the "self" by Cooley, who likened our perceptions of how others see us to the reflection of a looking glass which he called the "looking glass self."⁵

This process of identification is of particular importance in understanding the development of the self. The "others" with whom an individual interacts in a significant manner provide the basis for which one views himself. The individual not only models his overt behavior after them, but also takes on his perception of their cognitions and feelings - in sum, takes on the attitude of the other. To the extent that he is the object of their attitude, they form a constellation that represents his self concept. Mead has said,

The individual's self is constituted simply by an organization of the particular attitude of other individuals toward himself and one toward another in the specific social arts in which he participates with them. But, in the full development of the individuals' self, that self is constituted not only by an organization of their 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.⁶

From this theory of interaction it is apparent that self-conceptions will be dynamic with resulting behavioral correlates. This does not mean that there will be a one-

⁵C. H. Cooley, <u>Human Nature and The Social Order</u> (New York: Charles Scribner's Sons, 1902. Reprinted by the Free Press of Glencoe, New York, 1956).

⁶Mead, <u>loc. cit</u>., p. 159.

to-one relationship between self concept and behavior but rather there will be important commonalties between the two.

It might readily be construed that we cannot behave in some manner unless someone specifically expects that we will behave in that way. Such a point of view would ignore the exploratory behavior of children since much of such behavior certainly is not encouraged by parents. Such behavior, nevertheless, gradually diminishes as the child develops which gives evidence of the influence of social regulations upon the growing child. Further, and looking at behavior from another standpoint, it should be noted that we do not do everything that we feel we are capable of doing. A self-conception that one would be a good teacher is not reason enough for him to engage in that occupation. Rather, because of differing interests, other more enticing personal plans, or an attempt to maintain desirable relationships with others, he may decide not to teach even though he feels perfectly capable of doing so.

A major theoretical assumption of the Michigan State University research studies by Brookover and associates on self-concept⁷ and continued in the present study is that self-concept of ability is a functionally limiting factor. That is, a positive or high self-concept is necessary but not sufficient for a corresponding behavioral ability level.

⁷Brookover, <u>loc. cit</u>.

One might possess a measured high self-concept of academic ability but do rather poorly in school. It is further posited to be unlikely for an individual to have a low selfconcept of ability and do very well in school. The same assumption is held by this researcher in terms of the selfconcept of vocational ability. An individual's conception of his own ability to carry out what he thinks are the requirements of a given career will guide him in his decisions to enter or not enter that career. That is, a person's selfconcept of vocational ability may function to give direction to which careers he will attempt to enter.

The studies of self-concept which were completed by Brookover and his associates related somewhat to vocational career development but not in the direct manner as approached in this study. Other investigations which have been addressed to this topic are principally expansions of Super's original research efforts in vocational development during the 1950s.⁸ Super completed extensive research in the area of vocational developmental tasks and a significant correlate of his research efforts includes definitive discussions of a vocational self-concept. He defines vocational selfconcept as "the constellation of self attributes considered by the individual to be vocationally relevant, whether

⁸Super, loc. cit.

or not they have been translated into a vocational preference."⁹

The contribution of Super and others to selfconcept studies in terms of vocational development will be treated in greater detail in the following chapter. It should be noted here that although Super depends upon environmental and social elements for much of the background of his self-concept theory, relatively nothing is identified in terms of how the interaction processes within the social environment of an individual affects his vocational selfconcept.

The orientation of symbolic interactionist theories stresses the influence of others in role decisions. It is the contention of this study that an individual's perception or definition of his relationship with others function as determinates of behavior. Young people, from this point of view, would be guided in career choice and vocational development by their perceived expectations and approval of others.

It is assumed that self-conceptions are phenomenological, not in the sense of an underlying mental structure such as a phenomenological self as defined by the theorist Maslow¹⁰

⁹Donald Super, "Career Development and Self-Concept Theory" Teachers College (Columbia University, College Entrance Examination Board, New York, 1963), p. 20.

¹⁰A. H. Maslow, "Self-Actualizing People: A Study of Psychological Health" <u>Personality</u>, Symposium No. 1 (1950), pp. 11-34.

and implied by Super, but rather that it is simply known to the individual. As such, one can report his self to others if he wishes. Observation of self-concept of ability in this study is therefore to be based upon those public statements a person makes about his ability. Inferences about selfconcept behavior based upon some other behavior such as responses to projective tests, or questions about how an individual likes or dislikes certain chores are not implied in this research.

Importance of the Study

Our society values the freedom of individual choice. This ideal holds true also in terms of occupations. The common notion is that each individual should have the opportunity to use his talents and abilities in a way that will maximize benefits to himself and to his society. Individuals concerned with assisting young people and adults to become contributing social participants must possess an understanding of vocational development and the socialpsychological processes whereby individuals may be influenced by others.

Educators, alert to the importance of the self-concept, its genesis, and effect upon one's life would influence the vocational education process. This is critical at a time when educators are attempting to broaden the extent and

scope of vocational education programs. Technological changes cause skills to become obsolete rapidly. Thus, emphasis of skill training through programs of the past may be less appropriate.

A knowledge of the role of self-concept of vocational ability to vocational career development factors can provide substantial assistance to the field of guidance. Effective education for occupational choice depends upon more than provisions for the accumulation of skills and other abilities after a vocation has been chosen. The process of choosing occupational career direction includes self evaluation, evaluation of the world of work as it is known to the individual and the arrangement of these knowledges into the juxtaposition which provides the insight leading to career The importance of an occupation as a source of choice. income, social status, and personal self satisfaction is extremely relevant to youth about to embark upon a career or the preparation for one. Yet, whether it be ranked as high or low status, an occupation allows an individual to form some stable conception of himself and his position in the community.¹¹

11 Grant Venn, <u>Man Education and Work</u> (Washington D. C., American Council on Education), January 1966.

There are several terms, words and concepts used in this report which have specific meanings. For clarity they are defined here.

1) <u>Self Concept of Vocational Ability</u>--the evaluating definition which an individual holds of himself with respect to his ability to achieve in occupational tasks of his interest.

2) <u>Self Concept of Academic Ability</u>--the evaluating definition which an individual holds of himself in respect to his ability to achieve in academic tasks in general as compared with others his age.

3) <u>Significant Others</u>--those persons on whom one is dependent for emotional gratification. In the process of interacting with these "significant others" an individual takes on what he perceives are the beliefs and evaluation of those others and uses them as a frame of reference for evaluating his own behavior.

4) <u>Vocational Development</u>--the processes of growth and learning which subsumes all instances of vocational behavior. The progressive increase and modification of a person's capacities and dispositions for particular kinds of vocational behavior and of his repertoire of vocational behavior. In this sense, vocational development encompassess

all aspects of development which can be identified as related to work."¹²

5) Occupational Aspirations and Expectations--aspirations may be defined as the level of occupation or cluster of occupations an individual would <u>like</u> to attain. Occupational expectation refers to the level of occupation or cluster of occupations an individual actually believes he will attain.

6) <u>Perceived Other (Parent, Friend, Teacher) Eval-</u> <u>uation</u>--scored results on a scale designed to measure the individual's perception of the evaluation held by significant others (parents, friends, teachers, and spouses) of his ability in relation to other individuals his age.

7) <u>Social-Economic Status</u>-refers to the ranking of a particular occupation with all other occupations on the Socio-Economic Index of Occupations as compiled by Duncan.¹³

8) <u>Vocational and Non-Vocational Students</u>--Vocational students are defined as those individuals who enrolled in two or more vocational career courses while attending high school. Conversely, those students who enrolled in no more than one vocational career course while in high school are classified as non-vocational. This definition

¹²Super, <u>Vocational Development:</u> A Framework for <u>Research, Op. Cit., pp. 131-132.</u>

¹³O. D. Duncan, "A Socio-Economic Index for all Occupations" In <u>Occupations and Social Status</u>, A. J. Reiss, ed. (Glencoe, Illinois: The Free Press 1961), pp. 109-161.

is made for analysis purposes, only. Unfortunately, it may have excluded some individuals who were vocationally oriented, but not enrolled in the specifically listed vocational courses.

Scope of the Study

This study provides a logical extension of the research on self-concept carried out previously by Brookover and associates. It is part of a total follow-up of the population of students included in the original longitudinal study on self-concept of academic ability and school achievement. Now, and more directly concerned with this study, direct information concerning career development and occupational choice has been obtained. Data for analysis was drawn from both the current questionnaire data and that gathered earlier in the longitudinal study.

The population investigated were two years out of high school. It includes those students who were included in the longitudinal self-concept studies by Brookover and associates when they were 7-12 graders. All of these students were in the regular school programs of the Lansing School system and had been regularly promoted. The data for this study was drawn from a specific population which may limit its value in terms of the generalizability across other populations. Nevertheless, because it is longitudinal, through the continual accumulation of data over time, its concomitant results become increasingly meaningful.

Summary

This chapter is devoted to an overview of the entire study. This research effort might be described as a form of theory testing in that the symbolic interactionist theories upon which the study is founded are used as a bases for development and testing of a self-concept construct. Selfconcept of vocational ability, as measured by a modified version of the Brookover and associates self-concept of academic ability scale, is analyzed against the several factors posited to be influential in the vocational development process. This study draws information from and contributes to the longitudinal study of self-concept of ability completed to date.

The following chapter provides a review of literature relevant to this study. Its purpose is to bring into focus the most pertinent data having implications for the present study.

CHAPTER II

RELATED LITERATURE

Introduction

The literature which has direct relevance to the present study might be considered both limited and expansive. It is limited with respect to the number of studies dealing with self-concept/vocational development when self-concept is derived from the symbolic interactionist frame of reference. Some research literature is available which speaks to the topic of self-concept of vocational development. Most of this however, is not based upon the interactionist derivation of a self-concept. The research of factors revolving around and contributing to the general nature of career development processes are numerous.

Four sections will be included in this review. The first will present a brief review and discussion of career development theories. The second will present several representative studies of career development. The third area deals primarily with literature in the area of self-concept/vocational development. The fourth

presents a more specific discussion of the theoretical bases of this study.

Theories in Career Development

A review of literature reveals at least ten general theories or approaches to occupational choice and development. Although the history of career development theories is short, beginning in the early 1950s, the literature is quite extensive concerning them.

Most theories of vocational development assume that long term vocational behavior occurs within an ordered sequence of life stages in which there is a progression of necessary learning experiences and a mastery of coping techniques. The notion of developmental tasks and of relating such tasks to vocational life stages has provided the framework for considerable research in career development.

Two theorists, Ginzberg¹ and Super,² predominate in the discussion of career development. Ginzberg, often considered as the founder of vocational development theory, first presented his position in 1951. According to him, occupational choice is a developmental process which

¹Eli Ginzberg, et al., <u>Occupational Choice: An</u> <u>Approach to a General Theory</u> (New York: Columbia University Press, 1951).

²Donald Super, "A Theory of Vocational Development," <u>The American Psychologist</u>, VIII (May, 1953).

involves a series of decisions made over a period of time. Each step in the process has a meaningful relation to those which precede or follow. Each decision is a link in a chain of decisions which leads to a final choice of an occupation. Ginzberg divides this process into three main stages. They are (1) fantasy (age 6 to 11), (2) tentative (age 11 to 17), and (3) realistic (age 17 and up).

Super's first approach to a theory of vocational development came about as a result of constructive criticisms leveled at the work of Ginzberg. Basically, his criticism centered around the inadequacy of Ginzberg's position in terms of distinctiveness of life stages and a need for further clarification of concepts. Super includes three basic assumptions about vocational development and a chronological ordering of stages in the development process. The assumptions are that vocational development is: (1) an on going, sequential generally irreversible process, (2) a regular patterned process, and (3) a dynamic process. The chronology of the process is summed in the following series of vocational life stages³ (1) Growth including: fantasy (4-10), interest (11-12), and capacity (13-14); (2) Exploration which includes: tentative (15-17), transition (18-21), trial (22-24); (3) Establishment which

³Donald Super, et al., Vocational Development: A Framework for Research (New York: Bureau of Publications, Teachers College, Columbia University, 1957), pp. 40-43.

includes: trial (25-30), stabilization (31-44); (4) <u>Main-</u> <u>tenance</u> (45-64); (5) <u>Decline</u> which includes: deceleration (65-70), and retirement (70-on).

Super began testing the relevancy of his models for vocational development immediately.⁴ Many of his early formulations integrating aspects of his theory with elements of vocational behavior were summarized later in one work.⁵ A stream of research has been generated since Super's original work and those who followed. ¹ Other theories of vocational choice behavior have also been posited; Holland,⁶ Roe,⁷ Hoppock⁸ to name just a few who have contributed extensively to the theories of career development.

⁵Donald Super, "Vocational Development in Adolescence and Early Adulthood: Tasks and Behaviors" <u>Career</u> <u>Development: Self-Concept Theory</u> (New York: College Entrance Examination Board, 1963).

⁶John Holland, "A Theory of Vocational Choice" Journal of Counseling Psychology, VI (September, 1959), pp. 35-44.

⁷Anne Roe, <u>The Psychology of Occupations</u> (New York: John Wiley and Sons, Inc., 1965), pp. 318-321.

⁸Robert Hoppock, <u>Occupational Information</u> (New York: McGraw-Hill Book Company, Inc. 1957), pp. 74-85.

⁴Donald Super, and Phoebe Overstreet, <u>The Voca-</u> <u>tional Maturity of Ninth Grade Boys</u> (New York: Teachers College, Columbia University, Bureau of Publications, 1960).

Studies of Career Development

Psychological Studies of Vocational Development

There are numerous studies which have been directed toward examining processes, sources of influence and traits that affect individual vocational development. Some typical independent variables used in this area of research are: Social Status of Parents, Student's High School Achievement, Student's College Achievement, Aptitude Patterns, Ecological Background, Opportunity Structure, Parent's Educational and Occupational Level, Status In and Characteristics Of The Student's Peer Group, The Student's Racial Identity, Value Orientation, Intelligence and Sex. Several of these studies are examples of much of the research which gives emphasis to a psychological nature of career development.

Kunert's⁹ research deals with the psychological concomitants and determinates of vocational choice. Three hundred, 75 from each of four different professional schools provided the subjects for his study. Briefly, he found that there was indeed a relationship between personality and resultant vocational choice. This study then lends support to Holland's theory of the importance of personality in

⁹Kenneth Michael Kunert, "The Psychological Concomitants and Determinants of Vocational Choice" (unpublished doctoral dissertation, University of California, Berkeley, 1965).

vocational development. Atty¹⁰ using a population of 585 high school graduates over a four year period, studied the correlation between the results of the Kuder Preference tests and academic achievement. Although relationships were found, they varied by sex and were insufficient to justify any predictive value. (This study looks at students interests and their subsequent school work, a reverse way of looking at this topic.)

Kiltredge¹¹ investigated the differences in occupational preferences, stereotypic thinking and psychological needs among eighty-six undergraduate women students in four selected curriculum areas: Home Economics, Medical Technology, Journalism-Advertising, and Mathematics-Chemistry (listed in order of most to least traditional). This study, based upon Super's proposition that vocational development is one aspect of personal development, found that students who selected traditional type courses were more stereotyped in their beliefs and most traditional in their occupational preferences.

¹⁰James C. Atty, "A Study of the Scatter of Kuder Preference Scores and Their Relationship to Academic Achievement and Mental Ability" (University of Pittsburgh, unpublished doctoral dissertation, 1965).

¹¹Robert E. Kiltredge, "Investigation of Differences in Occupational Preferences, Stereotypic Thinking, and Psychological Needs Among Undergraduate Women Students in Selected Curricular Areas" (Unpublished doctoral dissertation, East Lansing: Michigan State University, 1960).
Sevransky¹² looking at still another approach to vocational development, investigated the effects of extraversion and neuroticism as determinants of vocational level of aspiration. Sampling a total of 475 senior boys in two New York City Schools, his findings indicated that introverts tended to aspire to occupations above their intellectual level. Extraverts tended to aspire to occupations below their intellectual level.

Where psychological dimensions of vocational stereotypes have been studied, results are often conflicting. Bohn¹³ investigated the relationship between psychological needs and measured vocational interests, interpreting the findings as supporting current vocational stereotypes. Gonyea¹⁴ on the other hand, permitted subjects greater freedom in choosing relevant dimensions and found a heterogeneity of vocational perceptions not indicated by previous research.

Psychological characteristics and personal orientations tending to produce the experience of success in

¹²Paul Sevransky, "Extraversion and Neuroticism as Determinants of Vocational Level of Aspiration" <u>Disser-</u> <u>tation Abstracts</u>, (Columbia University), Vol. XXVI, p. <u>4817, 1966.</u>

¹³Martin J. Bohn Jr., "Psychological Needs Related to Vocational Personality Types" <u>Journal of Counseling</u> <u>Psychology</u> 13 (Fall 1966), pp. 306-309.

¹⁴George G. Gonyea, "Job Perceptions in Relation to Vocational Preference" Journal of Counseling Psychology 10 (Spring 1963), pp. 20-26.

occupationally related areas of behavior have been found to be associated with levels of aspiration. Gribbons and Lohnes¹⁵ reporting findings of longitudinal research over a five year period, disclosed that adolescents with intelligence slightly above average tended to lower the level of their aspirations, whereas over half the youngsters classified as having IQs below 105 persisted in their preferences for the professions. Perrone¹⁶ found that students whose aspirations led them to enroll in two-year post-high school programs were intellectually, socio-economically, and educationally between those who terminated their education at high school or before and those who attended four-year colleges or universities. Motivational elements common to academic achievement were found by Farquhar and Payne¹⁷ to function similarly in occupational aspirations. The effects of fear of failure in organization of occupational aspirations were studied by Burnstein.¹⁸ As fear of

¹⁵Warren D. Gribbons and Paul R. Lohnes, "Occupational Preferences and Measured Intelligence" Vocational <u>Guidance Quarterly</u> 14 (Spring 1966), pp. 211-214.

¹⁶Philip A. Perrone, "Technicians: Somewhere In-Between" Vocational Guidance Quarterly, 13 (Winter 1964-65), pp. 137-141.

¹⁷William W. Farquhar and David A. Payne, "Factors in the Academic-Occupational Motivations of Eleventh Grade Under- and Over-Achievers," <u>Personnel and Guidance Journal</u> 42 (November 1963), pp. 245-251.

¹⁸Eugene Burnstein, "Fear of Failure, Achievement Motivation, and Aspiring to Prestigeful Occupations" Journal of Abnormal and Social Psychology, 67 (August 1963), pp. 189-193.

failure increased, prestige of occupations aspired to decreased.

Sociological Approaches to Vocational Development

Sociological theorists view the vocational development process more as a function of the social system. That is, 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.¹⁹ This position approaches the sociological framework of this present study. However, a major difference should be noted. The theoretical position of this study is that such external determinates exert their influence indirectly, not directly as implied in the above position. A process of interaction occurs in which communication among members in a social system define the opportunities, aspirations and appropriate career patterns for others. Following, are representative studies which have taken a more sociological approach to career development research.

Lazarsfield²⁰ attempting to relate decision making to the social situation, contended that occupational choices

¹⁹Theodore Caplow, <u>The Sociology of Work</u> (Minneapolis: The University of Minnesota Press, 1954).

²⁰Paul F. Lazarsfield, <u>Jegend Und Beruf</u>. (Jena: C. Fischer, 1931).

are not previously determined by individual decisions, but rather external influences. External influences meant, to him, such factors as the proportion of jobs in vocation X in community Y. The size of community also allegedly has some effect upon the career development processes. Rogoff²¹ reports that suburban schools produce greater numbers of better equipped students who eventually complete college training in their quest for higher status occupations. Smaller towns and outlying districts send a greater proportion of their students off to college for advanced training, but the proportion who complete such training is much less.

Sewell and Orenstein²² also tested the relationship between size of community residence and occupational choice of youth. Controlled factors of intelligence and socioeconomic status failed to account for the lower aspirations of male youth from rural and smaller communities. Among rural male graduates of 70 high schools in Minnesota who were followed up six years later, less than one third sought formal post high school training and less than 50 percent of those in the upper half of their graduating classes

²¹Natalie Rogoff, "Local Social Structure and Educational Selection" in A. H. Halsey, Jean Gould and C. Arnold Anderson (Eds.) Education, Economy, and Society, (New York: The Free Press of Glencoe, 1962), pp. 241-251.

²²William H. Sewell and Alan M. Orenstein, "Community of Residence and Occupational Choice" <u>American Jour-</u> <u>nal of Sociology</u> 70 (March 1965), pp. 551-563.

continued in school.²³

The impact of social and cultural restrictions on the occupational socialization process was the focus of several other studies. For example, Clark²⁴ compared children in grades three through six from the inner city with a representative group from suburbia. He reported that middle-class boys and lower-class girls express a significantly greater preference for white collar and professional occupations. In their perceptions of occupations, both lower-class boys and girls were significantly less able to supply appropriate job titles to stimulus figures, suggesting that some job models lack relevance for young people who are economically deprived.

In an earlier study, Phillips²⁵ stated that a positive relationship also seems to exist between social class and occupational choice-vocational interests congruency. It was demonstrated that high school boys from middle-class families have higher congruency scores than boys from lowerclass families. It was suggested that this is the result of

²³Theodore M. Nelson and Keith N. McFarland, "Occupational Patterns of Rural Youth" <u>Vocational Guidance Quar-</u> <u>terly</u> 10 (Spring 1962), pp. 165-166.

²⁴Edward T. Clark, "Influence of Sex and Social Class on Occupational Preference and Perception" <u>Personnel</u> and Guidance Journal 45 (January 1967), pp. 440-444.

²⁵Leonard W. Phillips, "A Study of the Relations Between Tentative Occupational Choice-Vocational Interests Congruency and Selected Variables." (Unpublished doctoral dissertation, Michigan State University, 1965).

youths' differential socialization within the matrices of different social class sub-cultures coupled with youths' internalization of the social mobility value which is part of the American ethos.

These studies suggest that the level of one's aspirations and interests is contingent to a degree upon the opportunities and experiences available within one's general frame of social reference.

It is interesting to note the discrepancy of findings relative to vocational and educational aspirations/ preferences and their relationship to the socio-economic status of parents. Mulligan²⁶, and Lowe²⁷, for example found in general a positive correlation between the level of aspirations and socio-economic status of parents. Other studies such as those completed by Weiner and Graves²⁸, and Smith²⁹ indicated no relationships existed between these

²⁶Raymond A. Mulligan, "Socioeconomic Background and College Enrollment" <u>American Sociological Review</u>, 16 (April, 1951), pp. 188-196.

²⁷J. L. Lowe, "Educational and Occupational Aspirations of High School Seniors" Unpublished Ph.D. Dissertation, University of Missouri, 1962. (Abstracted in <u>Disser-</u> tation Abstracts, Vol. XXIII, No. 3, 1962, p. 2614).

²⁸Max Weiner, and Marion Graves, "A Study of the Educational and Vocational Aspirations of Junior High School Pupils from Two Socio-Economic Levels" (White Plains, New York Board of Education, 1961).

²⁹M. B. Smith, "Interpersonal Influence on the Occupational and Educational Aspirations and Expectations of Sixth Grade Students" (Unpublished doctoral dissertation, Michigan State University, 1961). same two factors.

In another report, Sewell and Shah³⁰, sampling high school seniors in Wisconsin, state that parental encouragement is a powerful intervening variable between socio-economic class background, intelligence of an individual and his aspirational level. They add, "Parental encouragement does not <u>explain</u> social class differences in aspiration though it contributes to the explanation of these differences."

Occupational career <u>expectations</u> has been found to be only slightly related to parental socio-economic level. According to studies conducted by Spaeth³¹, men who will eventually graduate from college begin their college education with occupational career expectations that have no close relationship to their fathers educational level, or financial status.

Thistlethwaite³² in a study of the effects of college upon student aspirations, contends that about 25% of the variance in plans for degrees, professional schools,

³⁰William H. Sewell, and Vimal P. Shah, Social Class, Parental Encouragement and Educational Aspirations. American Journal of Sociology Vol. 73, No. 5, (March 1968).

³¹Joe L. Spaeth, Occupational Prestige Espectations Among Male College Graduates. American Journal of Sociology, Vol. 73, No. 5 (March 1968), pp. 548-558.

³²Donald L. Thistlethwaite, "Effects of College Upon Student Aspirations" U.S. Office of Education, Cooperative Research Project No. D-098. (Nashville: Vanderbilt University, 1965).

etc. can be explained by pre-college variables. Included as pre-college variables are sex, aspiration level, father's educational level, mother's educational level, number of freshman scholarship applications, family financial resources, and possible major field of study. He adds that there may be other relevant pre-college predictors which may be related to going to graduate school and also correlated with the kinds of teachers and peer groups one will seek in college.

Davis³³ studied 33,982 college graduates representative of the class of 1961. The main concern was to find out how four years of college experience led to the career and post-graduate training plans they envisioned at graduation. These reports were personal interpretations of the subject's past history in which the distortion of memory may also play a part. Also, Davis did not develop a theory from which his research emerges. Neither was he interested in the 40% who did not reach senior status in college. His subjects reported, however, that college faculty have only slightly less importance than parents in helping the student make a career choice. A theoretically appropriate question here is whether or not those who indicated teachers as important in their career decisions were those students who perceived teachers

³³James A. Davis, "Great Aspirations: Volume I Career Decisions and Educational Plans During College," U.S. Office of Education, <u>Cooperative Research Project No. 1194</u>, (Chicago: National Opinion Research Center, 1963).

as important early in their public school careers. Perhaps those who did not perceive teachers as important earlier did not attend college or dropped out prior to graduation.

Davis also states that academic achievement in course work during the four years of college is the single most important variable in the analysis of career plans. He thinks that there is some reason to believe that the "freshman brings with him a tentative career choice which has been affected by his previous environment, sex role, intellectual ability, and occupational values," and that colleges "affect choices between (vocational) alternatives which are not terribly different.

Berdie and Hood³⁴ compared post-high school plans of high school seniors in 1961 to plans of seniors in 1960. They found that 84% of the students who, in the senior year of high school, planned to enter college did so. Family socio-economic status was unrelated to the execution of these plans. An obtained multiple correlation of .70 with family education, socio-economic status, school attended, and personality variables led them to state that beyond these factors, the decisions of high school graduates are influenced by chance.

Patterns of vocational development over time are of particular interest to those concerned with vocational education. Super³⁵ employed a variety of scales and judgment-

³⁵Donald E. Super and Others. Floundering and Trial After High School. Career Pattern Study: Monograph IV.

³⁴Ralph F. Berdie and Albert B. Hood, "Trends in Post-High School Plans over an ll-year Period," U.S. Office of Education Cooperative Research Project No. 915. (Minneapolis: University of Minnesota, 1963).

making procedures to assess the vocational progress of young men from ages 18 to 25. Throughout these post-high school years, approximately one-third of the subjects engaged in behavior adjudged to be floundering. At age 25, one-fifth of the men still had not developed stabilizing vocational coping behavior. Of secondary interest, less than two-fifths of the subjects actually entered one of the occupations specified while in high school, a finding in line with the results of other research.

Project Talent³⁶, an extensive research effort, was initiated in 1962 in an effort to determine factors in career development. Phrased in the tradition of trait-and-factor theory, Project Talent was designed to delineate a system of personality measures from follow-ups with a large, representative sample of high school students, over a period of 20 years. The findings from the first follow-up studies undertaken when each grade was one year out of high school were reported recently by Flanagan and Cooley.³⁷ The objectives of this research includes the development of normative data, identification of student interests, background factors,

Cooperative Research Project No. 1393. (New York: Teachers College, Columbia University, 1967), p. 334.

³⁶John C. Flanagan and Others. "Project Talent! A Survey and Follow Up Study of Educational Plans and Decisions in Relation to Aptitude Patterns: Studies of the American High School" U.S. Office of Education, <u>Cooperative Research</u> <u>Project No. 226. (Pittsburg: University of Pittsburg), 1962.</u>

³⁷John C. Flanagan and William W. Cooley, Project Talent, l-Year Follow-Up Studies. (Pittsburgh, Pa.: University of Pittsburgh, 1966).

ascertaining the effectiveness of various educational experiences and identifying factors related to vocational choice. Hypothesis testing relevant to a central theory is <u>not</u> a stated purpose of this research, however, analysis being primarily an after-the-fact examination of results.

Self Concept and Vocational Development

Several studies involving vocational development factors are reported in the research literature. It is interesting to note, that although much has been written on the self and self concept theory, and many studies focus on various theoretical aspects which contribute to an individual's vocational choice, few have been concerned with the self-concept as it specifically relates to ones vocational career development.

Wrenn's³⁸ review of literature on the self concept in counseling neither mentions the topic of vocational choice, nor cites any literature on self concept in vocational development. Strong and Feder's³⁹ review of the measurement of the self concept does not mention its relation to vocational choice or development. Much of the research concerned with vocational self concept appears to be conducted by individuals

³⁸C. G. Wrenn. "The Self Concept in Counseling" Journal of Counseling Psychology (1958), pp. 104-109.

³⁹D. J. Strong and D. D. Feder, "Measurement of the Self Concept" Journal of Counseling Psychology (1961), pp. 170-178,

involved in counseling psychology. Very little is reported which concerns the development of the self concept of vocational ability from a social interactionist point of view.

Psychological Studies of the Vocational Self Concept

The study of self concept and its effect upon vocational development has received its greatest boost from the work of Donald Super. He began his work in the early 1950's. His writings and theoretical constructs are elements of study reported in several of the other research studies reported further in this review. Super states that the elements of a self-concept theory of vocational development may be identified as a process. This process includes that of formation, translation, and implementation of the self concept. He further postulates that in choosing an occupation one is, in effect, choosing a means of implementing a self concept.⁴⁰ In other words, one actualizes or illustrates by his overt career choice action his vocational self concept. Thus, an individual's vocational self concept can be identified by looking at the job he takes. His occupation represents a translation of his self concept into vocational terms.

A considerable production of research on the vocational manifestation of the self-concept has occured since Super's original work. Most of such studies have used a

⁴⁰Super, <u>op. cit.</u>, p. 11.

variety of instruments and procedures for the measuring of the self-concept. Many have investigated the relationship of traits and factors commonly ascribed to vocational development to the vocational self-concept, while others have investigated the congruence of measured self-concept to perceived role concept or requirements.

Discrepancy between self-concept and occupational role concept was studied by Englander⁴¹ whose subjects were 126 undergraduate women students in education and other fields. She hypothesized that congruency of self-concept and concept of the role of elementary school teacher would be greater in students preparing to work in that field than it would be for other students not in that field. A high degree of congruence was reported between (1) verbalized self image and desired occupation and (2) perceived teacher role and desirable personality characteristics of teachers. According to her, planning and preparation for teaching was apparently a vehicle for self image translations.

Two studies of nurses provide additional data on this subject. Morrison⁴² using a Q sort method of obtaining the self-concept found greater correspondence between self

⁴¹Meryl E. Englander, "A Psychological Analysis of Vocational Choice: Teaching" Journal of Counseling Psychology, 7, (1960), pp. 257-264.

⁴²Richard L. Morrison, "Self-Concept Implementation in Occupational Choices" Journal of Counseling Psychology. 9, (1962), pp. 255-260.

perceptions of the incumbent occupation than was the case for the unchosen occupational roles. Support for hypothesized self-concept involvement in occupational choice was demonstrated. Nurses working in a New York hospital were asked by Brophy⁴³ to complete an adjective checklist to describe themselves, their ideal selves and kind of person their job required them to be. They also completed a job satisfaction questionnaire. His findings indicated that similarity of the self-concept and of the perceived occupational role requirements is correlated with job satisfaction.

Oppenheimer⁴⁴ investigated the theory posited by Super that occupational preferences represent a translation of one's self-concept into vocational terms. His findings were supportive of the theory that people prefer occupations perceived as congruent with their self-concepts.

Blocker and Schutz⁴⁵ reported measurement of: self, ideal self, occupational stereotypes and occupational interests supplied by 135 twelfth grade boys in suburban high schools. They hypothesized that the similarity of self and occupational concepts of adolescent boys is greater for

⁴³A. L. Brophy, "Self, Role and Satisfaction" 59 Genetic Psychological Monograph (1959), pp. 263-308.

⁴⁴Ernest A. Oppenheimer, "The Relationship Between Certain Self Constructs and Occupational Preferences," <u>Jour-</u> <u>nal of Counseling Psychology</u> 13 (1966), pp. 191-197.

⁴⁵D. H. Blocker and R. A. Schutz, "Relationships Among Self-Descriptions, Occupational Stereotypes, and Vocational Preferences," Journal of Counseling Psychology 8 (1961), pp. 314-417.

occupations in which they express interest than for those in which they have little interest. Both self and ideal self descriptions tended to resemble stereotypes attributed to higher interest occupations.

Chaffee⁴⁶ suggested that, while for some individuals choosing a vocation may be implementing a self-concept as Super had posited, for others it may represent an effort to become or to appear to become "like" those involved in an occupational field through identification with them. They thereby hope to take on the characteristics attributed to these individuals in the public mind. An experimental sample was chosen from among undergraduate engineering students at Michigan State University. High agreement vs low agreement sub-groups were selected on the basis of test scores on an adjective checklist for self-concept, how he would like others to think of him, and occupational stereotype. Results showed that the low agreement group held significantly more negative self-concepts than the high agreement group.

Based upon the theoretical position that an individual desires to use his vocational choice as a means of self enhancement or self actualization, Wheeler⁴⁷ studied the

⁴⁶Glenn Alber Chaffee, "A Study of the Self Concepts, Occupational Personas, and Occupational Stereotypes of Engineering Students." (Unpublished doctoral dissertation, Michigan State University, 1967).

⁴⁷Charles Lawrence Wheeler, Jr. "Relationships Among Self-Concepts Ideal Self Concepts and Stereotypes of

results of a checklist designed to measure self concept, ideal self-concept, typical person in their probable occupational choice. Self-concept questions were based upon personality characteristics. Subjects participating in the study were freshmen college students taking an introductory psychology class. The stated results indicated that the individual sees his probable and ideal occupational choices as being more congruent with his ideal self-concept than his self-con cept.

Sister Mary C. Davis⁴⁸ studied the topic of vocational choice as a result of a person finding his or her self identity. Her subjects included 100 each of sisters who had made temporary vows, registered nurses, and secretaries. She found that persons with high ego identity are more ready to make a vocational choice of long term commitment and to reconcile what they expect from themselves with what others expect of them than those with low ego identity. Thus according to her, vocational choice is a function of a congruous ego identity.

The self-concept of male college students in three stages of vocational preparation were studied by Armstrong.⁴⁹

Probable and Ideal Occupational Choices." (University of Southern California, unpublished doctoral dissertation, 1967).

⁴⁸Sister Mary C. Davis, "Vocational Choice and Self-Others' Expectations Congruence as a Function of Ego Identity," (Dissertation Abstracts, XXVI, 2(1965), p. 1168.

⁴⁹Jack Lynn Armstrong, "The Interrelationships Among Self and Occupational Concepts of Male College Students in

Sophomores, juniors, and seniors were tested to determine their general self-concept, an ideal self-concept and a vocational self-perception. He found that on the average, a person viewed himself in his vocational role as being more like the person he would like to be than he is at present.

Anderson,⁵⁰ another researcher, studied the relationship between the congruence of self and ideal self and the ability to make realistic choices of occupational goals. His subjects were categorized as potential four year, and potential two year college students based upon their aptitude level. An individual's occupational choice was judged unrealistic if he chose an occupation either below or above his aptitude level. The results were inconclusive. This study which utilized groupings based upon aptitude test scores might cause some question by some researchers of the validity of such groupings for testing differences in selfconcept.

Tucci⁵¹ investigated one of Super's propositions that self-concept clarity is necessary for vocational choice.

Three Stages of Vocational Preparation" (unpublished doctoral dissertation, University of Minnesota, 1964).

⁵⁰Thomas B. Anderson, "A Determination of the Relationship Between the Congruence of Self and Ideal Self and Occupational Choices Made by Potential Four Year College Students and Potential Junior College Terminal Students" (Washington State University, Ed.D., 1963).

⁵¹Michael A. Tucci, "Self-Concept Clarity and Voca tional Choice in First Year College Males" (unpublished doctoral dissertation, East Lansing: Michigan State University, 1965).

His sample included 163 incoming male freshmen who were classified into three sub-groups; definitely decided, tentatively decided, and undecided in terms of vocational choice. The data produced both rejection and non-rejection of his hypothesis depending upon the criterion used for determining clarity of self-concept. The direction of the data however, indicated that the self-concept clarity of the tentatively decided student was superior to the undecided student and the undecided students clarity was superior to that of the definitely decided students.

O'Hare,⁵² like Tucci, investigated the theory that self-concepts clarify over time. His subjects, high school students from a Catholic College Prep school, were drawn from grades 9 and 12. They were tested to find to what degree self-concepts are related to vocational developmental tasks. The developmental tasks which he identified might be questioned for their justifiable position or criterion for measurement of vocational tasks. He states, "the chief developmental task of adolescents is to achieve to the level of one's ability in high school." Thus, he claims vocational self-concepts are indeed related to vocational developmental tasks; in this case high school achievement.

⁵²Robert P. O'Hara, "Vocational Self Concepts and High School Achievement." <u>The Vocational Guidance Quar-</u> <u>terly</u>, December 1966, p. 107.

Sociological Studies of the Vocational Self-Concept

The literature of self-concept and vocational development processes reported thus far have approached a myriad of aspects relating to the vocational development of individuals. Few, however, have attempted to define or even discuss the theoretical origin or formulation of the vocational self-concept. Several have measured the differences among or between self evaluated attributes or general self-concepts in terms of careers. None were found who had given attention to the social-psychological processes of interaction in the formation of the vocational self-concept.

The vocational self-concept theory posited by Super has provided the most complete work to date.⁵³ His theoretical framework has provided the basis for several subsequent studies. Super's vocational self-concept, though specific in title and intent, is rather global in nature. He defines the vocational self-concept as "one's concept of one's self as a member of an occupation."⁵⁴ He later more precisely describes the vocational self-concept as the constellation of self attributes considered by the individual to be vocationally relevant, whether or not they have been translated into a vocational preference.⁵⁵

⁵³Super, <u>op</u>. <u>cit</u>., 1963.

⁵⁴<u>Ibid</u>. ⁵⁵<u>Ibid</u>., p. 10.

Super draws heavily upon the social environment for support of the framework for the formation and development of the self-concept. In the presentation of self-concept evolution, he discusses such factors as physical exploration, self differentiation between one's self and others, identification as a boy, girl, white or black. He suggests that role playing whether largely imaginative or overtly participatory gives one the opportunity to try the role on for size. He speaks of reality testing--of one actually trying out and testing his skills, abilities and interests in some role through vicarious identification or chance experience in the role. Super posits that ultimately, one implements or actualizes his vocational self-concept; that in fact one's vocation illustrates overtly his self-concept.

Super's contribution to the study of self-concept is important and extensive. However, he like others, has given relatively no attention whatever to the social-psychological processes of interaction in the formation of the self-concept.

By further postulating that in choosing an occupation one is implementing his self-concept and is in effect becoming "self actualized," Super extends the basis of self-concept beyond that which this present study

subscribes. Maslow⁵⁶ discusses self actualization which is defined as: an acceptance and expression of the inner core or self; or latent capacities. Maslow further postulates that each individual has an essential inner nature, which is intrinsic, given, natural and usually resistant to change. Mead's theory, and that of this study holds that self-concept is a dynamic process. It is flexible and changes through the perceptual interaction of the individual with his social environment.

Theoretical Framework of This Study

The general theoretical framework for this research has already been identified in Chapter I as deriving from the symbolic interaction theory of George Herbert Mead and Charles Cooley.⁵⁷ A rather complete summary of this theory has been made by Rose⁵⁸ and Kinch.⁵⁹ A more recent extensive review and discussion of symbolic

⁵⁶A. H. Maslow, "Self-Actualizing People: A Study of Psychological Health" <u>Personality</u>, Symposium No. 1, (1950), pp. 11-34.

⁵⁷Charles H. Cooley, <u>Social Organization</u> (New York: Charles Scribners Sons, 1909); George H. Mead, <u>Mind, Self and Society</u> (Chicago: University of Chicago Press, 1934).

⁵⁸Arnold M. Rose, "A Systematic Summary of Symbolic Interaction Theory," in Rose (ed.) <u>Human Behavior</u> <u>and Social Processes</u>. (Boston: Houghton-Mifflin, 1962), pp. 3-19.

⁵⁹John W. Kinch, "A Formalized Theory of the Self Concept" <u>The American Journal of Sociology</u>, 68, (1963), pp. 481-486.

interaction theory may be found in Manis.⁶⁰ The specific application of this theoretical framework to classroom learning was investigated extensively by Brookover and associates.⁶¹

The Self-Concept of Academic Ability and School Achievement Studies indicated above were supported by grants from the U.S. Office of Education. Three project reports have been published, #844, #1636, and #2831. The design of these studies was focused upon (1) determining the possibility of tapping the self-concept of academic ability construct with a self-report instrument, (2) to examine the relationship and effect of significant others upon the self-concept constructs, (3) to examine the feasibility of enhacing the self-concepts of ability and (4) to explore the relationship of these factors to intelligence, sex, socio-economic status, and achievement.

The basic proposition of these studies assert that a student's self-concept of academic ability results from his perceptions of the evaluations significant others hold

⁶⁰Jerome G. Manis and Bernard N. Meltzer eds. <u>Symbolic Interaction: a reader in social psychology</u>, (Boston: Allyn and Bacon, 1967).

⁶¹Wilbur B. Brookover, et al., <u>Self Concept of</u> <u>Ability and School Achievement</u>, Reports I, II, and III. <u>Cooperative Research Project No. 844</u>, 1636, and 2831. U. S. Office of Education. (East Lansing: Educational Publication Services, College of Education, Michigan State University, 1962, 1965, and 1967).

of his ability. The student's self-concept of academic ability in turn functions to limit the level of academic achievement attempted. Self-concept of academic ability is therefore hypothesized as an intervening variable between the expectations and evaluations of significant others and school achievement. The relationship of perceived evaluations of significant others is conceptualized as a necessary and sufficient condition, i.e., a change in the perceived evaluations of others will be reflected in a change in self-concept. The relationship of self-concept of academic ability to academic achievement, on the other hand, is hypothesized as a necessary but not a sufficient condition for the occurrence of a particular level of academic performance.⁶²

The body of research from these studies constitute the only known empirical research employing the construct "self-concept of ability." A few studies do however, show correlations between various measures of global self-concept as indicated previously. Ruth Wylie's⁶³ survey of self-concept research reviews over 400 empirical studies. Yet when considering Mead's theory on the relationship of self-concept to social interaction, she can only conclude

⁶²Brookover, Ibid. Report III, p. 140.

⁶³Ruth Wylie, <u>The Self-Concept: A Critical Survey</u> of Pertinent Research Literature. (Lincoln, Nebraska: University of Nebraska Press, 1961).

that this theoretically crucial class of relationships has been inadequately explored.

Of the several dissertation studies of Brookover and his associates conducted during the original major research project only a few related slightly to vocational factors. "A Comparative Study of Male High School Students Who Stay in School and Those Who Drop Out: conducted by Harding,⁶⁴ showed that dropouts had significantly lower academic ability and lower self-concepts of academic ability as well as lower mean I.Q.s, socio-economic status and grade point average. His conclusions indicated that the students' self-concept of academic ability and their expressed educational plan are variables which would assist in identifying potential dropouts.

Sandeen⁶⁵ found that self-concept of academic ability was highly related to a student's aspiration for college. He also found that a student's perceptions of his parent's evaluation of his ability was highly related to aspiration for college. His conclusions stated that if a student's achievement in school and aspirations for future

⁶⁴Kenneth A. Harding, "A Comparative Study of Male High School Students Who Stay In School and Those Who Drop Out" In Brookover, Erickson and Joiner, <u>Self Concept of</u> Ability and School Achievement, III, pp. 247-263.

⁶⁵Carl A. Sandeen, "Aspiration for College Among Male Secondary School Students From Seventh to Tenth Grade," In Brookover, Erickson and Joiner, <u>Self Concept of Ability</u> and School Achievement, III, pp. 265-274.

education and employment are not merely functions of his "innate ability" but are closely related to his self-concept of academic ability, then the teacher or counselor might have significant influence in his development.

The importance of the perceptions of others to one's self-concept formation was indicated by an earlier study which investigated the effects of social interaction. Huntington⁶⁶ obtained questionnaire data from medical students at different year levels, in order to throw light on these issues. She found that medical students' self images vary with awareness of the expectations of others, with the year-level attained in training, and with the status of the persons with whom they happen to be interacting. They may see themselves as students when with physicians and as physicians when with patients. The vocational selfconcept is thus a function of perception of the perceptions of others.

Brookover and Gottlieb⁶⁷ in discussing recruitment and choice of career, suggest that several factors are involved. These factors may be classified into three categories: (1) self-identifications (capacities, interests,

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⁶⁶Mary-Jean Huntington, "The Development of a Professional Self-Image," in R. K. Merton et al. (eds.) <u>The</u> <u>Student Physician</u> (Cambridge: Harvard University Press, 1959).

⁶⁷Wilbur Brookover and David Gottlieb, <u>A Sociology</u> of Education. (New York: American Book Company, 1964), p. 301.

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).

Based upon these factors, and drawing upon previous research in this area, it is appropriate to suggest that one of the more important types of self-identity which guides a person in his decision to enter a given career is his conception of his own ability to carry out what he thinks are the requirements of that career. That is, a person's self-concept of occupational ability may function to limit the careers he will attempt to enter. If certain academic learnings are viewed as an occupational requirement which he is incapable of mastering, he will neither attempt to achieve in such schooling nor enter into the occupation. In a society which assumes and emphasizes a relationship between educational achievement level and occupational achievement, self-concept of vocational ability may also effect the occupational achievement of many individuals.

Another type of self-identity which influences a person's career decision is the occupational plan of action he assigns to his social position in relation to others.

In the words of Mead⁶⁸ people attach a career "plan of action" to themselves. They expect certain career acts to be undertaken and their lives become organized according to these expectations of self. It would appear that social role defines, in part, the appropriateness or inappropriateness of career "plans of action."

An individual may also learn which career decisions are appropriate and required of him if he is to maintain or develop desired relationships with others. Each individual learns that some career decisions may jeoparidze or enhance his relationships with others. A desire to avoid violation of friendship obligations may cause a teacher's career advice to go unheeded if the advice contradicts the career expectations of friends. The individual's definition of the career expectations held for him by his family and friends, while not necessarily the actual expectation of him, may be major factors in the formulation of a decision to enter, remain in, or leave a career role.

Thus, persons acquire their self-concepts of occupational ability and their view of the appropriateness of careers from others in a social interaction context. This theory of occupational choice emphasizes the interaction of the subject with others. It does not contradict psychological theories or constructs, such as motivation,

⁶⁸Mead, op. cit.

reinforcement or the sociological constructs, such as social class, cultural conflict, and norms. The theoretical orientation employed here merely shifts the emphasis to the social interaction context in which stimulus, reinforcement, motivation and normative prescriptions occur.

CHAPTER III

METHODS AND PROCEDURE

Contents of this Chapter

This chapter consists of four main parts. The first part gives a brief description of the population used in the investigation; the second part sets forth the operational definitions of concepts along with a description of the instrumentation used to measure them; the third part of the chapter presents the main research hypotheses of the investigation, and finally, the fourth part of the chapter is devoted to a description of the methods and designation of the statistical analysis employed to test the statistical hypotheses. The chapter concludes with a summary and brief introduction of the following chapter.

The Group Studied

The population investigated were two years out of high school. They were residents (or had been during their high school years) of a midwestern city of approximately 120,000 population. They also were the same students who were included in the longitudinal self concept studies by Brookover and associates. Questionnaires, along with a

prepaid return envelope, were mailed to this original group of 562 subjects (307 females and 225 males) during the summer of 1968. The questionnaires were completed and returned by 361 subjects--222 females and 139 males. All those included in the study met the following criteria:

(1) They were Caucasian.

(2) Complete school data from the eighth through twelfth grade was available (intelligence test scores, academic achievement information including grade point average).

(3) Complete questionnaire data was available from the eighth grade through twelfth grade and two years post high school.

(4) All subjects were promoted regularly from grades four through twelve. Individuals who repeated grades or who withdrew and re-entered were excluded.

(5) All were participants in the regular school program. Those who were in special education programs (such as those for mentally retarded) and all who were in experiments designed to enhance self-concept of academic ability during the ninth grade were excluded.

Although there were data available on most individuals from the entire student population, some were not included in this study. Most eliminations were made for two reasons; racial identification and incomplete or inadequate data. Approximately 100 Negro students were not included in the analysis because evidence exists which indicates that race would be a strong factor influencing self-concepts and several related variables.¹ Some individuals for whom complete school record data were available did not complete the post high school questionnaire and thus were eliminated.

Research Design

Measurement

The objectives of this study and a general description of constructs investigated were briefly defined in Chapter I. The operational definition and/or major research instruments in the investigation are presented below.

Self-Concept of Academic Ability

Self-concept of academic ability refers to the evaluating definition which an individual holds of himself in respect to his ability to achieve in academic tasks in general as compared with others his age. This is in conformance with the definition of self-concept by Mead that self involves awareness and articulation of an internalized

¹Richard J. Morse, "Self-Concept of Ability, Significant Others and School Ahcievement of Eighth Grade Students: A Comparative Investigation of Negro and Caucasian Students," (unpublished M.A. Thesis, Michigan State University, 1963).

social process.² Two general self-concept of academic ability scales were used in this study.

The general self-concept of academic ability, <u>high</u> <u>school</u> is operationally defined as the sum of scored responses of a student to the <u>Michigan State General Self</u>-<u>Concept of Ability Scale</u> administered to subjects during their school years grades eight through twelfth, hereafter referred to as SCAA-HS. This scale of eight multiple choice items was developed under the USOE Cooperative Research Project No. 845³ (see Appendix A). Each item which asks the individual to compare himself with others in his social system on the dimension of academic competency is scored from 5 to 1 with higher self-concept alternatives receiving the higher values. The reliability coefficients range from .822 to .880.⁴ The instrument is designed and used for the study of groups and not for the drawing of individual comparisons.

The general self-concept of academic ability, post high school, based upon the identical theoretical foundation

²G. H. Mead, <u>Mind, Self, and Society</u> (Chicago: Univeristy of Chicago Press, 1938).

³Wilbur B. Brookover, Ann Paterson, and Shailer Thomas, <u>Self-Concept of Ability and School Achievement</u>, U.S. Office of Education, Cooperative Research Project #845, (East Lansing: Michigan State University, 1962).

⁴Ann Paterson, An Evaluation of an Instrument Designed to Measure the Construct "Self-Concept of (Academic) Ability" (unpublished doctoral dissertation, Michigan State University, 1966).

as the SCAA-HS Scale, is operationally defined as the sum of scored responses of an individual to an eight item multiple scale, hereafter referred to as the SCAA-PH (see Appendix A). This scale, scored like its counterpart has items patterned after those included in the SCAA-HS scale. The primary difference between the two scales is found in the wording of items designed to make them more age and life-stage relevant. For example, item one in the SCAA-HS scale reads:

How do you rate yourself in school ability compared with your close friends?

This item was redesigned for the SCAA-PH scale to read:

How do you rate yourself in scholastic ability compared with other students your age in college?

The post high school scale formed a Guttman scale with coefficients of reproducability of .875 and .919 for males and females respectively. Correlations of scale score to total score were .953 and .920 for males and females respectively. The Hoyt's Analysis of Variance Reliability Coefficient of .932 is notably higher than those typically reported for attitude scales. Scale items were pretested using a sample population consisting of 60 sophomore college students drawn from Michigan State University and the Lansing Community College.

Self Concept of Vocational Ability

Self-concept of vocational ability refers to the evaluating definition which an individual holds of himself

with respect to his ability to achieve in occupational tasks. Further, one's evaluating definition of self is derived via interaction with significant others in the social setting. This is in agreement with the social-interactionist position of Mead and Brookover which posits that self-concepts are derived from an individual's interaction with others.

Measurement of the self-concept of vocational ability, therefore, represents the major undertaking of this research study. Instruments were needed and descriptive techniques developed in order to quantify this self-concept construct in a manner consistent with the theoretical framework.

The self-concept of vocational ability scales utilized in the testing of hypotheses were patterned in form and style after the self-concept of academic ability scales. In addition, two questions identified as describing the self assessment of ability for various occupational levels were employed. A complete discussion of the development of these measures and their analysis is presented in Chapter IV.

Significant Others

Significant others may be defined as those persons on whom one is dependent for emotional gratification. In the process of interacting with these "significant others" an individual takes upon himself their ideas, beliefs and evaluations using these as a frame of reference for evaluating his own behavior.
A list of academically significant others and vocationally significant others was obtained by asking two open ended questions:

- "There are many people whose judgments we value. In the space below list the names of people whose judgments you value concerning your ability to do well in school. Please list in order (most valued first) and indicate who each person is."
- "There are many persons whose judgments about our careers we value. In the space below list the names of persons whose judgments about your occupational choice you value. Please list in order (most valued first) and indicate who each person is" (see Appendix B).

Responses were coded according to the following cate-

gories:

- 1. Frequency of references to spouse or fiancé
- 2. Frequency of references to friends
- 3. Frequency of references to parents
- 4. Frequency of references to high school teacher or other high school personnel
- 5. Frequency of references to college teacher or professor
- 6. Frequency of references to other relatives
- 7. Frequency of references to employer or supervisor
- 8. Frequency of references to co-worker
- 9. Frequency of references to other local adults
- 0. Frequency of references to unclassifieds, or no response

It should be noted that the responses to the questions not only identify the "others" who are concerned about their academic and career plans, but asks also for a ranking of those individuals with respect to relative concern. In addition, information regarding the occupation of the individual named first as a vocational significant other was requested. This was done in order to provide information concerning the socio-economic status of vocational significant others.

Perceptions of Evaluation of Others

In order to explore the effects of perceived evaluations of academic and occupational ability of others upon the individual's self-concepts, two scales were used.

Perceptions of the evaluations of others of academic ability .-- Subjects responding to the post high school survey were asked to respond to multiple choice scales designed to measure perceptions of evaluations by parents, and by friends (see Appendix C). These closely paralleled and were scored in the same manner as the general self-concept of academic ability scales. The items of these scales were basically similar to those used in the longitudinal data grades eight through twelve with changes of words such as "school" to college and, "college" to graduate school. This procedure was followed in order to maintain continuity in data collection procedures. The Hoyt's Analysis of Variance Reliability Coefficients for perceived evaluations of academic ability scales for grades eight through twelve ranged from .755 to .880. The Hoyt's Analysis of Variance Reliability computed on post high school scales of perceived parental evaluation and perceived friend evaluation of academic ability were .874 and .900 respectively. These are adequate for group comparison and higher than those typically reported for attitude measures.

> Perceptions of the evaluations by others of occupational level ability.--Subjects responding to the post high

school questionnaire were asked to indicate their perceptions of their parent's, friend's, and spouse's evaluation of occupational level ability. The following general question was asked in each case:

> Of the occupations listed below, which one do your (parents) (friends) feel is closest to your ability? (spouse)

- 1. judge-----physician
- 2. college professor---engineer
- 3. accountant-----teacher
- 4. draftsman-----insurance agent
- 5. bank teller-----manufacturing agent
- 6. railroad switchman--construction foreman
- 7. plumber----retail salesman
- 8. bus driver----craneman
- 9. automobile mechanic-barber
- 10. janitor-----factory laborer

Where choices of occupations listed were not appropriate or for other reasons not chosen by the respondent, an open ended alternative question was asked:

> Among all occupations, what job (or jobs) do your (parents) (friends) feel is closest to your ability? (spouse)

The choices listed were derived from Duncan.⁵ Each category represented a 10 point spread on this scale (i.e. factory laborer = 0 - 10, judge = 90 - 100). Those answering the open ended question were scored by comparing their answers to the Duncan scale and the list given in order to derive the most appropriate category.

⁵O. D. Duncan, A Socio-Economic Index for All Occupations. In Occupations and Social Status, ed. A. J. Reiss. (Glencoe, Illinois: The Free Press, 1961), pp. 109-161. Socio-Economic Status

Socio-economic status refers to the level of an occupation as it ranks socially and economically with all others. During their school years, the socio-economic status of subjects was derived by asking them to respond to the following items:

> "What does your father (or whoever supports your family) do for a living?" and, "Describe what your father (or whoever supports your family) does on the job."

Occupations indicated by the subjects were assinged socioeconomic ratings from the Duncan Socio-Economic Index for all Occupations.⁶ Where occupations were not clearly specified in response to the first item, the descriptions given in response to the second item were used to determine the appropriate occupational title. Occupations not included in the Duncan Index were assigned ratings on the basis of their similarity to occupations that were included. An individual's socio-economic status thus became commensurate with the Duncan rating of his father's (or family breadwinner's) occupation.

Much of the data from the present questionnaire which refers to socio-economic status of occupations: occupation entered, occupational aspirations and expectations, occupainterests, and socio-economic status of vocational significant others utilize the Duncan Scale in similar fashion.

60

6 Ibid.

The properties and characteristics of the scale were more completely reported by Duncan.⁷

Occupational Interests

Occupational interests refers to the specific or cluster of commonly recognized occupations which an individual indicates he or she prefers above others. It includes attitudes which an individual has towards the conditions of a particular occupation or similar type of occupations. Occupational interests in operationally defined in this study by the answer to the question:

> "Several questions in this questionnaire asked you about the occupation of your greatest interest. Please indicate here that occupation which you were thinking of when answering those questions."

Level of occupational interests were derived from the Duncan Scale.⁸

Occupational Aspirations and Expectations

Those who have studied levels of aspiration speak variously of preference levels versus expectation levels, aspiration levels versus plan levels, ideal versus action goals, and so on.⁹ For the purpose of this study, occupational aspirations were defined as the occupation or cluster

⁷Ibid.

⁸Ibid.

⁹A. O. Haller and I. W. Miller, <u>The Occupational Aspiration Scale:</u> Theory, Structure and Correlates (East Lansing: Michigan State University, Agricultural Experiment Station, 1963), p. 8.

of occupations an individual would <u>like</u> to attain. Occupational expectation or plans, on the other hand, refers to the level or cluster of occupations an individual actually believes he will attain.

Operationally, occupational aspirations were solicited by the following question:

"If you were free to choose any kind of work you wanted, what would you most like to do?"

Occupational expectations were derived from answers to the question:

"Sometimes what we would like to do is not the same as what we expect to do. What kind of work do you really expect to do?"

Level of occupational aspiration/expectation was scored and coded using the Duncan Scale for Socio-Economic Index. In addition, each question was coded according to a nominal scale corresponding to that used for data collected grades eight through twelve. This scale is listed as follows:

- 9. Professional
- 8. Small business and semi-professional
- 7, Clerical and sales
- 6. Skilled and semi-skilled labor
- 5. Service worker, farm laborer, unskilled
- 4. Housewife
- 3. Glamor job
- 2. I don't know
- 0. No response

Vocational and Non-Vocational Students

Vocational courses available during the high school years of the population in this study numbered forty.

Students were able to enroll in one to three years of a particular "career" course or courses. Some students did not enroll in any of these courses while others enrolled for several. Operationally for this study, all students who enrolled in two or more career courses were referred to as vocational students. All others were referred to as nonvocational students.

To solicit the needed information, a list of all available career courses in the high school was given. (See Appendix D) Respondents were asked to indicate if, in which of them, and for how long (one to three years) they were enrolled in any of those courses.

Hypotheses

The basic problem of this thesis was formulated and investigated in terms of the theoretical orientation discussed in Chapter II. Stated more precisely here, the major concern was the identification and assessment of the construct--"self-concept of vocational ability" within a social psychological frame of reference.

In general, the theoretical orientation presented earlier holds that (1) individuals behave in ways that they consider appropriate to themselves and (2) appropriateness of behavior is defined by each person through the internalization of the evaluations and expectations which he perceives others whom he considers important hold of him.¹⁰ This suggests that an individual's concept of self in terms of his ability to perform various vocationally relevant tasks will be derived via social interaction. Therefore, the first general hypothesis of this investigation was:

> H₁ An individual's perceptions of the evaluations of his vocational ability by significant others (parents, friends, spouses) are associated with his self-concept of vocational ability.

The individual, as suggested by the above hypothesis and supported by the theoretical framework of the study, develops definitions of appropriate attitudes, beliefs, values, and behavior through the internalization of his perceptions of others. He continually refers himself to these others, takes on <u>their attitudes</u>, and judges himself in view of how he perceives these significant others evaluate him and what they expect of him,

The identification of the others with whom an individual associates in a significant manner thus becomes an important factor in the social psychological analysis of human behavior. Data which give some evidence on the identification of significant others were obtained each year from the subjects included in the longitudinal population and reported by Brookover and associates.¹¹

¹⁰Wilbur B. Brookover and David Gottlieb, <u>A Sociol-Ogy of Education</u> (New York: American Book Comapny, 1964), p. 34.

¹¹Wilbur B. Brookover, et al. <u>Self Concept of Abil-</u> ity and School Achievement, III. Report of Cooperative

Parents, more than any other category of persons were identified as both "important in their lives" and "concerned" about how well they (the students) did in school. No support was given to the hypothesis that parents' influence declines in adolescent years. The proportion who named friends as significant others increased in later school years but those who named teachers decreased. It should be recognized, however, that only the identification of others who were <u>important</u> or <u>concerned</u> was solicited in the previous work.

The present investigation went a step farther by asking respondents to <u>list in order of importance</u> those who were important in academic concerns and, in addition, to <u>list in order of importance</u> persons whose judgments about their career they value. Brought to the fore is the question, How does the relative proportions of significant other differ between the two categories: academic and career? The following hypothesis becomes relevant to the present study:

> H₂ The proportion of individuals naming parents first in importance of judgments concerning their careers will be less than those naming parents first in importance of how well they do in school.

Research Project No. 2831, U. S. Office of Education, entitled "Relationship of Self Concept to Achievement in High School" (East Lansing: Educational Publication Services, College of Education, Michigan State University, 1967).

An important contribution of this study is the reporting of differences and similarities of proportions of other categorical "others" and the emergence and relative importance of the "spouse" category.

Social-psychological investigations of significant others are necessarily grounded in the social environment in which interaction between people take place. Other studies reported previously in the review of literature give support to the contention that socio-economic status is a very important factor influencing individual growth and development. Previous research conducted by Brookover and associates¹² revealed that socio-economic status and measured intelligence are correlated with self-concept of academic ability. Based upon this frame of reference the following two hypotheses were investigated:

- H₃ There is no relationship between socio-economic status of significant others concerned with career development and an individual's level of self-concept of vocational ability.
- H₄ An individual's self-concept of vocational ability two years post high school is associated with the socio-economic status of his parents or parental environment measured during his high school years.

Socio-economic status is based to a large degree upon the relative ranking of one's occupation in relation to others. It follows that occupational interests are derived from attitudes which one has towards his perceptions of

^{12&}lt;sub>Ibid</sub>.

occupational characteristics: availability, accessability, and status within the cluster of occupations. Theoretically one's conception of ability to perform the duties of an occupation is derived via the social interaction process with significant others. This suggests that socio-economic status levels of occupational interests may not be related to self-concept of vocational ability. One might, for instance, be interested in being a carpenter (a rather low socioeconomic status level occupation) but, exhibit a high selfconcept of vocational ability. Conversely one might be interested in a career in medicine (a high socio-economic status level occupation) but have a lower measured SCVA. To provide a statistical analysis of this position the following hypothesis was investigated:

> H₅ There is no relationship between the self-concept of vocational ability and an individual's socio-economic level of occupational interest.

Occupational aspirations and expectation/plans are the focus of attention in many studies concerned with the vocational development of youth and adults. However, analysis of the relationship of self-concept to aspirations and expectations is sparce. (See Oppenheimer and Wheeler, Chap. II)

Sandeen¹³ in his study of aspirations for college among male secondary school students from grades seven to

¹³Carl Sandeen, "Aspirations For College Among Male Secondary School Students From Seventh to Tenth Grade" (unpublished doctoral dissertation, Michigan State University, 1965).

ten approached most directly the analysis of aspirations as related to the construct self-concept of academic ability. No studies were found, however, which investigated relationships of occupational aspirations and expectations to self-concept of vocational ability.

To examine the interrelationships of occupational aspirations and expectations over time upon the self-concept of vocational ability the following hypotheses were tested.:

- H₆ The relationship of occupational aspirations to expectations (or plans) increases over time at each grade level through post high school.
- H₇ The relationship of self-concept of vocational ability to occupational aspirations is greater than the relationship of self-concept of vocational ability to occupational expectations/ plans.

Consistency over time in occupational aspirations is believed to be conducive to positive growth in vocational development.¹⁴ Therefore an appropriate question could be asked, "Do those who register consistent occupational aspirations have a higher self-concept of vocational ability than those who don't?" In order to investigate this question, occupational aspiration consistency scores were computed for the entire population. Since no assumption of normality to the distribution could be assumed a priori, it

¹⁴David P. Ausubel, and Herbert M. Schiff, "A Level of Apsiration Approach to the Measurement of Goal Tenacity," Journal of General Psychology, LII, (1955), pp. 97-100.

was decided that individuals whose consistency scores ranked in the top 25 percent of the population were designated as a higher consistency group and those whose consistency scores ranked in the bottom 25 percent were designated as the lower consistency group. Based upon these groups the following hypothesis was tested:

> H₈ Consistency of occupational aspirations over time is associated with higher levels of selfconcept of vocational ability.

Occupational aspirations often reflect the particular curriculum individuals pursue during their high school years. Moreover, individuals who enroll in vocational courses are often regarded by high school officials as lower ability students. Based upon the contention of this study that the self-concept of vocational ability is not dependent upon occupational role, the following hypothesis was presented for analysis:

> H₉ The self-concept of vocational ability of individuals who enrolled in vocational courses while in high school will be equal to that of those individuals who pursued a non-vocational curriculum.

Finally, the theoretical perspectives and population studied in this research are conterminous with the previous work completed by Brookover and associates.¹⁵ The major difference occurs in the focus upon self-concept of ability; vocational rather than academic. Minor differences in instrumentation were accorded mainly to accommodate the change

¹⁵ Brookover, loc. cit.

in focus of the study and change in age and status of the population.

In view of this fact, one might question what associations exist between the two constructs. Stated succinctly, what is the relationship of the self-concept of vocational ability to self-concept of academic ability? The presentation of data and appropriate statistical analysis concerning the associations of the two constructs complete the analysis in this thesis.

Methods and Statistics Employed to Test the Hypotheses

The design of this study may be called descriptive as well as theory testing. This research involved the measurement and quantification of the construct self-concept of vocational ability based upon a social psychological theory of self-concept formation. Subsequent analysis dealt with the relationship of this self-concept construct to various factors regarded as important in vocational development. The instrumentation was of three types:

(1) instruments developed or standardized by previous researchers,

(2) instruments which were much like those used and verified in previous studies of this nature but altered to make them more life stage relevant, and

(3) instruments developed by the author of this

research specifically designed to measure the self-concept of vocational ability.

The population was divided into several different groupings in order to more carefully analyze the data appropriate to the testing of the research hypotheses. Such groupings included (a) vocational - non vocational, (b) male - female, (c) college, four year - college two year or less - non college, and (d) high vs low occupational aspiration consistency groups.

This study was primarily concerned with the analysis of the relationships of various construct measures drawn from the population. The statistical technique used most often was computation of the Pearson product moment correlation. Correlation coefficients were utilized in the testing of hypotheses one, three, four, five and seven. McNamar's technique for testing the difference between proportions for correlated data was employed in the analysis of hypothesis two data. A somewhat similar Z test technique for testing the differences between proportions for uncorrelated data was used for a final analysis of hypothesis two.

Chi square analysis was employed as a descriptive technique for analysis of hypothesis six. Chi squares were computed in order to investigate the relationships of occupational aspiration to occupational expectation variables utilizing longitudinal nominal data. The resulting chi squares were plotted on a frequency polygon in order to

visualize these relationships over a period of time from eighth grade to two years post high school.

The students t test of the difference between means was incorporated into the study as the analytic technique used for testing hypothesis eight and nine. Specific statistical data and levels of significance are presented in all tables in Chapter IV. The significance level used as a basis for support or non-support of each research hypothesis was the .05 level.

Complete data for this study was derived via two sources. One source was the longitudinal information from previous research conducted with the same population which was already coded and punched on IBM cards. The second source was the data collected via the two-year post high school questionnaire administered through the mail during the summer of 1968. All data from this second source were coded and punched on IBM cards. Subsequently all computer cards (fourteen of them) for each individual in the study were merged into a large single deck. Through a process of recoding all pertinent data for variables used in the analysis of this study were punched on a new and smaller deck called an amalgamated deck. The separation into various groupings and the analysis was completed on the Michigan State University C.D.C. 3600 and 6500 computers.

Summary

The primary concern of this chapter was the presentation of the methodological procedures employed in the investigation. Briefly, it consisted of (1) a description of the sample used in the investigation; (2) the operational definitions of major concepts and/or description of the measurement procedures; (3) statements of the hypotheses and the background developed to show the origin and general relationship of each hypothesis to the entire study; and (4) a description of the methods, and designation of the statistics, employed to test the hypotheses. In the following chapter, the results of the investigation are reported.

CHAPTER IV

RESULTS AND INTERPRETATION

Contents of this Chapter

In the previous chapter the problem, theoretical orientation and methodology of the investigation were set forth. This chapter reports the findings of the investigation. The initial section of the chapter is a description and analysis of methods employed in the measurement of the self concept of vocational ability. This is followed by a section which presents comparative analysis of the SCVA with the SCAA. The remaining part of the chapter deals with the tests and analysis of the hypotheses advanced earlier in this thesis. The hypotheses are restated in sequential order followed by relevant statistical data and tests. The chapter is concluded with a brief summary of the research findings.

Section I: Measurement of the SCVA

In the Chapter II review of literature, several methods for quantifying the vocational self concept were presented. In most instances, however, a theoretical basis upon which measurement instruments were developed was not

found. Furthermore, individual self-concept levels were often inferred or alluded to through the use of projective testing techniques.

Since direct measures of the Self Concept of Vocational Ability were apparently unavailable, the exploratory development of self-concept measures became the initial phase of this study. Drawing upon the social interactionist theory of self-concept formation, two measurement techniques were developed, both utilizing a straight forward question and answer approach.

The post high school questionnaire contained twenty three items which were patterned after the style of items used to measure the self-concept of academic ability. An example of one representative item is:

How do you rank yourself in your ability to do any job that you want to do? (see Appendix F)

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

Scale analysis was conducted utilizing the derived data. Items were initially grouped into two categories:

- (1) those which appeared to be general i.e. referred to "any" occupation, (such as the example above) and,
- (2) those items which referred to an occupation of one's interest.

For example:

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

As a result of subsequent scale analysis only the items that scaled were used. Two distinctively separate scales were derived for use in the measurement of the self-concept of vocational ability for males and two others, somewhat similar, were derived for the measurement of the self-concept of vocational ability for females.

<u>General</u> self-concept of vocational ability-males, hereafter referred to as SCVA-G was operationally defined as the sum of scored responses of an individual to a six item multiple choice scale (see Appendix F). Self-concept of vocational ability-interest - males, hereafter referred to as SCVA-I, was operationally defined as the sum of scored responses of an individual to another <u>six</u> item multiple choice scale (see Appendix F).

SCVA-G females was operationally defined as the sum of scored responses of an individual to a <u>five</u> item multiple choice scale (see Appendix F). SCVA-I for females was operationally defined as the sum of scored responses of an individual to a seven item multiple choice scale (see Appendix F). Each item in all scales was scored from five to one with higher self-concepts receiving the higher values.

As the development of the scales involved selecting items which were, in Guttman's sense "scaleable," high internal consistency reliability as indexed by the Guttman reproduceability coefficient is assured by definition. The reproduceability coefficients of .89 and .88 (males and females respectively) for the SCVA-G scale and .91 and .90 (males and females respectively) for the SCVA-I scales indicate a rather high consistency in the pattern of responses, but say nothing of the magnitude of the score for a given response. Consistency in pattern of response would be evidence that the items are related to each other and therefore, derived from a uniform content dimension, or, in Guttman's terminology have "unidimensionality." Guttman scaling does not permit one to differentiate the relative contributions of items to the total score; every item by definition has equal weight.

The Hoyt method of reliability determination was applied to both scales for the two sexes of the population. The computed reliability coefficients were .83 for both males and females on their respective SCVA-G scales and .85 and .84 (males and females respectively) for the SCVA-I scales. These figures are below the desired .90 level but this may be the result of the relatively few items in the respective scales.

The coefficient of reproducibility, the correlation of scale scores with total scores and the Hoyt's analysis of variance reliability estimates for the four scales are reported in Table 1.

TABLE 1. 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

In addition to the SCVA scales, a "Self Assessment and a Self Expectation of Ability" for various occupational levels was solicited. The two items included in the post high school questionnaire for this purpose offered respondents an opportunity for selection of an occupation from a list of ranked occupations which they perceived to be commensurate with their ability. These two questions were as follows:

- 1. Of the occupations listed below, which one do YOU feel is closest to your ability (circle the number to the left of the occupation).
- 2. Of the occupations listed below, which one best represents the type of jobs YOU EXPECT you can obtain when your schooling is over (if you are currently in college) or right now (if you are not in college).

The response choices for the above two questions were:

- 1. judge----physician
- 2. college professor----engineer
- 3. accountant-----teacher
- 4. draftsman-----insurance agent
- 5. bank teller-----manufacturing foreman
- 6. railroad switchman---construction foreman
- 7. plumber----retail salesman
- 8. bus driver----craneman
- 9. automobile mechanic--barber
- 10. janitor-----factory laborer

All occupational levels listed were derived from

Duncan's Socio-Economic Index for all Occupations.¹ Each category represents a ten point spread on the scale (i.e. factory laborer - janitor = 0 - 10, judge - physician = 90 - 100). (An open ended opportunity to answer the same two questions was also provided. Answers were coded as above.)

Specific internal consistency reliability checks were not performed on these items. The two general questions

¹O. D. Duncan. <u>A Socio-Economic Index for all Oc-</u> <u>cupations</u>. In Occupations and Social Status, A. J. Reiss, ed. (Illinois: The Free Press 1961), pp. 109-161.

and their open ended alternates (SAO, SAOO, SEO, SEOO)* were used as descriptive measures and no attempt was made to identify them as a scale.

A brief examination of the SCVA scales with the two Self Evaluation questions indicates that a fundamental difference exists between them as measures of the self-concept. While the responses to the Self Evaluation questions were scored against the rank order of occupational socio-economic status levels, the SCVA scales do not account for occupations of varying socio-economic status levels.

The advantage of the Self Evaluation questions lies most certainly in the fact that responses were scored using the definite occupations listed. This decreases the possibility that misinterpretation of the particular occupational level would occur. On the other hand, since the response choices were compressed to within the categories listed, latitude of choice was restricted. This was found to be particularly true for females since fewer occupations listed are commonly thought of as feminine occupations.

The SCVA scales did not have the limitation of particular occupational levels. Respondents to scale items were free to answer them regardless of the socio-economic

^{*}SAO -Self assessment of occupational level ability SAOO-Self assessment of occupational level ability (open ended question)

SEO -Self expectation of occupational level ability SEOO-Self expectation of occupational level ability (open ended question)

status level of occupations considered. But the question might be asked, "Does not the identification of an occupation make a difference in the way one answers such items?" Probably. However, this is not inconsistent with the premise of this study and the theory supporting it. That is, one's self concept of vocational ability may not be correlated with the particular socio-economic status level of an occupation. As described in Chapter III, an individual may exhibit a measured high self-concept of his vocational ability to be a truck driver (a low SES level occupation) while another person may exhibit a low self-concept of his vocational ability to be a lawyer (a high SES level occupation). Stated succinctly, the SCVA is believed to operate independently from the socio-economic status level of occupations.

Subsequent analysis deals with the intercorrelations of data from the SCVA scales with that of the Self Evaluation items and, the items used to measure the perceived parental, friend and spouse evaluation of vocational ability. In addition, the relationships between the self-concept of <u>vocational</u> ability and perceived parental and friend evaluations of academic ability and, the self-concept of academic ability were investigated.

Section II: The Self-Concept Measures Compared

The theoretical orientation upon which this study is based holds that individuals behave in ways they consider appropriate to themselves. Appropriateness of behavior is defined by each person through the internalization of the evaluations and expectations which he perceives others whom he considers important hold of him. Accordingly, the first general hypothesis asserted that perceived reference group evaluations and the self-concept are related. Specifically, hypothesis I stated:

> H₁ An individual's perceptions of the evaluations of his vocational ability by significant others (parents, friends, spouses) are associated with his self-concept of vocational ability.

The analytical procedure for testing this hypothesis involved the separation of the total population by sex. Data from the two scales developed for measuring self-concept of vocational ability for each sex (SCVA-I, SCVA-G), and the Self Evaluation items (SAO, SAOO, SEO, SEOO) were correlated with measures of perceived parental (PPEV), friend (PFEV), and spouse (PSEV), evaluation of occupational level ability. These same self-concept measures were also correlated with perceived parental expectation (PPEx), perceived friend expectation (PFEx), and perceived spouse expectation (PSEx) of occupational level ability. Pearson product moment correlation coefficients computed between the above variables for males are shown in Table 2.

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Preceding a discussion of the findings shown in Tables 2 and 3, it should be noted that all variable "N"s were not equal. Population respondents did not always select answers for every item and in some instances the category was obviously inappropriate (for example single indivuals could not answer the questions concerning spouse evaluations). For every variable other than the SCVA Scales, the open ended item received less total responses than did its forced choice counterpart. However, although it is not shown in the table, the mean scores for all but two of the open ended items were greater than for the forced choice items.

The variability of "N"s is likely to have been responsible for some of the fluctuation in the resulting correlation coefficients. It was observed that where a correlation coefficient was significantly greater than zero in one instance, it may not have been in another. This too, may be accounted for by a difference in variable number of responses.

A general perusal of the data presented in Table 2 shows that a dichotomous situation exists. For the most part, a substantial relationship does exist between the Self Evaluation variables (SAO, SAOO, SEO, SEOO) and the

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AOO	(N=122)	• 70*	.81*	.54*	• 56*	.75*	• 80*	•66*	*12	* •	• • •		8 O •
O	(N=131)	.58*	.52*	.91*	.82*	• 59*	.46*	* 2 7				.32	. 22
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Pears SEOO, level			5**	N=220)	(N=220)	(N=215)	(N=206)	(N=186)	(N=195)
TABLE 3.			Variable	SCVA-I (SCVA-G (SAO (SAOO (SEO	SEOO

*Correlations significantly greater than zero > .05

1200	196)	180)	189)	1001				(6/T	73)	70)	67)	71)
1	1 11	H	11	1		1	11	n	11	H	11	11
14	32	52	32	33	23	23	Z.	Z	Z	z	z	Z
	Parental Evaluation	Parental Evaluation (open-ended question)	Parental Expectation	Parental Expectation (open-enged question)	Friend Evaluation	Friend Evaluation (open-ended question)	Friend Expectation	Friend Expectation (open-ended guestion)	Spouse Evaluation	Spouse Evaluation (open-ended guestion)	Spouse Expectation	Spouse Expectation (open-ended question)
	Perceived	Perceived	Perceived	Perceived	Perceived	Perceived	Perceived	Perceived	Perceived	Perceived	Perceived	Perceived
	**1.	5	ო	4.	ۍ •	.9	7.	00	و •	10.	11.	12.

perceptions and expectations of others. The only exception occurs in the relationship between both forced choice and the open ended versions of the self assessment of occupational level of ability and corresponding versions of perceived spouse evaluations.

On the other hand, data representing the relationship between the Self-Concept of Vocational Ability Scales and the perceived evaluation of others shows only three correlation coefficients which were large enough to be significantly greater than zero. These correlation coefficients, although extremely low, show that a slight relationship may exist between the self-concept of vocational ability and the forced choice item measuring the perceived parental evaluation of occupational level ability. In addition, a low relationship is indicated between the SCVA-G and the forced choice item measuring the perceived friend evaluation of occupational level ability. But in general, it may be concluded that for males there is little relationship between the data from the SCVA scales and that of the perceived evaluations of others of occupational level ability.

Data for females presents primarily the same sort of information (see Table 3). Correlation coefficients computed between the Self Evaluation variables (SAO, SAOO, SEO, SEOO) and the perceived evaluations and expectations of others of occupational level ability were generally

large. Forty three out of forty eight correlation coefficients were significantly greater than zero, exceptions occurring only among the "spouse" variables. Thus, it may generally be concluded that a substantial relationship appears to exist between these variables for females as well as males.

The correlation coefficients between the SCVA scales and the perceived evaluation items show that a larger proportion of them are significantly greater than zero for females than for males. (14 of 24 for females, 3 of 24 for males) Nine of 14 of the significant correlations are between the SCVA scales and the open ended version of the perceived evaluation/expectation items. Ten of the 14 significant correlations were generated by the perceived expectation items. This gives some indication that females perceived expectations were more often related to the SCVA scales than were the females perceived evaluations. In addition the open ended version of the perceived evaluations may be more appropriate for females than the forced choice type of question.

The above data indicates that for females some relationship may exist between the SCVA scales data and that of the perceived evaluations of others of occupational level ability. This conclusion however, does not take into account the generally large difference between correlation coefficients listed for the SCVA scales and the perceived

evaluation items and, those indicated for the Self Evaluation items. Correlation coefficients for the SCVA scales, even though some were significantly greater than zero, were all extremely low. Like males it may also be concluded for females that apparently very little relationship exists between the SCVA scales and the perceived evaluations of others of occupational level ability.

This finding is not surprising nor totally unexpected. It has been discussed previously that the SCVA scales and the Self Evaluation items differ extensively, particularly in their focus upon occupations. The Self Evaluation items refer the respondent to a particular occupation and its corresponding socio-economic status level. Hence, they simply indicate how an individual rates himself among a hierarchy of ranked occupations.

The SCVA scales on the other hand, are not based upon a ranking among occupations. Briefly, it is conceived that the SCVA fluctuates within occupations--not between. An individual might possess a high, or low SCVA irrespective of the socio-economic status level of an occupation. Therefore the Self Evaluation items apparently are not measuring the same concept as the SCVA scales.

The data represented by the correlation coefficients in Tables 2 and 3 are based upon measurements of perceptions of evaluation and expectations of others by items similar in design to those utilized in measuring the Self Evaluation of

occupational level ability. In fact, only the person named differed within the items (self, parent, friend, or spouse). Thus it would not be unusual to expect a rather high correlation among these variables. Conversely, since the items used to measure the perceived evaluations were closely akin to the Self Evaluation items, it follows that they were also quite dissimilar to the SCVA scales. Therefore, the rather low relationship displayed between the SCVA and our measures of the perception of the evaluations of others of occupational level ability for both males and females cannot be unexpected.

Summarizing, the data from items used to identify the Self Evaluation of occupational level ability were for the most part highly correlated with the data derived from the items used to measure the perceived evaluations and expectations of others of occupational level ability. In so far as the Self Evaluation of occupational level ability may be interpreted as a measure of the vocational self-concept, hypothesis I is sustained. On the other hand, little relationship was found between the self-concept of vocational ability as measured by the SCVA scales and, the perceived evaluations of others of occupational level ability, thereby suggesting rejection of hypothesis II.

Unfortunately, items to measure the perceived evaluations of others of vocational ability similar to the SCVA scale items were not included in the post high school

questionnaire. The fact that data from the Self Evaluation items were highly correlated with data from their perceived evaluation counterparts while the SCVA scales were not, indicates the importance of utilizing comparable measuring techniques when conducting scientific analysis.

Relationship of the SCVA to the SCAA and to Perceived Evaluation of Others of Academic Ability

In addition to the investigation of the SCVA scales and their relationship to the Self Evaluation and perceived evaluations presented above, this research offered further opportunities to compare the self-concept of vocational ability construct with that of the self-concept of academic ability--post high school.

Procedures used for comparing the two constructs consisted of computing Pearson product moment correlations between:

(1) the two self-concept of vocational abilityscales and the self-concept of academic ability post highschool scale,

(2) the two self-concept of vocational abilityscales and the perceived parental evaluation of academic ability scale,

(3) the two self-concept scales and the perceived friend evaluation of academic ability scale,

(4) the self-concept of academic ability--post high
school scale and the perceived parental evaluation of academic ability scale,

(5) the self-concept of academic ability and the perceived friend evaluation of academic ability scale.

For a more comprehensive analysis the population was subdivided into three separate groupings and by sex. These three groupings included:

- (1) College (four year students
- (2) College (two year or less students)
- (3) Non-college individuals.

This delineation was made in order to more clearly investigate the magnitude of relationship and differences of the two self-concept constructs among the three groupings. For all comparisons, correlation coefficients for males and females including tests of significance are presented in Table 4.

A multiplicity of interesting results are reported in Table 4. These general findings concerning the several categories are summarized and interpreted in the following paragraphs.

The correlation coefficients between the Self-Concept of Vocational Ability scale-<u>general</u> and the Self-Concept of Vocational Ability scale-<u>interests</u> were high and statistically significant for all groupings. However, it should be noted that the correlation coefficient decreases from four year college students (.90) for males and females

Pearson product moment correlation matrix between TABLE 4. self-concept of vocational ability, self-concept of academic ability, perceived parental and friend evaluation of academic ability--post high school

Variables		SCVA-G	SCVA-I	PPEV	PFEV
		Females			
College 4 yr.	N = 55				
SCVA-G SCVA-I SCAA-PH		 •90* •34*	.90* .21	.15 .10 .72*	.24 .23 .74*
College 2 yr.	N = 98				
SCVA-G SCVA-I SCAA-PH		 .83* .23	.83* .24	.14 .26* .55*	•34* •38* •59*
Non-college	N = 69				
SCVA-G SCVA-I SCAA-PH		.79* .20	.79* .19	.22 .22 .81*	.24* .23 .80*
		Males			
College 4 yr,	N = 54				
SCVA-G SCVA-I SCAA-PH		.90* .79*	.90* .80*	•78* •85* •85*	•77* •80* •89*
College 2 yr.	N = 71				
SCVA-G SCVA-I SCAA-PH		 .83* .32*	•83* •36*	•34* •37* •80*	.21 .29 .77*
Non-college	N = 14				
SCVA-G SCVA-I SCAA-PH		 .68* .66*	•68* •52*	.45 .52 .76*	•45 •50 •64*

*Correlation significant beyond the point > .05 level.

•

Variables

to lows of (.79) and (.68) for males and females respectively in the non-college grouping.

This data indicates that a rather strong relationship exists between the two Self-Concept of Vocational Ability scales, particularly for four year college students. The lower correlation for non-college female students (even though a definite relationship appears to exist) may explain some of the differences which occurred between these two scales shown in Table 3.

The relationship of the two Self-Concept of Vocational Ability scales to the self-concept of academic ability--post high school varied among the groupings. For males, all correlations between the variables were significantly greater than zero and ranged from a high correlation of .80 for college students to a low of .32 for two year college students. These findings would indicate that apparently male college students relate scholastic ability to vocational ability. To believe that they can do well in college may mean to this group of individuals that they can also do well in most any vocation.

The data indicating a rather close relationship between the two self-concept construct measures for noncollege males is somewhat surprising. Closer analysis indicates that the rather high correlations may in fact have been caused by the low number of individuals who fell into this category (14).

The lowest correlation coefficient between the two variables was for males who were identified as those in a collegiate program of two years or less. This may have occurred because (a) many who were enrolled in short courses, one year or less training programs, or had at one time or another participated in any type of post high school training were included in this grouping or, (b) since this is a "catch all" category, the number (N = 71) was larger than the other two male groupings which may have caused resulting correlation coefficients to be lower.

The correlation coefficients between the SCVA scales and the SCAA scale for females were low. Except for the relatively low correlation coefficients of .34 for women college students, all others were statistically nonsignificant. These findings indicate that for females, only a slight relationship exists between the self-concept of vocational ability and the self-concept of academic ability. This low relationship may be explained by the common conception that vocational competence may be irrelevant for many women whose main occupation may be as a homemaker. Moreover, many occupations such as clerks, typists, tellers, commonly filled by female workers require little further schooling beyond high school. Thus, they may perceive academic ability and vocational ability as two quite different abilities.

The correlation coefficients computed between the self-concept of academic ability and both perceived parental evaluations and perceived friend evaluations of academic ability were significantly greater than zero in all instances. This information provides strong support for the theorized position of this study and previous research completed by Brookover and associates.² That is, perceived evaluations of academic ability of others are associated with the self-concept of academic ability.

A relationship between the self-concept of vocational ability and the perceived evaluations of academic ability was not expected. However, the data from Table 4 gives support to that hypothesis among college males. Correlation coefficients for all other categories of individuals were low and in most instances not significantly greater than zero.

The explanation for the relationship between these two variables for college males is similar to that given for the relationship between the SCVA and SCAA. Apparently male college students perceive a strong relationship between vocational and academic ability skills. Therefore, for them, it would be somewhat surprising if the relationship between the self-concept of vocational ability and perceived evaluation of others of academic ability did not

²Brookover, <u>loc</u>. <u>cit</u>.

exist. Since the SCAA is associated with the perceived evaluation of others, and also, the SCAA is associated with the SCVA for this grouping, then the SCVA must also be associated with the perceived evaluations of academic ability.

In summary, the above information shows that:

(1) The SCVA-I is closely associated with the SCVA-G.

(2) The relationship of the self-concept of vocational ability to the self-concept of academic ability is highest for four year college males. The magnitude of this relationship decreases for other males but the correlation coefficient was always found to be significantly greater than zero.

(3) A low but statistically significant relationship was found for four year college females between the SCVA-G scale and the SCAA. All other correlations between the two self-concept construct variables for females were low and not significantly greater than zero.

(4) The relationship of the SCVA to the perceived evaluation of others of academic ability generally followed the SCVA-SCAA relationship pattern.

In conclusion it is appropriate to indicate that both similarities and differences were found between the academic and vocational self-concept scales, depending upon the group tested. Data for males indicated a closer relationship between the two self-concept constructs than was

indicated for females. And, greater relationships were reported for the two constructs by four year college students than the other groups.

Section III: Vocational and Academic Significant Others

The identification of the others with whom an individual associates in a significant manner is relevant in ' a social psychological analysis of human behavior. Previous research had indicated that parents, more than any other category of persons, were identified as both "important in their lives" and "concerned" about how well they (the students) <u>did in school</u>. Since the primary concern of the present investigation was an understanding of the self-concept of vocational ability, comparisons between <u>academic</u> and <u>vocational significant others were appropriate</u>.

Proportions of those Names as Significant Others

In order to analyze the data concerning significant others, the number and percentages of individuals who named <u>at least one</u> person from each of the categories of significant others as being concerned about their academic and vocational choice were computed. These data, as shown in Table 5 shows that parents were named more often than all other categories of significant others by both sexes in response to the question asking individuals to identify who

Significant		Academic	Achieve-	Vocational		
Other		me	nt	Choice		
		Number	Percent	Number	Percent	
Parent(s)	Males	105	87	88	80	
	Females	185	93	143	71	
Spouse or	Males	26	21	18	16	
Fiancé	Females	76	38	93	46	
Relatives	Males	45	37	26	23	
	Females	95	48	71	35	
Friend(s)	Males	33	27	29	26	
	Females	66	33	56	28	
High School	Male s	16	13	15	14	
Personnel	Females	27	14	21	10	
College Teacher	Males	14	12	11	10	
or Professor	Females	17	8	15	7	
Employer or	Males	3	2	17	15	
Supervisor	Females	9	5	22	11	
Co-Worker	Males	0	0	2	2	
	Females	0	0	4	2	
Other Adults	Males	8	7	9	8	
	Females	15	8	17	8	
No Answer or	Males	17*	14	28*	25	
Self	Females	20*	10	19*	9	

TABLE 5. Percentage of post high school individuals who named at least one person from each of the following categories of significant others as being concerned with academic achievement and vocational choice N = 138 Males; 220 Females

*Not included in calculations

is "concerned about how well you do in school." The parent category totaled 87 percent and 93 percent for males and females respectively (of all significant others named). Similarly, parents were named by more individuals in answer to the question of "whose judgment about your occupational choice you value" than any other category of significant others. Percentages equaled 83 percent and 71 percent respectively for males and females.

The other categories of significant others were listed less often by both sexes. For clarity of presentation, data pertaining to the ranking of the top four categories of those named as vocational and academic significant others is presented in Table 6.

TABLE 6. Categories of academic and vocational significant others ranked in order of percentage of times named by post high school individuals

		les	Females					
Rank	Academic Category	æ	Vocational Category	1 8	Academic Category	욯	Vocational Category	L 8
lst	Parents	87	Parents	80	Parents .	93	Parents	71
2nd	Relatives	37	Friends	26	Relatives	48	Spouse & Fiancé	46
3rd	Friends	27	Relatives	23	Spouse & Fiancé	38	Relatives	35
4th	Spouse & Fiancé	21	Spouse & Fiancé	16	Friends	33	Friends	28

From Table 6 it can easily be seen that no differences occurred between the first and last ranked categories of academic or vocational significant others for each sex. Parents as indicated before, were named first in all areas. Spouses were listed last by males while friends were listed last by females. Relatives were ranked next to parents as academic significant others for both males and females. When comparing the 2nd and 3rd ranked categories, it can be seen that each sex merely reversed their academic and vocational significant others ranking.

All the above data indicates that beyond the parental category males and females differ in their listing of individuals for particular significant other categories. At first glance it might appear that spouses are less important to male decision making then female. (This claim may be unrealistic however, since apparently a much larger proportion of females are married than males.) Friends apparently are less important than one might normally suspect for females, and relatives may play a more important role in academic decision making than in vocational matters. The overwhelming proportion of those who name parents as significant others indicates the strong influence that parents may have, even two years post high school on academic as well as vocational decision making.

Previous research reported by Brookover and associates³ had indicated no significant change had occurred in the proportion of parents named as significant others concerned with academic achievement from grades eight through

³Brookover, Ibid.

twelve for either sex. Therefore additional analysis of significant others data was undertaken in an effort to ascertain whether a statistically significant change had occurred between twelfth grade and two years post high school in the proportions of parents named as academic significant others. The present analysis consisted of a test of significance between proportions for uncorrelated data of males and females listing parents as academic significant others in grade twelve and two years post high school. Data was identified as shown in Table 7.

TABLE 7. Percentage of males and females listing parents as academic significant others in grade twelve and two years post high school

	Twelfth Grade Percent	Two Years Post High School Percent		
Males	96	87		
Females	97	93		
Z Scores	Males $Z = 2.57$ Females $Z = 1.90$	p < .05 Not Significant		

The ratio of the difference between the two uncorrelated proportions was 2.57 (significant beyond the .05 level) for males and 1.90 (not significant) for females. It may therefore be concluded that the proportion of males naming parents as academic significant others in twelfth grade differed significantly from that proportion naming parents as academic significant others two years post high school. Conversely, support was not given to a statistical difference between proportions of females naming parents as academic significant others in the twelfth grade as opposed to two year post high school.

Conclusions regarding these changes should not be hastily made. Although it is interesting to note a beginning decrease in the proportion of parents listed as academic significant others, it should be remembered that according to the data reported herein, the parent category far out ranks all other categories of significant others in terms of academic achievement.

Proportions of those Named First as Significant Others

In addition to the information concerning the total proportion of persons named as academic and vocational significant others, the present study produced data pertaining to the identification of those significant others named <u>first</u> in order of importance. These data were collected in order to determine if the proportion of individuals named <u>first</u> as a category of significant others would be unlike that proportion of individuals who were named at all.

These data also made possible a comparison of the proportions of parents named <u>first</u> as academic significant others with those named <u>first</u> as vocational significant others. This is particularly relevant when taking into

account the data which was previously presented. The following hypothesis was therefore presented and tested in this regard:

> H₂ The proportion of individuals naming parents first in importance concerning their careers will be less than those naming parents first in importance of how well they do in school.

The two proportions referred to in this hypothesis were non-independent. That is, those individuals naming persons as academic significant others were the same individuals as those asked to name vocational significant others. Thus in this regard, the resulting data was nonindependent and correlated. Complete data giving the number and proportion of significant others named by post high school individuals <u>first</u> as being concerned with academic achievement and vocational choice is shown in Table 8.

Data from Table 8 shows parents as highest in all categories with 66 and 56 percent of males and females respectively naming parents first as academic significant others. Percentages of males and females naming parents <u>first</u> as vocational significant others were 57 and 43 respectively.

The spouse or fiancé as a category of significant others was second to the parents category of "others" named <u>first</u> by both sexes as concerned with academic achievement and vocational choice. Proportions of male individuals listing spouses or fiancé's first as significant others

Significant Others	Sex	N = 11 19 Aca Ach	12 Males 92 Females ademic Levement	N = 102 Males 189 Females Vocational Choice		
		Number	Percentage	Number	Percentage	
Parent(s)	Male	74	66	59	57	
	Female	106	56	84	43	
Spouse or	Male	18	16	16	16	
Fiancé	Female	54	28	67	35	
Friends	Male	11	9	11	11	
	Female	10	5	9	5	
Relatives	Male	2	2	2	2	
	Female	6	3	7	4	
High School	Male	4	4	3	3	
Personnel	Female	9	5	5	4	
College Teacher	Male	3	3	5	5	
or Professor	Female	4	2	3	2	
Employer or	Male	0	0	5	5	
Supervisor	Female	2	1	14	7	
Co-Worker	Male	0	0	0	0	
	Female	0	0	0	0	
Other Adults	Male	0	0	2	2	
	Female	1	.5	2	1	
No Answer or Self	Male Female	26* 28*		36* 31*		

TABLE 8. Number and proportion of significant others first named by post high school individuals as being concerned with academic achievement and vocational choice

*Not included in calculations

totaled 16 percent for both vocational and academic "others." Females, more than males, choose the category of spouses or fiancés as significant others <u>first</u>. Percentages of 28 and 35 were reported for academic and vocational spouse/fiancé significant others respectively for females.

Friends, as a category of academic significant others, was third highest in proportion of times listed <u>first</u> by both males and females at 9 and 5 percent respectively. Similar data was found for friends listed <u>first</u> as vocational significant others for males at 11 percent. Females differed however, listing as <u>first</u> employers or supervisors third highest in all categories of vocational significant others.

Data in Table 8 differs in several categories of significant others from that reported in Table 5. For example in Table 5, the category of academic significant others, other relatives (not spouses), was the second highest listed with percentages of 37 and 48 for males and females respectively. The spouse category, which was ranked in second place in Table 8 was listed in Table 5 in third place as academic significant others for females at 38 percent and, fourth for males as <u>both</u> academic and vocational significant others.

From a general perusal of the data in Table 8, it will be noted that more specific descriptive information is presented than that presented in Table 5. In addition, it can be seen that individuals who named parents <u>first</u> as concerned about their academic achievement appears to be

greater in proportion than those who name parents <u>first</u> as concerned with their vocational choice.

However, in order to more directly test this observation, McNamar's technique for testing the difference between proportions for correlated data was utilized for analysis.⁴ The specific data used in the analysis is presented in Table 9.

TABLE 9. Number and proportion of males and females naming parents first as vocational and academic significant others

	Voca	ational	Aca	ademic	
	Number	Proportion	Number	Proportion	Significance
Males	59	57	74	66	Z = 3.12
Females	84	43	106	56	Z = 3.39
	Leve	l of Signif	icance :	P > .01 lev	el.

Z scores were found to be significant beyond the .01 level for both males and females. The results of the statistical tests shown in the table presents evidence of support for the research hypothesis. Consequently, it may generally be concluded that the proportions of individuals, both male and female, who name parents first in importance concerning their vocational career is less than the

⁴Quinn McNamar, <u>Psychological Statistics</u>. (New York: John Wiley and Sons, Inc. 1963), pp. 52-56.

proportion who name parents first in importance of how well they do in school.

In addition to the findings reported above it was noted that the proportion of males who name parents <u>first</u> as both vocational and academic significant others is greater than the proportion of females who name parents <u>first</u>. Evidently two year post high school males will be more likely than females to name parents <u>first</u> as significant others.

Summarizing all the data presented in this section, the more important findings were:

(1) Parents are the most frequently listed category of significant others in terms of academic endeavors and vocational careers by two year post high school males and females.

(2) The proportion of parents listed by males two year post high school as academic significant others appears to be significantly less than the proportion listed by males while in the twelfth grade. No differences were found for females.

(3) The proportion of males and females who list parents first as academic significant others is greater than the proportion of males and females who list parents first as vocational significant others.

(4) The proportion of males listing parents <u>first</u> is greater than the proportion of females listing parents <u>first</u> as both academic and vocational significant others.

(5) Spouses/fiancé as a category of significant others is listed in greater proportion by females than males. In addition however, when proportions of individuals named <u>first</u> as significant others are computed, the spouse/ fiancé category proportion is reported second only to parents for both males and females.

(6) All categories of significant others, other than parents, dropped sharply in proportion of times named <u>first</u>, when compared to the proportions of significant others named at all.

Section IV: The SCVA in Relation to Factors Affecting Vocational Development

The social environment in which interaction between individuals takes place has been reported as an important factor influencing growth and development.⁵ Since this study was designed to assess a vocational self-concept, socio-economic status levels of those listed <u>first</u> by both sexes as the significant others concerned with their careers was obtained. The third hypothesis was directed toward an investigation of the relationship of the socio-economic status of significant others and the self-concept of vocational ability:

H₃ There is no relationship between socio-economic status of significant others concerned with

⁵Caplow, <u>loc</u>. <u>cit</u>.

career development and an individual's level of self-concept of vocational ability.

The analytical procedure for testing this hypothesis consisted of computation of Pearson product moment correlations between the socio-economic status levels of vocational significant others and both Self Concept of Vocational Ability scales for each sex. Correlation coefficients were extremely low (.08 or less) in every instance.

It was clear from the above data that support for hypothesis three was warranted. Thus it was concluded that self-concepts of vocational ability are <u>not</u> associated with the socio-economic status of significant others who were named <u>first</u> by individuals of both sexes as being concerned about their vocational choice.

The importance of parents as a category of significant others was illustrated extensively in the presentation of data surrounding hypothesis two. In addition, it is commonly believed that the socio-economic environment in which one lives during his developing years effects his vocational outlook.^{6,7} Further analysis was therefore concerned with the relationship of the socio-economic status level of parents to the two Self Concept of Vocational Ability scales.

> ⁶Clark, <u>loc</u>. <u>cit</u>. ⁷Weiner & Graves, <u>loc</u>. <u>cit</u>.

Hypothesis four was stated as follows:

H₄ An individual's self-concept of vocational ability, two years post high school, is associated with the socio-economic status of his parents or parental environment measured during his high school years.

Measures of the socio-economic status levels of parents were taken during the school years of the population grades eight through eleven. The data were analyzed by computing the Pearson product moment correlations between the socio-economic status levels of parents measured at each of the four grade levels and, the two Self Concept of Vocational Ability scales for both sexes.

Correlation coefficients were extremely low ranging from a .11 to .02 for females and .02 to .04 for males. None of the correlations were statistically significant and therefore the research hypothesis was not supported. Consequently, it was concluded that the self-concept of vocational ability level of individuals, both males and females, is not associated in a statistically measurable way with the socio-economic status level of their parents. This finding lends support to the contention that the selfconcept of vocational ability is not dependent upon the particular socio-economic status level of occupations.

The socio-economic status levels of parents had been derived in the above analysis as a rank ordering of their occupations among all others. If the occupational interests of individuals were ranked according to this same

type of scale, what relationship would occur between that of the socio-economic status level of an individual's occupational interest and his self-concept of vocational ability?

- It was therefore hypothesized:
- H₅ There is no relationship between the self-concept of vocational ability and an individual's socio-economic level of occupational interest.

The statistical data and test results of this hy-

pothesis are presented in Table 10.

TABLE 10. Pearson product moment correlation coefficients between the self-concept of vocational ability and socio-economic level of occupational interest for post high school individuals for 222 females and 133 males

	Males	Level of Signifi- cance	<u>Females</u> l	Level of Signifi- cance
Mean Socio-Economic Level of Occupational Interest	70		61	
Correlation Coeffi- cient with SCVA-I	.06	NS	.21	.002
Correlation Coeffi- cient with SCVA-G	.06	NS	.16	.002

¹Female r's are significant beyond the .01 level.

In an analysis of the data, the population was divided by male and female and correlations computed for each sex between the two Self Concept of Vocational Ability scales and occupational interest. Results of the analysis indicate a difference between males and females on the two variables.

The male category recorded very low non-significant correlation coefficients between the self-concept of vocational ability levels and occupational interests (.06 SCVA-I and .06 SCVA-G). Data on females, on the other hand, showed correlation coefficients which, although low, were significantly larger than zero (.21, SCVA-I; .16, SCVA-G). Both correlation coefficients for females fell beyond the .01 level of significance.

Only partial support was given therefore to the hypothesis of no relationship between occupational interests and self-concepts of vocational ability. Correlation coefficients differed for the two sexes of the population. Males data supported the hypothesis of no relationship between the self-concept of vocational ability and occupational interests. Conversely, female data indicated a low correlation but statistically significant relationship between SCVA and occupational interests. These results do not show a particularly strong relationship between occupational interests and the SCVA. However, the method which was utilized for measuring occupational interests might be questioned, particularly since it was based upon a socio-economic status criterion. Further research may be necessary before the implications of this relationship become clear.

In a general study of occupational interests the focus often centers upon an analysis of occupational aspirations and expectations/plans. Hypothesis six, seven and eight which follow were designed to test the relationships of aspirations with expectations and with the self-concept of vocational ability. Hypothesis six was stated as follows:

H₆ The relationship of occupational aspirations to expectations (or plans) increases over time at each grade level through post high school.

The analytical procedure for testing this hypothesis involved two steps. The first was to describe statistically the relationship of occupational aspiration to occupational expectation at each grade level, eight through post high school, using nominal data. The second step was to illustrate the statistical results in such a manner that longitudinal relationships could be analyzed.

Six chi-squares for aspirations/expectations were calculated, one for each grade level and post high school, in five by five tables (see Appendix G).* The resulting

^{*}Chi-squares were originally computed and plotted for each grade level by sex and by vocational-non vocational groupings. Resulting patterns were varied and inconclusive. In addition, becuase the analysis consisted of using a nine by nine chi-square table and the Ns were comparatively low, many blanks occurred. This may have been responsible for some of the discrepancy in the findings. Therefore, it was recommended that one chi-square be computed for each grade level utilizing data from the entire population.

chi-squares were then plotted on a graph using chi-square scores as the values on the ordinate axis and grade level as the values along the abscissa (see Figure 1).

Chi-square values ranged from a low of 380.9 for individuals when they were in the tenth grade to a high of 537.5 when they were two years post high school. All chisquare results were extremely high and well above the critical value for statistical significance. Thus the null hypothesis of no relationship between the variables aspiration and expectation was rejected.

In so far as chi-square values may be interpreted as indicating degree of relationship, two distinct trends may be discerned from Figure 1. The chi-square value of 477.8 at the eighth grade is higher than the 450.8 chisquare value found at the ninth grade. The tenth grade is reported still lower at 380.9. Thus, the first trend is one of decreasing relationship between occupational aspirations and occupational expectations.

The second trend is in the opposite direction. Beginning with the low chi-square value at the tenth grade of 380.9, the eleventh grade chi-square value is increased slightly to 388.8, followed by an increase to a 472.6 chisquare value at grade twelve and the high chi-square value of 537.5 at two years post high school. Interpreting these chi-square values as before, it may be noted that the relationship of occupational aspirations to expectations



Figure 1.--The relationship of occupational aspirations to expectations longitudinally (grade eight through two years post high school) as described statistically by chi-square values for males and females.

increases very slightly between grades ten and eleven, increases markedly at grade twelve and continues to increase to two years post high school.

Summarizing from the above chi-square information, only partial support can be given to hypothesis six. Evidence presented indicates a decrease in relationship of occupational aspirations to occupational expectations from grade eight to ten, therefore not supporting the research hypothesis. Conversely, support may be claimed for the hypothesis of an increase in the relationship of occupational aspirations to expectations between grades ten to two years post high school.

Recognizing the limitations of this method of analysis, one might interpret these findings as indicating that when in the eighth grade individuals have a close association between their occupational aspirations and expectations. This may possibly occur because at this age they have not been exposed or recognize the great diversity of occupations available. By grade ten and coupled by the uncertainty of puberty, a greater diversity between aspiration and expectation is found. After grade eleven and continuing through post high school, individuals may become more stabilized in their thinking, begin ruling out many of the occupational alternatives, and occupational aspirations and expectations begin to converge.

In an extension of the investigation discussed above and to investigate the relationship between occupational aspirations, expectations and the self-concept of vocational ability further analysis was needed. In his dissertation, Sandeen reported that the self-concept of academic ability was highly correlated to a students aspiration for college.⁸ Therefore it was further hypothesized that:

> H₇ The relationship of self-concept of vocational ability to occupational aspirations is greater than the relationship of self-concept of vocational ability to occupational expectations/ plans.

Analytical procedures for the analysis of this hypothesis involved the computation of Pearson product moment correlation coefficients between the variables derived from post high school data. Occupational aspiration and expectations scores were based upon the ordinal scale by Duncan. Specific data and tests of significance are presented in Table 11.

Only tentative support for hypothesis seven was generated by the data presented in Table 11. Correlations were low between all variables except occupational aspirations with expectations. The correlation coefficients of .63 and .42 indicated a statistically significant relationship between occupational aspirations and expectations for

⁸Sandeen, <u>loc</u>. <u>cit</u>.

	ales and	222	remales	two years	post n	Ign school			
			Occupational Aspiration Expectation						
	Mean	S.D.	Corr. Coef.	Level of Signifi- cance	Corr. Coef.	Level of Signifi- cance			
Males									
Occupational Aspiration	64.11	27.2	.63	.0005					
Occupational Expectation	56.53	29.8							
SCVA-G	23.92	3.7	.009	NS	.024	NS			
SCVA-I	25.26	3.6	.03	NS	.027	NS			
Females									
Occupational Aspiration	57.85	21.8	.42	.0005					
Occupational Expectation	51.48	21.8							
SCVA-G	18.87	3.1	.139	,039	.006	NS			
SCVA-I	27.12	4,4	.127	.054	.036	NS			

TABLE 11. Pearson product moment correlations between selfconcept of vocational ability, occupational aspirations and occupational expectations for 139 males and 222 females two years post high school

both males and females respectively. Observe, however, that the correlation coefficient for females is .21 points less than that for males indicating a variation of strength of relationships between the two variables for the two sexes.

Correlation coefficients of occupational aspirations and expectations with the self-concept of vocational ability scales were nearly non-existent for males. Data for females presented slightly different results. Although correlation coefficients between occupational aspirations and the Self Concept of Vocational Ability scales were very low, these correlations were reported as statistically significant. Data for females, as with males, indicated no statistically significant correlations between occupational expectation and the Self-Concept of Vocational Ability scales.

In general, for males no support for hypothesis seven is warranted and thus, apparently no measurable relationship exists between the self-concept of vocational ability and either occupational aspirations or expectations. Tentative support is warranted for hypothesis seven since data for females indicates a relationship does exist between their self-concept of vocational ability and occupational aspirations. However, no relationship exists between self-concept of vocational ability and occupatiened aspirations. However, no relationship exists between self-concept of vocational ability and occupational expectations.

The correlation coefficients between occupational aspirations and expectations is higher for males than for females indicating a greater disparity for females between what they would aspire to do occupationally and what they expect to do.

Earlier in this report the question was posed, "Do those individuals who register consistent occupational

aspirations have a higher self-concept of vocational ability than those who are less consistent?" Hypothesis eight was then stated as follows:

> H₈ Consistency of occupational aspirations over time is associated with higher levels of selfconcept of vocational ability.

The procedures employed to analyze the data pertinent to the testing of this hypothesis were rather extensive. As with the analysis of hypothesis six, only nominal data were available covering the six periods of data collection. One of nine occupational aspiration categories were offered at each instance of data collection.

Consistency of occupational aspirations for each individual was determined by summing the occupational aspiration category having the highest frequency of responses over the six periods of testing and then subtracting the number of times that person changed over that same time. Occupational aspiration consistency scores ranged from -4 to +6.

In order to test this hypothesis two groups were derived from the population. Individuals whose occupational aspiration consistency scores ranked in the top 25 percent of the population were designated as the high consistency group. Those whose consistency scores ranked in the lower 25 percent of the population were designated as the lower consistency groups.

Analysis proceeded by making an assessment of the mean scores of self-concept of vocational ability for the

two groups and computing a statistical test of the difference between these means. Data and tests of significance are presented in Table 12.

TABLE 12. Means and standard deviations of self-concept of vocational ability scores for 49 males and 72 females classified in high and low occupational aspiration consistency groups

Se of Ab:	lf-Concept Vocational ility	High Consist- ency GroupLow Consist- ency GroupMaleN=21MaleN=28FemaleN=39FemaleN=33		nsist- Group N=28 N=33	T Ratio	Level of Sign.	
		Mean	S.D.	Mean	S.D.		
SC	VA-I						
	Males Females	26.1 28,35	2.54 3,38	25.7 27.1	2.89 3.43	.4428 1.4590	NS NS
SC	VA-G						
	Males Females	24.6 19.6	3.18 2.64	24.5 18.6	3.01 2.11	.1855 ,0881	NS NS

From Table 12 it can easily be seen that no support for hypothesis eight is justified. Although in every case, mean SCVA scores for the high occupational aspiration consistency group were higher than the low consistency group, they were not different enough to be statistically significant. The data provides no reason to believe that those who are consistent in their occupational aspirations will have any different self-concept of vocational ability than those who are inconsistent. In summary, it appears that the self-concept of vocational ability is not associated with consistency of occupational aspiration.

From the analysis of aspirational consistency and its relation to the self-concept of vocational ability, the investigation next turned to an analysis of the relationship of the self-concept of vocational ability for particular subgroupings of the population. It is not uncommon for students who have enrolled in high school vocational education courses to be labeled as those having lower mental abilities. The question then becomes, "How does the selfconcept of vocational ability of this group of individuals compare with other non-vocational students?" Vocational and non-vocational groupings of individuals were therefore identified in order to test the following hypothesis:

> H₉ The self-concept of vocational ability of individuals who enrolled in vocational courses while in high school will be equal to that of those individuals who pursued a non-vocational curriculum.

The analytical procedure for testing this hypothesis involved the assessment of mean differences in self-concept of vocational ability scores for both vocational and nonvocational groups. In addition, tests of the mean differences in the self-concept of academic ability scores for the two groups were also computed. Relevant data and the tests of significance are presented in Table 13.

The results of the t tests shown in Table 13 indicate support for hypothesis nine. It should be noted that

TABLE 13. Means and standard deviations of self-concept of vocational and academic ability scores for males and females for two years post high school dichotomized into vocational and non-vocational groupings

Self-Concept of Ability Scale	Vocat: Males Females	$\frac{\text{ional}}{N = 68}$ $N = 148$	Non-Voca Males I Females I	tional N = 71 N = 72	T Ratio	Level of Sign.
	Mean	S.D.	Mean	S.D.		
SCVA-G						
Males Females	23.84 18.92	3.29 2.67	24.35 19.30	3.07 2.54	.94 1.00	NS NS
SCVA-I	ť					
Males Females	25.34 27,14	3.04 3.65	25.55 27.93	2.78 3.59	.42 1.50	NS NS
SCAA-PH						
Males Female s	27.13 25.03	3.64 4.71	28.67 27.07	3.72 3.59	2.43 3.22	p<.016 p<.001

for all t tests of differences between means using both Self-Concept of Vocational Ability scales (SCVA-I or SCVA-G), no statistical significance was recorded. This was true although in all cases reported means for the non-vocational group were slightly higher.

Concomitant information presented in Table 13 compares mean scores of vocational and non-vocational students in terms of their self-concept of academic ability. From the data presented, it can be seen that significant differences in self-concept of academic ability occur between the two groups. Self-concept of academic ability scores for non-vocationally identified individuals were higher than mean scores for the vocationally identified individuals. The t ratio of the difference between means was 2.43 and 3.22 for males and females respectively. Both t ratios were significant beyond the .01 level.

In summary, this research evidence sustains the hypothesis of no significant differences between the self-concept of vocational ability for vocationally and non-vocationally identified males and females. On the other hand, it was concluded that students who enrolled in a non-vocational curriculum during high school have a higher selfconcept of academic ability than those who enrolled in a vocational curriculum.

These findings indicate support for the contention presented previously in this report. That is, the selfconcept of vocational ability may not be related to particular levels of occupations. Students who enroll in vocationally oriented courses that may be designed to prepare them for somewhat lower socio-economic occupations than for example college graduate occupations, may possess a selfconcept of vocational ability which is equal to any other group of individuals. In other words, one's self-concept of vocational ability is not dependent upon the socioeconomic level of his occupation.

Previous research has found that a relationship exists between the self-concept of academic ability and academic achievement. The findings which indicate a significant difference in the self-concept of academic ability between the vocational and non-vocational groups provide evidence that they are indeed different in that one respect. This gives evidence to the statement made above indicating that students with lower mental abilities are often enrolled in high school vocational courses.

Conclusion

The major purpose of this chapter was to present the statistical data and interpretation of the findings concerning the self-concept of ability scales, the general questions advanced at the outset of this investigation, and the nine hypotheses. Data indicated that differences do exist between the self-concept of academic ability and self-concept of vocational ability. In addition, empirical support for hypotheses two, three, and nine was given. Non support was indicated for hypotheses four, seven, and eight. Both support and non support was given hypotheses five and six.

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CHAPTER V

SUMMARY, CONCLUSION AND IMPLICATIONS

This chapter presents a summary of the study, the research findings, conclusions and suggestions for further research. The chapter organization includes the following sections: (1) summary of the study, (2) summary of the findings, (3) conclusion, (4) implications, and (5) recommendations for further study.

Summary

The major problem of this study centered upon two concerns. The first was an identification and assessment of the construct, "self-concept of vocational ability," the second was concerned with the relationship of this construct to other factors said to influence the career development of individuals.

The problem of this thesis evolved through a critical review of literature pertaining to the empirical relationships between the self-concept and vocational choice/ development. Most of the investigations conducted in this regard have been focused upon the individual, his inferred innate abilities and aptitudes, couched within a framework
of trait psychology. Some have studied social status, race, religion, labor market, education and other factors relating to career development processes. Those studies which have approached the self-concept-vocational development arena of investigation have not discussed the origin of the self-concept particularly as an outgrowth of interaction between an individual and others in his social environment.

The investigation of the self, ideal self, general self-concept and other self-concept constructs are numerous and diverse. A variety of procedures have been utilized in the definition and measurement of the self-concept. Consequently, the literature left almost entirely to speculation the question concerning the development of a vocational self-concept,

Extensive research concerning the self-concept of academic ability and its relationship to academic achievement has been conducted at Michigan State University, Since the focus of these investigations was upon academic self-concepts rather than vocational self-concepts, they did not directly approach the specific interest of this study. However, the Michigan State University investigation had provided a framework for the identification and measurement of a self-concept. It was upon this basis that the present study was extended to the identification and

assessment of the self-concept of vocational ability within a social-psychological frame of reference.

The sample for this investigation consisted of 361 individuals, 139 males and 222 females. All were Caucasian, complete school data was available for each of them from grade eight through high school and two years post high school. They were residents (or had been during their high school years) of a midwestern city of approximately 120,000 population.

An orientation based upon the symbolic interactionist theory to human behavior was developed. Nine general hypotheses were obtained and tested from that theoretical orientation. Scales designed to measure the self-concept variable and questionnaire items created to identify the self evaluation of occupational level ability, the perceptions of others of occupational level ability and, the analysis of significant other categories were developed within this operational frame of reference. The association of self-concept of vocational ability to self-concept of academic ability was described among such groupings as vocational and non-vocational students and, college four year, college two year or less, and non college individuals. The relationship of the self-concept of vocational ability was further analyzed in terms of its relationship to other variables related to vocational development. These variables

included vocational interests, aspirations and expectations, and socio-economic status levels.

In order to measure the self-concept of vocational ability two methods were utilized in this study. Both methods were designed to measure the self-concept through the use of a straight forward question and answer approach.

One method, the SCVA scales, was designed after the style of items used in studies conducted previously at Michigan State University by Brookover and associates¹ to measure the self-concept of academic ability. A total of 23 original items were included in the post high school questionnaire. Through subsequent scale analysis these items were organized into two separate scales for males and two others, somewhat similar, for females. Items which appeared to be focused upon occupational interests were grouped into an "interest" scale, while other items of a more general nature were grouped into a "general" scale.

In addition to the SCVA scales, two Self Evaluation of occupational level ability items were included in the post high school questionnaire. These items offered respondents an opportunity for selection of an occupation from a list of ranked occupations which they perceived to be commensurate with their ability.

¹Brookover, <u>loc</u>, <u>cit</u>,

Fundamental differences were found to exist between these two vocational self-concept measures. While the responses to the Self Evaluation questions were scored against the rank order of occupational socio-economic status levels, the SCVA scales were found to operate independently from the SES level of occupations.

The relatedness of the self-concept of vocational ability construct to the self-concept of academic ability was investigated in answer to questions concerning their possible similarities and differences. Procedures used for comparing the two constructs consisted of (1) grouping the male and female populations into sub-groups of those individuals participating in four year college programs, individuals participating in two year or less college programs, and those individuals not attending any post high school institution; and, (2) computing Pearson product moment correlation coefficients between the two self-concept construct scores and the perceived evaluations of others of academic ability scores,

The theoretical orientation which was the basis of this investigation posits that all attitudes, beliefs, values, and behavior in the individual are consequences of the individual's association and/or interaction with significant other persons. The individual, as viewed by this orientation, develops definitions of appropriate attitudes, beliefs, values, and behavior through the internalization

of what he perceives as the evaluations and expectations which others hold of him whom he considers important. He constantly refers himself to these others, takes on the attitudes of these others, and looks on himself and judges and adapts his attitudes, beliefs, values, and behavior in view of how he perceives these significant others evaluate him and what they expect of him. This suggests that an individual's concept of self in terms of his ability to perform various vocationally relevant tasks will be derived via social interaction with these others.

Drawing upon this theoretical orientation, research hypotheses were developed as follows:

- H₁ An individual's perceptions of the evaluations of his vocational ability by significant others (parents, friends, spouses) are associated with his self-concept of vocational ability.
- H₂ The proportion of individuals naming parents first in importance of judgments concerning their careers will be less than those naming parents first in importance of how well they do in school,
- H₃ There is no relationship between socio-economic status of significant others concerned with career development and an individual's level of self-concept of vocational ability.
- H₄ An individual's self-concept of vocational ability two years post high school is associated with the socio-economic status of his parents or parental environment measured during his high school years.

The analytical procedure for testing hypothesis one, three and four involved separating the total population into male and female groupings and computing Pearson product moment correlation coefficients between the particular variables under consideration. In each instance correlation coefficients which were reported as statistically significant at or beyond the .05 level of significance were taken as evidence that a relationship does exist between the two variables.

Hypothesis two involved a somewhat extensive analysis of the vocational and academic significant others. McNamar's technique for testing the difference between correlated proportions was computed in an analysis of the difference in proportions of vocational and academic significant others by sex. In each instance Z scores which were reported as statistically significant beyond the .05 level of significance were recognized as evidence of a real difference between the two correlated proportions. Two tables were prepared showing (a) the percentage of post high school individuals who named at least one person from each of the categories of significant others listed as being concerned with academic achievement and vocational choice and, (b) the number and proportion of significant others named first by post high school individuals as being concerned with academic achievement and vocational choice.

In order to investigate the relationships of the self-concept of vocational ability to other vocational development variables the following four hypotheses were tested:

- H₅ There is no relationship between the self-concept of vocational ability and an individual's socio-economic level of occupational interest.
- H₆ The relationship of occupational aspirations to expectations (or plans) increases over time at each grade level through post high school.
- H₇ The relationship of self-concept of vocational ability to occupational aspirations is greater than the relationship of self-concept of vocational ability to occupational expectations/ plans.
- H₈ Consistency of occupational aspirations over time is associated with higher levels of selfconcept of vocational ability.

Three different analytical procedures were used to test these four hypotheses. Hypotheses five and seven involved the separating of the population into male and female groupings and computing Pearson product moment correlation coefficients between the respective variables. As before, correlation coefficients reported as statistically significant beyond the .05 level were admitted as evidence of relationship between the two variables.

Analytical procedures for testing hypothesis eight involved determining an occupational aspiration consistency score for each individual, selecting the individuals from the top and bottom 25 percent of the population and then computing a statistical test of the difference between the means of their composite self-concept of vocational ability scores.

Differences of self-concept of vocational ability levels between individuals identified as vocational students and those identified as non-vocational students while in high school were investigated in hypothesis nine.

> H₉ The self-concept of vocational ability of individuals who enrolled in vocational courses while in high school will be equal to that of those individuals who pursued a non-vocational curriculum.

Analytical procedures for testing this hypothesis involved dividing the population by sex and into vocational and non-vocational groupings, then computing the students t test between the means. A statistical significance level of .05 or greater was interpreted as indicating a difference in mean scores between the groups identified. In addition, a test of difference between means on the Self-Concept of Academic Ability scale were computed for the vocational and non-vocational groupings. Results of these statistical tests were interpreted as described above.

Summary of Findings

The specific data and statistical tests of hypotheses indicated both support and non support for the various research hypotheses. In some instances support for a research hypothesis was warranted by the data derived from one grouping of individuals of the population and not another. For clarity the summary of findings of this study will be presented in the same order as the analysis of Chapter IV.

(1) The hypothesized relationship between perceived evaluation of parents, friends and spouses and the selfconcept of vocational ability was only partially supported. A substantial relationship was found to exist between the Self Evaluation variables and the perceptions of others of the evaluation and expectation of occupational level ability for both males and females. Exceptions to the above statement occurred only between the perceptions of the evaluations of "spouses" and the Self Evaluation items.

(2) It was concluded that for males, there was little relationship between data from the SCVA scales and the perceived evaluations of others of occupational level ability. Data for females indicated that some relationship may exist between these same variables. However, in instances where correlations were significantly greater than zero, they were all extremely low.

(3) Measurements of the perceptions of the evaluation of others of occupational level ability were similar in style and design to those utilized in measuring the Self Evaluation of occupational level ability. The findings which showed that the data from the Self Evaluation items were highly correlated with data from their self evaluation counterparts while the SCVA scales were not, indicates the importance of utilizing comparable measuring techniques when conducting scientific analysis.

(4) In an analytic comparison of the Self-Concept of Vocational Ability scales with the self-concept of academic ability scale the following information was indicated.

(a) A significant relationship exists between the Self-Concept of Vocational Ability - general and the Self-Concept of Vocational Ability - interest scales. This finding held true for both males and females in all combinations of groupings.

(b) The relationship of the Self-Concept of Vocational Ability scales to the Self-Concept of Academic Ability scale varied. The scales were highly correlated for male college students. Correlation coefficients were lower for all other groupings of both males and females and, no relationship was found for most groupings of females.

(c) The relationship of the Self-Concept of Vocational Ability scales to the perceived parental and friend evaluation of academic ability followed the pattern described in item b above. High correlation coefficients were reported between the two variables for college males but, for the most part the correlation coefficients were low and many statistically non-significant for the non college males and most female categories.

(d) In all cases for males and females, the self-concept of academic ability was highly correlated

with both the perceived parental and friend evaluation of academic ability.

In summary, differences were found between the academic and vocational self-concept of ability scales. Except for college males, relationships between the constructs were low.

(5) Findings concerning the academic and vocational significant others were as follows:

(a) Parents are the most frequently listed category of significant others in terms of academic endeavors and vocational careers by two year post high school males and females.

(b) The proportion of parents listed by males two years post high school as academic significant others appears to be significantly less than the proportion listed by males while in the twelfth grade. No differences were found for females.

(c) The proportion of males and females who list parents <u>first</u> as academic significant others is greater than the proportion of males and females who list parents <u>first</u> as vocational significant others.

(d) The proportion of males listing parents <u>first</u> is greater than the proportion of females listing parents first as both academic and vocational significant others.

(e) Spouses/fiancé as a category of significant others is listed in greater proportion by females

than males. In addition however, when proportions of individuals named <u>first</u> as significant others are computed, the spouse/fiancé category proportion is reported second only to parents for both males and females.

(f) All categories of significant others, other than parents, dropped sharply in proportion of times named <u>first</u>, when compared to the proportions of significant others named at all.

(6) No statistically significant relationship was found between socio-economic status of significant others concerned with vocational choice and an individual's selfconcept of vocational ability.

(7) It was concluded that the self-concept of vocational ability level of individuals, both males and females, is <u>not</u> associated in a statistically measurable way with the socio-economic status level of their parents.

(8) Only partial support was given to the hypothesis of no relationship between occupational interests and self-concept of vocational ability. Correlation coefficients differed between the two sexes. Males' data indicated no relationship between the self-concept of vocational ability and occupational interests. Data for females indicated a low but statistically significant relationship between the self-concept of vocational ability and occupational interests.

(9) Evidence presented in the analysis of hypothesis six indicated a decrease in the relationship of occupational aspiration to occupational expectation from grade eight to grade ten. However, support for hypothesis six was generated by the data past the tenth grade. The relationship of occupational aspiration to occupational expectations increased from grade ten through two years post high school.

(10) Tentative support of hypothesis seven was given. Data did not support a measurable relationship between male self-concept of vocational ability and either occupational aspirations or occupational expectations. The data for females showed that a low but statistically significant correlation existed in the relationship between self-concept of vocational ability and occupational aspirations. Correlation coefficients between occupational aspirations and occupational expectations is higher for males than females which indicates a greater disparity for females than males between what they aspire to do occupationally and what they expect they will do.

(11) Consistency of occupational aspiration over time is not associated with the self-concept of vocational ability. In other words, those individuals who are inconsistent in their occupational aspirations may have selfconcept of ability levels equal to those who are consistent in their occupational aspirations and vice versa.

(12) The self-concept of vocational ability of individuals who were classified as vocational students during high school is equal to the self-concept of vocational ability of those individuals who were classified as non-vocational students.

(13) Conversely, the self-concept of academic ability of individuals who were classified as vocational students during high school is <u>not</u> equal to the self-concept of academic ability of individuals who were classified as non-vocational students.

Conclusions

The results of this investigation seem to warrant several conclusions. <u>First</u>, the basic orientation of this study is that the development of the self-concept, i.e. attitudes, beliefs, values and behavior in an individual, are consequences of the individual's association or interaction with significant other persons. Data in this study indicate that parents by far exceed all others named first as significant others concerned about the vocational choices of the population. Furthermore, in the analysis of the relationship of the self-concept of vocational ability to the perceived evaluations of others of occupational level ability, a low correlation was found for the parents category, only. The items used to measure the perceived evaluation of others was criticized for their dissimilarity to the SCVA scales. The small evidence of this relationship, however, indicates that a greater relationship may exist if appropriate perceived evaluation measures were used.

Secondly, the self-concept of vocational ability as measured in this study was found to be unrelated to several factors often utilized by others in the study of vocational development. For example, no significant relationship was found between the self-concept of vocational ability and the socio-economic status of vocational significant others, the socio-economic status of parents, and, in general, occupational aspirations or expectations. These findings support the contention presented in Chapter III and IV that the self-concept of vocational ability may operate irrespective of the socio-economic status of various occupations or socio-economic status of significant others. Therefore, an individual who is a garage mechanic (a low socio-economic status occupation) may have a high self-concept of his vocational ability to be a garage mechanic. Furthermore, an individual who would like to be a teacher (a higher socio-economic status occupation) may have no higher selfconcept of his vocational ability to be a teacher than the garage mechanic's self-concept of vocational ability.

The analysis of hypothesis nine gives further substantiation of this position. The mean scores of selfconcept of vocational ability of individuals who were classified as vocational students during their high school years

were equal to those classified as non-vocational students during that same period.

Finally, one of the more important objectives of this study was the identification and measurement of the construct, self-concept of vocational ability. Two different approaches were explored using data from the post high school population. Findings presented evidence of substantial differences between the two methods.

The relationships of the self-concept of vocational ability and the self-concept of academic ability were explored. The data discussed in Chapter IV presented evidence that the two self-concepts are indeed different. The selfconcept of vocational ability was highly correlated with the self-concept of academic ability for only college males. (This is not surprising since vocational and academic selfconcepts of ability might intuitively be similar for this grouping of individuals.) Besides college males, however, the strength of relationship between the two self-concept variables diminishes. That is, the relationship was less for male individuals who attended college two years or less and for those who have not attended college. The relationship of the self-concept of vocational ability to the selfconcept of academic ability for females was also very low and in some instances no apparent relationship existed at all. Thus it might generally be inferred that for those individuals to whom a vocation is not dependent wholly upon

a college degree, their self-concept of vocational ability and self-concept of academic ability could likely be unrelated.

Practical Implications

The practical or applied implications which the results of this investigation hold for education, particularly at the elementary and secondary level, are potentially significant. Researchers conducting investigations concerning the career development of youth will find here a step in a new direction in the understanding of the vocational self-concept. Previous studies, as indicated before, have employed a variety of instruments and combinations of them to quantify the vocational self-concept. This study has not only provided a new appraoch to the assessment of a self-concept of vocational ability, but also has based it upon a theoretical foundation of self-concept formation.

The self-concept of vocational ability as it has been identified offers a different outlook for vocationally oriented educational programs. Although the self-concept is developed by the individual through social interaction with significant others, the self-concept has <u>not</u> been found to be dependent upon the socio-economic status of significant others or their parental environment. Furthermore the self-concept of vocational ability apparently is not dependent upon the socio-economic status of a particular occupation. Thus it suggests new approaches to thinking about education and vocational orientation programs particularly for people presently subsisting in predominantly poverty conditions.

The potential contribution of the study may be found in its application to the field of guidance and vocational education and thereby, to the career development of young people. Vocational education and guidance experiences are most meaningful when they are appropriate to the understandings and self perceptions of the individual who is involved in them. This study of self-concept may provide a foundation for better identification and understanding of factors interacting upon the total vocational developmental process.

Limitations and Suggestions For Further Research

Technically the results of this investigation are limited to the 361 males and females who made up the longitudinal population of this study. Careful generalization may be made to other situations and populations similar to those tested in this investigation, i.e. nineteen to twenty year old Caucasian males and females of a typical midwest city of over 100,000 population.

Some limitations which are indigenous to the present study are to be noted. Some advantages of a longitudinal

study become limiting as well. For example, only nominal data was available on occupational aspirations and expectations for longitudinal analysis. Furthermore, since this investigation was of an exploratory nature, the measures used to quantify the self-concept of vocational ability and other previously untested methods were employed as criterion measures.

Specifically, recommendations for further research would include the following items.

(1) The self-concept of vocational ability scales need to be refined and tested using individuals from different age groups, races, or geographical locations.

(2) The questions used to solicit perceived evaluations of vocational ability by others do not appear to this researcher to be strong measures for deriving needed information. Thus, it is suggested that further research be conducted in the development and testing of such scales to measure the perceptions of others of vocational ability.

(3) Research conducted in this present study involved individuals across several possible combinations of occupations. Further studies might be undertaken to analyze the self-concept of vocational ability within various occupational groupings using an adult sample.

(4) More comprehensive analysis of the self-concept of vocational ability of high school students is desirable. Analysis might be conducted which would compare groups by

intelligence, grade point average, achievement levels, and educational and occupational aspiration levels.

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APPENDICES

APPENDIX A

SELF-CONCEPT OF ACADEMIC ABILITY SCALE

- A. General
- B. Post High School

SELF-CONCEPT OF ACADEMIC ABILITY SCALE--GENERAL*

(Form A)

Michigan State University Bureau of Educational Research

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?

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

- 2. How do you rate yourself in school ability compared with those in your class at school?
 - 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
- 3. Where do you think you would rank in your class in high school?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 4. Do you think you have the ability to complete college?
 - a. yes, definitely
 - b. yes, probably
 - c, not sure either way
 - d. probably not
 - e. no

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- 5. Where do you think you would rank in your class in college?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?
 - a. very likely
 - b. somewhat likely
 - c. not sure either way
 - d. unlikely
 - e. most unlikely
- 7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is?

a. my work is excellent
b. my work is good
c. my work is average
d. my work is below average
e. my work is much below average

- 8. What kind of grades do you think you are capable of getting?
 - a. mostly A's
 b. mostly B's
 c. mostly C's
 d. mostly D's
 e. mostly E's

SELF-CONCEPT OF ACADEMIC ABILITY SCALE POST HIGH SCHOOL

In each of the following questions circle the letter in front of the statement which best answers each question.

- 1. How do you rate yourself in scholastic ability compared with other students your age in college?
 - a. I am the best
 - b. I am above average
 - c. I am average
 - d. I am below average
 - e. I am among the poorest
- 2. What kind of grades do you think you are capable of getting in college?
 - a. mostly A's
 b. mostly B's
 c. mostly C's
 d. mostly D's
 e. mostly F's
- 3. For those college courses you are interested in, how well do you feel you have the ability to do?
 - a. among the best
 - b. above average
 - c. about average
 - d. probably below average
 - e. among the poorest
- 4. Where do you think you would rank in a college graduating class?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 5. How do you rate yourslef in scholastic ability as compared to those who have elected not to go beyond high school?
 - a. I am the best
 b. I am above average
 c. I am average
 d. I am below average
 e. I am the poorest

- 6. Where do you think you would rank in your class in graduate school?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 7. Forget for a moment how others might grade you. If you attended graduate school, in your opinion, how good do you think your work would be?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 8. What do you think would be your class rank in comparison with the majors in professional schools, such as law, medicine, or dentistry?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
APPENDIX B

QUESTIONS TO IDENTIFY SIGNIFICANT OTHERS

Section

- Academic Significant Others
 Vocational Significant Others

Section 1

There are many people whose judgments we value. In the space below list the names of people whose judgments you value concerning your ability to do well in school. Please list in order (most valued first) and indicate who each person is.

Names

Who is this Person?

Section 2

There are many persons whose judgments about our careers we value. In the space below list the names of persons whose judgment about your occupational choice you value. Please list in order (most valued first) and indicate who each person is.

Names

Who is this Person?

Please indicate here the title of the job held by the person whom you listed just above.

APPENDIX C

PERCEIVED EVALUATIONS OF OTHERS

OF ACADEMIC ABILITY SCALES

Section

- 1. Parents
- 2. Friend

Section 1. Parents

Please answer the following questions as you think your parents would answer them. If you have not lived with your parents in the last five years, answer for the family with whom you have lived. <u>Circle the letter in front of the</u> statement that best answers each question.

- 1. How do you think your <u>Parents</u> would rate your school ability compared with other students your age?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 2. Where do you think your <u>Parents</u> would say you would rank in a college graduating class?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 3. Do you think your <u>Parents</u> would say you have the ability to complete graduate school?
 - a. yes, definitely
 - b. yes, probably
 - c. not sure either way
 - d. probably not
 - e. definitely not
- 4. Do you think your <u>Parents</u> would say you have the ability to complete professional training in law, medicine or dentistry?
 - a. yes, definitely
 - b. yes, probably
 - c. not sure either way
 - d. probably not
 - e. definitely not

5. What kind of grades do you think your <u>Parents</u> would say you are capable of getting?

a.	mostly	A's
b.	mostly	B's
c.	mostly	C's
d.	mostly	D's
e.	mostly	E's

-

Section 2. Friend

Think about your closest Friend. Now answer the following questions as you think this Friend would answer them. Circle the letter in front of the statement that best answers each question.

- 1. How do you think this Friend would rate your school ability compared with other students your age?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 2. Where do you think this Friend would say you would rank in a college graduating class?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
- 3. Do you think this Friend would say you have the ability to complete graduate school?
 - a. yes, definitely
 - b. yes, probably
 - c. not sure either way
 - d, probably not
 - e. definitely not
- 4. Do you think this Friend would say you have the ability to complete professional training in law, medicine or dentistry?
 - a. yes, definitely
 - b. yes, probably
 - c. not sure either way
 - d. probably not
 - e. definitely not

5. What kind of grades do you think this Friend would say you are capable of getting?

a.	mostly	A's
b.	mostly	B's
с.	mostly	C's
d.	mostly	D's
e.	mostly	E's

APPENDIX D

VOCATIONAL CAREER COURSES OFFERED

IN HIGH SCHOOL

VOCATIONAL CAREER COURSES OFFERED IN HIGH SCHOOL

In which of the following career courses were you enrolled in high school? (Please check those appropriate)

	One	Year	Two	Years	Three	Years
Appliance Repair						
Auto Bump and Paint	<u> </u>					
Auto Machanics	 					
Basic Electricity	 					
Paste Electricity						
Data Progossing Pringinles	 					
Distributive Co-Op	 					
Discribulive co-op	{					
Drafting and Degign	 					
Dialting and Design	 					
Electronics	 					
Engine Mechanics						
Food Service Co-Op	ļ					
Furniture Repair						
General Mechanics						
Graphics Arts						
Home Repair	L					
Hospitality Services	L					
Hospitality Services	1					
Technology						
Machine Operator						
Machine Shop						
Merchandising						
Metalworking						
Office Co-Op Training						
Office Machines						
Office Techniques						
Pre-Employment Program						
Printing						
Residential Development						
Retailing						
Salesmanship			1			
Secretarial Training						
Service Station						
Shorthand	t					
Technical Drafting	t		1			
Trade Technology	1		1		1	
Trade and Industrial Co-Op	1		1		1	
Transcription	t		1			
Typing	1		1		1	
Vocational Printing	1		t			
Woodworking	t				t	

APPENDIX F

SELF-CONCEPT OF VOCATIONAL ABILITY--POST HIGH SCHOOL

- A. Males--General
- B. Males--Interest
- C. Females--General
- D. Females--Interest

SELF-CONCEPT OF VOCATIONAL ABILITY--GENERAL

Males

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

- 1. 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
- 2. Do you think you have the ability to do any job you desire?
 - a. yes, definitelyb. yes, probablyc. not sure either wayd. no, probably note. no, definitely not
- 3. 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
- 4. 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

- 5. Do you 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
- 6. Compared to your best friends how well do you feel you can do any job?

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

SELF-CONCEPT OF VOCATIONAL ABILITY--INTEREST

Males

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

- 1. 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
- 2. 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
- 3. 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
- 4. After 5 years of working in 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 lowest

- 5. 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
- 6. 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

SELF-CONCEPT OF VOCATIONAL ABILITY--GENERAL

Females

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

- 1. 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
- 2. Do you think you have the ability to do any job that you desire?
 - a. yes, definitelyb. yes, probablyc. not sure either wayd. no, probably note. no, definitely not
- 3. 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
- 4. 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

- 5. 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

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- d. below average
- e, among the poorest

SELF-CONCEPT OF VOCATIONAL ABILITY--INTEREST

Females

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

- 1. 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
- 2. 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
- 3. 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
- 4. After 5 years of working in 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 lowest

- 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
- 6. 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
- 7. 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

APPENDIX G

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CHI-SQUARE TABLES FOR EIGHTH, NINTH, TENTH, ELEVENTH, TWELFTH GRADES AND

POST HIGH SCHOOL

TABLE I. Chi-square table describing the relationship of occupational aspirations to expectations for eighth grade students

N =	206	
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$$\chi^2 = 477.8$$

-	ASPIRATIONS								
-	Occupational Categories	5	6	7	8	9	Totals		
-	5	8 (.5)*	1 (.7)	0 (2.0)	1 (2.1)	2 (6.1)	12		
- S	6	0(.6)	9 (.8)	0 (2.3)	0 (2.4)	5 (8.7)	14		
CTATION	7	1 (2.1)	0 (2.9)	34 (8.3)	4 (8.6)	10 (27.1)	49		
EXPE	8	0 (1.3)	0 (1.8)	0 (5.1)	27 (5.2)	3 (16.6)	30		
-	9	0 (4.4)	2 (5.9)	1 (17.2)	4 (17.7)	94 (55.9)	101		
-	Totals	9	12	35	36	114	206		

*Expected frequencies found in parentheses.

TABLE 2. Chi-square table describing the relationship of occupational aspirations to expectations for ninth grade students

N =	254
-----	-----

χ²	=	450	. 8

			ASP	IRATIONS			
	Occupational Categories	5	6	7	8	9	Totals
EXPECTATIONS	5	9 (.8)*	0 (.3)	2 (1.8)	3 (4.8)	0 (6.4)	14
	6	0 (.4)	5 (.2)	0	1 (2.7)	2 (3.7)	8
	7	0 (3)	1 (1.3)	26 (6.8)	13 (18.2)	14 (24.7)	54
	8	2 (4.4)	0 (1.9)	1 (9.9)	65 (26.7)	11 (36.1)	79
	9	3 (5.5)	0 (2,4)	2 (12.5)	5 (33.5)	89 (45.2)	99
	Totals	14	6	32	86	116	254

*Expected frequencies in parentheses.

TABLE 3. Chi-square table describing the relationship of occupational aspirations to expectations for tenth grade students

N =	239
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\chi^2 = 380.9
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			ASP	IRATIONS			
	Occupational Categories	5	6	7	8	9	Totals
EXPECTATIONS	5	4 (.3)*	2 (.4)	0 (1.4)	2 (2)	1 (5)	9
	6	0(.4)	7 (.5)	1 (2.1)	0 (2.4)	5 (7.1)	13
	7	2 (1.9)	1 (2.8)	37 (10.1)	9 (14.0)	17 (3.6)	66
	8	0 (1.1)	0 (1.6)	0 (6.2)	35 (8.5)	4 (21.5)	39
	9	1 (3.3)	0 (4,7)	0 (17.8)	6 (24.3)	105 (49.2)	112
	Totals	7	10	38	52	132	239

*Expected frequencies found in parentheses.

TABLE 4. Chi-square table describing the relationship of occupational aspirations to expectations for eleventh grade students

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\chi^2 = 383.3
```

		ASPIRATIONS					
(Occupational Categories	5	6	7	8	9	Totals
-	5	3 (,1)*	0 (.1)	0(.6)	0 (1.2)	2 (2.9)	5
-	6	2 (.3)	4 (. 2)	0 (1.4)	2 (2.7)	3 (6.4)	11
CTATIO	7	1 (1.7)	1 (1,2)	30 (7.6)	11 (14.3)	16 (34.2)	59
EXPE	8	1 (1.5)	0 (1.1)	0 (2.7)	39 (12.6)	12 (30.1)	52
-	9	0 (3.3)	0 (2,4)	1 (14.6)	6 (27.3)	106 (65.4)	113
-	Totals	7	5	31	58	139	240

*Expected frequencies found in parentheses.

TABLE 5. Chi-square table describing the relationship of occupational aspirations to expectations for twelfth grade students

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\chi^2 = 472.6
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			ASP	IRATIONS			
	Occupational Categorie s	5	6	7	8	9	Totals
EXPECTATIONS	5	8 (.5)*	0 (4)	0 (2.6)	1 (3.1)	4 (4.4)	13
	6	0	6 (.3)	0 (2.0)	2 (2.4)	2 (4.9)	10
	7	1 (3.1)	2 (2.8)	52 (17.5)	20 (20.3)	11 (42.4)	86
	8	0 (1.8)	0 (1.6)	2 (10.0)	37 (11.6)	10 (24.2)	49
	9	1 (4.4)	1 (3.9)	3 (24.8)	6 (28.8)	111 (60.1)	122
	Totals	10	9	57	66	138	280

*Expected frequencies in parentheses.

TABLE 6. Chi-square table describing the relationship of occupational aspirations to expectations for post high school students

N =	261
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\chi^2 = 537.5
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			ASP	IRATIONS			
	Occupational Categories	5	6	7	8	9	Totals
EXPECTATIONS	5	13 (.9)*	1 (1.6)	0 (2.9)	4 (5.1)	l (8.4)	19
	6	0 (1.2)	17 (2.0)	1 (3.7)	l (6.4)	5 (10.7)	24
	7	0 (3.9)	3 (6.7)	39 (12.1)	23 (21.2)	14 (35.1)	79
	8	0 (2.0)	0 (3,5)	0 (6.3)	35 (10.9)	6 (18.2)	41
	9	0 (4.9)	1 (8.3)	0 (15.0)	7 (26.3)	90 (43.6)	98
	Totals	13	22	40	70	116	261

*Expected frequencies in parentheses.

